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Philip Morris International, Inc.

Equity Valuation

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ABSTRACT

This dissertation is focused on the equity valuation of Philip Morris International, Inc., the leading publicly traded tobacco company. In other words, the work done on this paper aims at determining how much the company is worth given its current assets and position in the market. Such analysis is of great importance for shareholders and potential investors, since the market is not always able to reflect the assets' true value. Underlying this challenge is an overview of the main equity valuation methodologies and theories, along with other aspects considered as essential in a valuation process. In this context, three methodologies were considered suitable. However, the conclusions were more influenced by the adjusted present value methodology. Philip Morris Int' is found to be undervalued with 28.32% upside potential, a BUY recommendation. Finally, the methodologies used and results obtained were contrasted to those of UBS Investment Bank, in their report published on April 19th 2012. For a more detailed overview of the dissertation main findings, read the executive summary on appendix O.



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NOTATIONS AND ABBREVIATIONS:

a.k.a.	Also known as
CCF	Capital Cash Flow
CF	Cash Flow
D	Debt
DCF	Discounted Cash Flow
DDM	Dividend Discount Model
DPS	Dividend Per Share
D/V	The proportion of total value claimed by debt
E	Equity
EBIT	Earnings Before Interest and Taxes
EBITDA	Earnings Before Interest, Taxes, Depreciation and Amortizations
EPS	Earnings per share
EVA	Earnings Value Added
E/V	The proportion of total value claimed by equity
FCFE	Free Cash Flow to the Firm
FCFF	Free Cash Flow to the Equity
FF	Fama and French
G	Growth
GICS	Global Industry Classification Standard
i.e.	In other words



KA	Expected Asset Return
Kd	The required rate of return on debt capital
Ke	The required rate of return on equity capital
NAICS	North America Industry Classification Systems
NOPAT	Net Operating Profit After Taxes
OECD	Organization for Economic Cooperation and Development
PMI	Philip Morris International, Inc.
R _F	Risk free
ROE	Return on Equity
ROIC	Return on Equity
R _p	Risk Premium
SIC	Standard Industrial Classification
T	Taxes
TV	Terminal Value
V	Firm's Value
V _u	Firm's Unlevered Value
VAT	Value Added Tax
WACC	Weighted Average Cost of Capital
β	Beta
β_L	Levered Beta
β_U	Unlevered Asset Beta



1. INTRODUCTION

This dissertation is concerned with exploring the theoretical and practical aspects related to Equity Valuation. The main goal is to estimate the fair value of a public company, by linking theory and practice; and then compare the valuation result with the value estimated by an investment bank.

For the purpose, the company chosen was Philip Morris International, Inc. (PMI), the leading publicly traded tobacco company – listed on the New York Stock Exchange (NYSE) under the ticker of PM – and the fourth largest global consumer package goods company.

Subsequently, the overarching research question imposed in this dissertation is:

What is the target price for Philip Morris International's stock?

The research question will be answered by performing an analysis of the equity valuation methodologies as well as an in dept analysis of PMI – strategic and financial analysis, followed by forecast and valuation. Conclusively, the results will be acknowledged by conducting several checks to test the result credibility and to diminish the possibility of errors. At this point, my valuation results will be compared with the results of an investment bank, assessing and stressing the methodological discrepancies and final value differences. The investment bank chosen for the use is UBS (Union Bank of Switzerland) Investment Bank.

1.1. Dissertation structure

The remainder of the dissertation was organized in several sections. These sections represent the main steps involved in the valuation process of Philip Morris International. A brief introduction of each section is present below:

- I. **Section Two**, the literature review, presents the different valuation approaches and methodologies available to proceed with the equity valuation of Philip



Morris International, Inc. The main goal of this section is to analyze the pros and cons of each potential valuation methodology and define the best methodologies to proceed with the valuation of the target company.

- II. **Section Three** focuses on the external analysis of Philip Morris International. At this section, the macro- and micro-environment are analyzed with the help of the PESTEL framework and Porter's Five Forces framework, respectively. The ambition here is to identify the main challenges and opportunities present in the tobacco industry.
- III. **Section Four** provides the internal analysis of Philip Morris International. In this section is presented the strategic analysis as well as the historical financial analysis of the company with the purpose of analyzing the company's competitive position and ability to generate cash in the future.
- IV. **Section Five** is devoted to forecast the key drivers of PMI future performance. Basically, the forecasts will reveal the impact that expected future changes in the macro- and micro-environment (identified in section three) will have on the current business performance (analyzed in section four).
- V. **Section Six** presents the company's valuation. This section describes the final steps that were taken in order to create a complete valuation and establish a price target for the company's stock. Additionally, the section also includes several checks to test the logic of the valuation results: sensitivity analysis and a comparison with the UBS investment bank results.
- VI. **Section Seven** is devoted to the presentation of my final remarks and potential limitation of the research subject.
- VII. **Section Eight** and **Nine** are respectively, appendices and references.

2. LITERATURE REVIEW

This section aims to provide the theoretical background required to proceed with the valuation of Philip Morris International, Inc. (PMI). Nevertheless, as you continue reading you will realize that valuation is far from straightforward. There are multiple paths/techniques available to lead to “the correct” asset value and no specific rule to support the choice of the best suited technique to go along with the valuation¹. As a result, the important task is to extract from the pool of techniques the one that best fits the valuation of PMI, in other words, the technique which present the most direct way, with less probability of mistakes throughout the estimation process and for which it is available the most accurate data.

In a more comprehensive way, Damodaran (2006) identified four ways of valuing a firm. Nonetheless, as a starting point, the analysis has been narrowed to two of these approaches only: Discounted Cash Flow valuation which discounts the future cash flows to get the present value of a firm or equity, and Relative valuation which values a firm regarding the value of comparable firms. The other two approaches that were then disregarded of the purpose of the report were: the Asset-based Valuation which separately computes the current value of all assets of the firm and the Contingency Claim Valuation that uses the option pricing model to value opportunities. The reasons for doing so were that first, regarding the Contingency Claim models, PMI’s business does not present the characteristics for the application of option pricing models; and second, the reason for not engaging into further analysis of the asset-base valuation approach was because due to its accounting nature, it revealed suitable only for firms with mostly fixed assets, little or no growth opportunities and no potential for excess returns, which is not the case of PMI (Damodaran 2006).

¹ ‘All Roads lead to Rome’

² Damodaran, A. (1998) ‘Value Creation and Enhancement: Back to the Future’, Stern School of Business, 1-72.

³ According to Magni and Vélez Pareja, potential dividends are the cash available for distribution that can be distributed or can be retained by the firm, i.e., FCFE.

⁴ In ‘Corporate Uses of Beta’ by Rosenberg and Rudd: According to CAPM, WACC is the overall cost of debt and equity expressed like equation [6].

2.1. DISCOUNTED CASH FLOW (DCF) VALUATION

Making the bridge between the present and the future value of a firm, discounted cash flow models use expectations regarding cash flows generation in the future to estimate the present value of a firm. That is, considering a firm as a group of assets, the DCF models compute the value of a firm based on one of the basic principles in finance which states that *“the value of any asset can be viewed as the present value of the expected cash flows on that asset”*². On the words of Luerhman (1997): *“discounted cash flow analysis regards business as a series of risky cash flows stretching into the future”*.

Mathematically, the approach is expressed like this:

$$Firm's Value = \sum_{i=1}^n \frac{CF}{(1+r)^i} + \frac{CF_{n+1}/(r - TGR)}{(1+r)^n} \quad [1]$$

Equation [1] exhibits the cash flows that the company is expected to generate over its life discounted at a rate that reflects the uncertainty. This equation is applicable to all DCF methodologies, besides the use of different cash flows and discount rates – in which the discount rate increases with the riskiness of the cash flows being discounted. (Illustrated in appendix A)

In reality, the employment of this approach is far more complex than it might appear at first sight. Bearing in mind that a public firm has an infinite life, in order to estimate the value of a firm through DCF analysis, we need to measure not only the cash flows of the investments that have already been made, but also estimate the value from future growth. Consequently, to proceed with any discounted cash flow analysis, we need to estimate cash flows, future growth and the appropriate discount rate.

² Damadoran, A. (1998) 'Value Creation and Enhancement: Back to the Future', Stern School of Business, 1-72.

2.1.1.1. MOST COMMON DCF MODELS

There is a wide range of DCF models, which can differ according to couple dimensions. Firstly, DCF valuation can be characterized as an “Equity valuation” if the methodology in place values only the equity stake; or as a “Firm valuation” if it values the company as a whole. Secondly, we can also distinguish between “Total Cash Flow” and “Excess Cash” models. “Total Cash Flow” models estimate the present value of all cash flows generated by an asset whereas “Excess Cash” models estimate only the present value of excess cash flows.

The following table exhibits the most common DCF models that will be studied and considered for PMI’s valuation.

	Equity Valuation	Firm Valuation
Total Cash Flow	FCFE ; DDM	FCFF ; APV ; CCF
Excess Cash Flow	Dynamic ROE	EVA

Table A: Most Common DCF methodologies

2.1.1.1.1. EQUITY VALUATION

2.1.1.1.1.1. THE FREE CASH FLOW TO EQUITY (FCFE) VALUATION

Equation [2] shows that common equity can be directly estimated by discounting free cash flow to equity (FCFE) at the cost of equity (Ke). In doing so, you will be valuing just the equity stake, which is the cash flow available for equity investors. It is written as:

$$Equity's Value = \sum_{i=1}^n \frac{FCFE}{(1 + K_E)^i} + \frac{FCFE_{n+1}/(K_E - TGR)}{(1 + K_E)^n} \quad [2]$$

2.1.1.1.2. DIVIDEND DISCOUNT MODEL (DDM) VALUATION

A special case for valuing the cash flow available for shareholders is the Dividend Discount Model (DDM). This approach focus on wealth distribution since it defines the intrinsic value of a firm as the present value of expected future dividends (Div) discounted at the cost of equity (k_E) - equation [3]. It is a very intuitive approach given that dividends are the only tangible cash flow to investors (Damodaran 2006). Arguments in favor of this approach over the FCFE method have been presented by Magni and Vélez-Pareja (2009), who claimed that “*potential dividends³ that are not distributed, reinvested or retained, should be ignored in firm valuation, because only distributed cash flows add value to shareholders*”. The two authors also alleged that shareholders are not interest in investing in positive-NPV projects if they will never receive any cash. Thus, if a firm pays out no dividends over the life of the enterprise, the equity’s value should be zero.

$$Equity's Value = \sum_{i=1}^n \frac{Div}{(1 + K_E)^i} + \frac{Div_{n+1}/(K_E - TGR)}{(1 + K_E)^n} \quad [3]$$

Gordon made some simplifying assumptions regarding the dividends and the discount rate present in equation [3] to get a simple valuation procedure, which is known as Gordon growth model (GGM). It is one of the most widely known DDM model and it assumes that the dividends grow at a constant rate forever while the cost of equity remains constant.

$$Value per share of stock = \sum_{t=1}^{t=\infty} \frac{E(DPS_{t+1})}{(K_E - g)} \quad [4]$$

Even though according to some authors DDM, GGM inclusive, is the theoretical correct approach for valuing common stocks, it has two well-known limitations related to its

³ According to Magni and Vélez Pareja, potential dividends are the cash available for distribution that can be distributed or can be retained by the firm, i.e., FCFE.

application: (1) the first problem is that due to the non-existent relationship between value creation and value distribution, it is very difficult to forecast the dividends required for the DDM analysis (Miller & Modigliani 1961), and (2) the model ignores internal growth through retained earnings.

2.1.1.2. FIRM VALUATION

2.1.1.2.1. THE FREE CASH FLOW TO THE FIRM (FCFF) VALUATION

Alternatively to equity valuation is the valuation of the firm as a whole (debt plus equity). The estimation of a firm's value is then made by discounting expected free cash flow to the firm (FCFF), i.e. the cash flows after covering all reinvestment needs and taxes, but prior to interest and principal payments, at the weighted average cost of capital (WACC). FCFF method also known as WACC model is one of the most used approaches and is expressed as follow:

$$Firm's Value = \sum_{i=1}^n \frac{FCFF}{(1 + WACC)^i} + \frac{FCFF_{n+1}/(WACC - TGR)}{(1 + WACC)^n} \quad [5]$$

Unlike FCFE, FCFF includes both debt and equity which implies that we must account for the side effects of debt financing (interest tax shields and bankruptcy costs) in the valuation. In this approach, all the financing side effects are included in the valuation by reducing the discount rate (WACC), rather than by including them in the cash flow to investor (Shrieves and Wachowicz 2001). Then, the correct discount rate for FCFF is the WACC which is lower than the cost of equity⁴.

$$WACC = \frac{E}{V} \times K_E + \frac{D}{V} \times K_D \times (1 - T) \quad [6]$$

According to Miles and Ezzell (1980) the weighted average cost of capital is based on the underlying assumption that the company being valued maintains the same capital structure proportions throughout time. This has been presented as being the main

⁴ In 'Corporate Uses of Beta' by Rosenberg and Rudd: According to CAPM, WACC is the overall cost of debt and equity expressed like equation [6].

weakness of the WACC model, since it makes the model suitable only for firms with the simplest and most static of capital structure (Luerhman 1997). That is, considering more complex capital structures, the likelihood of mistakes significantly increases due to the periodically adjustments that the approach requires.

2.1.1.2.2. THE ADJUSTED PRESENT VALUE (APV) VALUATION

The adjusted present value model also known as “APV model” or “valuation in parts”, was first introduced by Steward Myers in 1974 while trying to understand the interaction between corporate finance and investment decisions. The method follows the Modigliani and Miller’s teachings which suggest that a company’s choice of capital structure only affects its enterprise value due to market imperfections such as: taxes and bankruptcy costs.

Most specifically, the method relies on the “*principle of value additivity*”⁵. That is, the method separately analysis the cash flows coming from the business operations and the side effects associated with its financing program; and then adds them at the end to get the “real” enterprise value of the company. Embedded in the definition above, APV is based on three basic steps, which make it a more complex model than the ones presented so far.

The **first step** consists on estimating the operational side of the company regardless of the company’s capital structure; i.e. the value of operations as if the company was all-equity financed (V_U). The procedure is similar to the FCFF method but the discount rate is the unlevered cost of equity (K_u) instead of WACC. (Equation 7)

$$\text{Firm's Unlevered Value}(V_u) = \sum_{i=1}^n \frac{FCFF}{(1 + K_u)^i} + \frac{FCFF_{n+1}/(K_u - TGR)}{(1 + K_u)^n} \quad [7]$$

⁵ Luehrman (1997), page 135 of ‘What’s it worth?’.

In reality, the complexity of the APV model lies in the **second step** in which we need to consider the company's capital structure and estimate its financing side effects. Among several components that could be considered, the most relevant ones are the interest tax shields and the bankruptcy costs (direct and indirect costs). Both components are an increasing function of a company's financial leverage; wherein interest tax shields adds value to the valuation and the bankruptcy costs destroys value.

In what concerns the value of tax shields, the most controversial thing is the rate at which the interest tax shields should be discounted. Fernández (2008) compared nine different theories and concluded that the divergences among the theories emerge from the calculation of the present value of the interest tax shields. According to Myers (1974), the present value of interest tax shields is obtained by discounting the interest tax shields at the required return to debt (K_D). The implicit assumption is that the interest tax shields derived from the use of debt are just as risky as the debt itself. In opposition, some authors⁶ suggest the use of the cost of equity as the discount rate. In 1997, Luehrman agreed with Steward Myers and considered the cost of debt as the best discount rate although in some cases an upward adjustment might be essential. The upward adjustment is appropriate for companies facing extreme conditions where tax shields are riskier than interest payments. Consequently, in those cases, the appropriate discount rate is the cost of debt plus the company probability of default (Damodaran 2002). Additionally, in cases where the company's debt grows with operations, Ruback (2002) stated that the risk of tax shields equals the risk of operating assets⁷.

Present Value of Tax Shields (PVTS)

[8]

$$= \sum_{i=1}^n \frac{D_i \times K_D \times T_c}{(1 + K_D)^i} + \frac{D_i \times K_D \times T_c / (K_D - TGR)}{(1 + K_D)^n}$$

⁶ Milles and Ezzel (1980) and Harris and Pringle (1985)

⁷ Capital Cash- Flow Model

A firm's debt level has also implications regarding its expected bankruptcy costs. The present value of expected bankruptcy costs (BC) is expressed as equation [9] and it is the most significant estimation problem imposed by the APV valuation.

$$\begin{aligned} PV \text{ of Expected Bankruptcy Costs} & \qquad \qquad \qquad [9] \\ & = \text{Probability of Bankruptcy} \times PV \text{ of Bankruptcy Cost} \end{aligned}$$

Where:

$$PV \text{ of Bankruptcy Cost} = \sum_{i=1}^n \frac{\% BC_i \times Vu_i}{(1 + K_D)^i}$$

The estimation problem imposed by equation [9] is that none of its inputs are easily quantified or directly estimated. Then, although the literature provides us alternative ways to estimate them, the results might come with some level of error. Regarding the probability of default [P(D)], the most common approach is to estimate a bond rating and use the default probability associated with that rating. The present value of bankruptcy cost is the present value of the average loss in a firm's value in case of bankruptcy. It can be computed by multiplying the estimated percentage loss (%BC) by the firm's unlevered value in each year. This percentage loss can be estimated from studies that have looked at the scale of this cost in actual bankruptcies. (Damodaran 2002)

Finally, the **third step** is the sum of the different components. The value of the operating assets will be the firm's unlevered value (Vu) plus the present value of tax shields (PVTS) minus the present value of expected bankruptcy costs (PVEBC). The PVTS must be multiplied by the probability of no default [1-P(D)], because this value only occurs when the company is operating. Then, to get a company enterprise value, we add to the value of operating assets, the value of excess cash and the value of other nonoperating assets (Koller et al. 2005).

$$\text{Value of Operating Assets} = Vu + PVTsx[1 - P(D)] - PVEBC \quad [10]$$

Besides the complexity inherent in the APV model, many academics argue that it is worth the effort. Luehrman (1997) strongly advises the use of the APV method, first because due to the “*principle of value additivity*”, it allows the use of different rates to discount different cash flows, given their riskiness; second, he stresses that due to its exceptionally transparency, managers can analyze not only how much an asset is worth but also its origin.

2.1.1.2.3. CAPITAL CASH FLOW (CCF) VALUATION

Recently proposed by Ruback (2002), Capital Cash Flow (CCF) also defined as Compressed APV, presents its simplicity as its main advantage over the other approaches for firm valuation.

When compared to the FCF method (present in section 2.1.2.2.1), the two models differ in the way they incorporate the side effects of debt financing. Contrasting FCF method, CCF adds the interest tax shields in the cash flows rather than deducting them in the discount rate. Therefore, since the capital cash flow stands for “*all cash available to capital suppliers, including the interest tax shields*” (Ruback 2002), it must be discounted at a before- tax rate. Then, the appropriate discount rate for those cash flows corresponds to the riskiness of the assets (K_A).

$$\text{Firm's Value} = \sum_{i=1}^n \frac{CCF}{(1 + K_A)^i} + \frac{CCF_{n+1}/(K_A - TGR)}{(1 + K_A)^n} \quad [11]$$

Directly comparing CCF with FCF, we could say that this approach overcame the criticisms made to the use of WACC in section 2.1.1.2.1. That is, since CCF incorporates the interest tax shields in the cash flows, this model is appealing for valuing firms which capital structure substantially changes over time, because unlike FCF the

discount rate in this model is independent of the capital structure not requiring periodically re-estimations.

The argument of simplicity was also applied in favor of CCF when compared to APV. As stated previously, Ruback (2002) believes that interest tax shields share the same risk as operating assets. For this reason, CCF discounts the interest tax shields at the risk of assets (K_A), while APV discounts them at a less risky rate - the risk of debt (K_d). As a result, Ruback asserted that the APV model needs a tax adjustment when unlevering an equity beta to calculate an asset beta, turning APV into a more complex model than CCF (Ruback 2002).

2.1.2.2.4. THE ECONOMIC VALUE ADDED (EVA) VALUATION

Pioneered by Stern Stewart, this approach has been gaining its space on the financial community as a new form of performance measurement. Different from the valuation approaches discussed so far, EVA is an excess cash flow model, that is, it proposes to measure only the cash that is earned in excess of the total cost of capital (Chen and Dodd 2001). Thus, the underlying concept in this approach is that a healthy firm should earn at least its cost of capital.

The procedure to measure EVA is:

[12]

$$EVA = \text{Net Operating Profit After Tax (NOPAT)} - \text{Total Cost of Capital}$$

Then, the connection between EVA and the firm's value is made through the following equation⁸:

[13]

$$Firm's Value = Capital Invested_{Assets\ in\ Place} + \sum_{t=1}^{t=\infty} \frac{EVA_{t, Assets\ in\ Place}}{(1 + WACC)^t} + \sum_{t=1}^{t=\infty} \frac{EVA_{t, Future\ Projects}}{(1 + WACC)^t}$$

⁸ Damodaran, A. (2006) 'Valuation Approaches and Metrics: A Survey of the Theory and Evidence', page 38/77.

The promoted idea of investing only in projects with positive EVA, i.e., investing in projects in which the return exceeds the capital invested, is an attractive concept for investors (Chen and Dodd 2001). However, Brewer et al. (1999) pointed out some limitations for the use of EVA, among which are highlighted the following: (1) its short term orientation put emphasis on immediate results and jeopardizes investments in innovative projects, (2) its accounting nature can be subject of manipulation and (3) it is unable to adjust for size differences across plants/divisions. Hence, the authors affirm that EVA should be seen as *“a piece of the performance valuation puzzle”* and suggests the use of the balanced scorecard system⁹ developed by Kaplan and Norton (1992), where EVA would be linked to other financial and non-financial performance measures.

2.1.3. PMI - DCF VALUATION

When deciding upon the most suitable DCF technique to value PMI's performance, a significant weight was attributed to the company expected debt to asset value proportion for the next years. PMI has been carrying significant debt in its balance sheets, showing a tendency to increase the value of debt relative to its asset value. Thus, in the absence of disclosed information regarding the company's capital structure for the upcoming years, it is possible that PMI will keep changing its capital structure in order to better suit its financing needs. Therefore, in the presence of a leverage growing firm with an eventual unstable capital structure for the next years, the adjusted present value (APV) approach appears as the most reliable path for me to follow in order to reach an *“accurate”* value for PMI's performance.

As claimed by Miles and Ezzell (1980), the FCFF (WACC) model presupposes that the company maintains the same capital structure all over the years through a periodic or continuous rebalance of its capital structure. Thus, by opting for the APV approach, I am avoiding the eventual errors that might appear with the required adjustments to

⁹ *“Balance scorecard is a set of measures that gives top managers a fast but comprehensive view of the business... It allows managers to see business from four important perspectives: financial perspective, customer perspective, internal business perspective and innovation and learning perspective”* (Kaplan and Norton 1992 p. 174)

the WACC, while also having a more detailed valuation where I can analyze the origin of PMI's value.

Additionally, a Capital Cash Flow (CCF) valuation will also be performed to ensure the quality of the valuation. By comparing the outcomes of APV valuation and CCF valuation, I will be able to check if, in practice, under the same set of assumptions different methodologies generate similar outputs.

2.1.4. ADDITIONAL ISSUES REGARDING DCF VALUATION

2.1.4.1. TERMINAL VALUE

A very important issue that we have to deal with in all DCF analysis is the infinite life of public firms. As it is perceptible, DCF's formulas have two different elements in the numerator: the specific cash flow forecasts and the terminal value. The reason beyond such differentiation is that since we cannot accurately estimate cash flows forever, users of DCF methods assume that beyond several years of cash flow forecasts (terminal year), cash flows will grow at a constant rate forever (terminal value). The computation and use of the terminal value is then the most simple and consistent way to deal with the uncertainty surrounding the future value of a firm, which represent a significant element intrinsic in the calculation of any DCF methodologies (Holt at al. 1999). It is expressed through a perpetuity formula.

$$\text{Terminal Value}_t = \frac{CF_{t+1}}{r - TGR} \quad [14]$$

Equation [14] portrays the estimation of the terminal value where the discount rate and the growth rate in the model are sustainable forever. At this point, the challenge is to define when the company will reach steady state and the cash flows' terminal growth rate (TGR). Regarding the TGR it is important to emphasize that, in the long-term, no company can growth faster than the economy in which it operates. Therefore, the most common approach is to compute TGR as a steady rate equal to the projected nominal or real growth of GDP of the economy in which it operates. The choice for nominal or real growth of GDP depends on the nature of the cash flows

forecast. Additionally, Koller et al. (2005) claims that in the terminal year, capital expenditures equals depreciation and amortizations.

2.1.4.2. DISCOUNT RATES

It was previously presented the most common approaches for cash-flow valuation. According to the financial theory, each cash flow stream must be discounted at a proper discount rate that reflects their riskiness. Hence, at this stage, I will discuss the issues related to the estimation of the discount rates required in PMI valuation: cost of unlevered/levered equity and the cost of debt.

The cost of debt (K_D) measures the cost of borrowing from external entities. For companies with high credit ratings (debt rated at BBB or better) a suitable proxy is the yield to maturity of the company's long-term debt. A straightforward way to estimate the yield to maturity is by converting the company's bond rating into a yield spread which will be added to the risk free rate. Then, the cost of debt for high rated companies such as PMI, is easy to compute and it consists on adding to the U.S. 10-year government bond (risk free rate) the 10-year yield to maturity (yield spread).

Regarding the cost of equity, the correct approach for its calculation seems to be more controversial. Among several risk and return models to compute the cost of equity, the most accepted, although not perfect, is the Capital Asset Pricing Model (CAPM). Developed by Sharpe (1964) and Lintner (1965), this model works under the assumption that return is positively correlated with risk and that investors are exposed only to systematic risks due to their well-diversified portfolios. The model presents the cost of equity as risk free rate plus a risk-premium that depends on the company systematic risk (measured by beta - β). Concerning the capital structure of the company we can either use the unlevered beta (β_U) to obtain the cost of unlevered equity (K_U); or the levered beta (β_L) to compute the cost of levered equity (K_E). The cost of unlevered equity (equation [15]) must be lower than the cost of levered equity (equation [16]) because as the debt ratio increases, increases the unpredictability of shareholders return in case of financial distress ($\beta_L > \beta_U$).

$$[15] \quad K_U = R_F + \beta_U(R_M - R_F) \qquad [16] \quad K_E = R_F + \beta_L(R_M - R_F)$$

The inputs of the CAPM formulas above (risk-free rate, risk-premium and beta) are analyzed below.

Risk Free Rate (R_F)

The risk free rate is the expected return on an asset with no default risk, i.e., the return on an asset that displays no uncertainty regarding its future returns (government securities). According to Damodaran (2000) in order to match the actual return to the expected return, there should be no reinvestment risk (zero coupon rates). In practice, however, for the sake of simplicity the last condition is normally ignored.

Then, the best estimation for risk free rate is by considering the rate of a government security which respects “the consistency principle”. That is, the maturity, the currency and whether the chosen government security should be real or nominal depend on the cash flows being measured. Therefore, for the valuation of PMI, since results are in nominal US dollar terms, the most accurate risk free rate estimation will be the nominal US 10-year Treasury bond rate. Longer-maturity securities could be chosen, however, according to Koller, et al. (2005 p. 312) the 10-year government bond is the rate that best matches the whole cash flow stream being measured because bonds with longer maturities might match cash flow stream better, but their illiquidity can cause stale prices and yield premiums.

Equity Risk Premium ($R_M - R_F$)

The equity risk premium reflects the difference between the market’s expected return and the risk free rate. Basically, it is the price attributed to the perceptive risk of the economy and is determined by macro-economic volatility, behavioral components and investors risk aversion.

According to Damodaran (2012) there are three basic approaches for the estimation of equity risk premium: the survey approach that consists on estimating the equity risk premium by directly asking investors the amount required as expected returns; the



historical return approach that as the name suggests relies on the past performance of the equity market; and finally the implied approach where it is used expectations regarding market future performance to estimate the current equity risk premiums.

The most common approach to estimate the equity risk premium is by inferring it from past market returns relative to riskless investments (Goetzmann and Ibbotson 2005). However, Fernandez (2003) claimed that in valuation the required equity risk premium is an expectation and therefore has little to do with history. Following the same line of thinking, Damodaran (2012) affirmed that for equity research purposes is more appropriate to use the current implied equity risk premium, in order to make the valuation neutral. Additionally, when the equity risk premium is used to compute a cost of capital, a more prudent approach would be to build a long-term average of implied premium.

Beta (β)

The beta coefficient measures a stock's systematic risk, in other words, it measures the stock exposure to the risks that can not be diversified away. It reflects the tendency of a stock's return to respond to fluctuations in the broad market; the higher the coefficient the more it intensifies market swings (Rosenberg and Rudd 1998).

Then, a stock's systematic risk, as measured by beta, can be closely estimated from a regression relationship based on a stock's historical return and market returns (Rosenberg and Rudd 1998). The time frame of the regression should be at least three years and the returns monthly (Damodaran 2002). However, there are some problems with this approach: (1) the market index composition may be biased; (2) the regression may present a standard error so large that the estimation turns out to be worthless and (3) finally, the beta may change over time as firms changes. Consequently, Copeland et al. (2000) advises to use published estimates of beta for public companies, which was done in PMI valuation, jointly with some personal calculations.

The relationship between the unlevered beta and levered beta is mathematically expressed like this:

$$\beta_L = \beta_U \left[1 + \frac{D}{E} x (1 - T_c) \right] \quad [17]$$

As mentioned before, the unlevered beta is always smaller than the levered beta due to the debt priority over equity in being paid in case of financial distress.

2.1.4.3. CROSS – BORDER VALUATION IMPLICATIONS

In today's increasingly global marketplace, managing and consequently valuing cross-border investments have been assuming a prominent place in equity valuation. The relaxation of capital controls and the liberalization of the stock market have presented companies with new challenges, new opportunities and the world as competitors. As a result, in order to remain competitor, companies are carefully pondering cross-border investments, such as whether or not to seek for markets overseas, explore the growth potential of emerging markets or seek for cheaper resources abroad.

Together with the worldwide diversification benefits also come additional costs, risks and some specific issues that should be considered in the valuation of an international company, such as PMI. Cross-border investments involves dealing with different currencies, different corporate tax rates, different requirements regarding the timing of tax payments across countries, additional risks, among others specific issues (Kester and Morley 1997). Then, although the valuation techniques are the same everywhere, the new factor here is how to deal with these issues and incorporate them in the valuation.

At this point, the choice of which currency to proceed with the valuation as well as the other issues mentioned above should be tailored to suit the specific valuation in case and should not influence the end result. However, the following topic addresses one main point in cross-border valuation that is a source of disagreement among academics, and if not carefully analyzed might introduce errors into the analysis.



2.1.4.3.1. COUNTRY-SPECIFIC RISKS

When diversifying internationally, mostly when exploring the growth potential of emerging markets, firms are exposed to country-specific risks, such as: high levels of inflation, political changes, exchange rate fluctuations, capital controls and macroeconomic volatility (James and Koller 2005). There are two ways of reflecting those risk into the FCF method: we can either add a risk premium to the discount rate or reflect them in the cash flows through a scenario analysis, that is, estimate an expected cost of expropriation for each year and use them to adjust the expected future cash flows of a project (Kester and Moley 1997).

Recently, many academics have been pointing out some reasons for reflecting the country-level risks into the cash flows rather than adding a risk premium to the discount rate¹⁰. First, since discount rates should reflect only non-diversifiable risks, adding a country risk premium is inappropriate in global investment portfolios because in those cases the country risks can be diversified away due to the low correlation between the risks of developed and emerging markets. In addition, the correct size of the premium is very difficult to estimate and may result in the introduction of errors into the analysis. Lastly, this approach gives managers little insight about when and how the specific risks affect a company's value.

Then, according to the literature, the incorporation of a risk premium in the discount rate to reflect country-specific risks should be considered only for short-term valuations; the premium must be carefully defined based on realistic assumptions; and the results must be carefully interpreted considering the uncertainty surrounding the premium value (Goedhart and Haden 2003).

Fortunately, considering that PMI is a widely international firm with business in both developed and emerging markets, country-specific risks do not raise problems to the valuation as they are diversified away.

¹⁰ Kester and Moley(1997), James and Koller(2000) , Damodaran(2003) and Goedhart and Haden (2003)

2.2. RELATIVE VALUATION

In relative valuation, the estimations of asset values are obtained by examining market prices of similar assets. There are three essential steps in relative valuation: (1) identify comparable firms, (2) convert prices into multiples of earnings, book values, or sales, and (3) compare the multiple of the firm subject of valuation with the multiples of the comparable set.

The worldwide use of relative valuation approach is justifiable by its simplicity. Throughout time, analysts have been using multiples to complement or substitute more complex approaches. As stated by Liu et al. (2011), while multiples avoid the complexity inherent in the DCF models, such as: explicit forecasts, selection of appropriate discount rates and terminal value calculation; they are based on the same principle underlying the more complex approaches: *“value is an increasing function of future payoffs and a decreasing function of risk”*.

2.2.1. IDENTIFY COMPARABLE FIRMS

The identification of the appropriate peers is a vital and conditional step for the excellence of the valuation using multiples. Challenges here arise when deciding upon the most suitable and reliable criteria to use in order to recognize truly comparable firms.

Several analysts consider as comparable firms the ones operating in the same sector/industry, because they believe that once in the same industry, firms do share similar growth, risk and cash flow profiles, which improve the quality of the comparison. However, arguments were presented by many academics, first questioning the quality of the industry classification and second, pointing out that even within an industry it is possible to find huge differences between companies.

Addressing the first issue, we should realize that when considering firms from the same industry as comparable firms, we must first question the quality of the companies' industry assignment. Among the industry classification systems in practice



huge differences are exhibited in terms of methodology, structure, allocation of firms and concordance (Bhojraj et al. 2003). Then, a careful look on the industry classification systems available is important if you want to use the industry as a criterion to identify comparable firms.

The industry classification systems which are normally used are: Standard Industrial Classification (SIC) codes, Global Industry Classification System (GICS), Fama-French (FF) and North America Industry Classification Systems (NAICS).

Standard Industrial Classification (SIC) codes have proved to be useless. Clarke (1989) and Chan et al. (2007) agree that since SIC allocate firms to an industry considering their end-products or production process, it has been losing its value with the business reformulation, changes in the variety of products, growing importance of services and the shifts in technology.

On the other hand, Bhojraj et al. (2003) and Chan et al. (2007) claimed that GICS leads to lower errors than other systems. The Global Industry Classification Standards (GICS), jointly developed by Morgan Stanley International and Standard & Poors, allocates firms to an industry by considering its revenue's origin, its earnings, and the market perception through an eight-digit classification. The main reason for the superior performance of GICS pointed by these authors is that unlike SIC and NAICS, GICS industry groupings are established to meet the needs of investment professionals and are not primarily shaped by firms' production technology.

Although not totally denying the advantages of an industry based peer group, many have argued that being in the same sector or industry is not a sufficient argument (Damodaran 2006 p. 65 , Goedhart et al. 2005 p. 2).

Goedhart et al. (2005) state that investors have different expectations regarding each company's ability to create value going forward; the peer group should be chosen taking into consideration investors' expectations for growth and ROIC, instead of just focusing on the industry they are in. On the other hand, Damodaran (2006) argues that



regardless of the industry, a comparable firm is one with cash flows, growth potential, and risk similar to the firm being valued.

Statistical techniques such as cluster analyses are also an alternative way of defining comparable firms, even though Chan et al. (2007) argues that stock grouping based on industry exhibits high homogeneity than the ones formed from statistical cluster analysis.

In my understanding, all criteria presented above have at a certain point its pros and cons. For Philip Morris International Inc. peer group I will opt to combine the different criteria and get the best of each one. I will start by using GICS to narrow my initial list of potential peers and then use the help of financial and non-financial figures to find PMI's comparable firms.

2.2.2. CONVERT PRICES INTO MULTIPLES

The second step in relative valuation is to generate standardized prices that are comparable, usually by converting prices into multiples. In this stage, it is important to consider two things: (1) the data that will be used to compute the multiples, and (2) the multiple/s that is/are more appropriate and accurate for the analysis of the target company.

2.2.2.1. DATA

In the numerator of a multiple, you should always have the latest available market price of the figure used. However, according to the data used for the value driver in the denominator, multiples can be classified as forward or historical multiples. Therefore, in relative valuation, the choice of which data to use is as important as the other steps, stressing that any analysis is only as accurate as the data it relies on.

After comparing the characteristics and performance of historical and forward multiples, many authors presented arguments in favor of the second one. Authors¹¹

¹¹ E.g., Damodaran (2002); Goedhart, Koller & Wessels(2005); Liu, Nissim & Thomas(2002) or Lie & Lie, among others.

recognize that forward looking multiples promote greater accuracy in pricing than historical based multiples. Additionally, Liu, Nissim & Thomas (2002), highlighted that not only forward earnings are better as its performance improves if the forecast horizon increases and its earnings forecasted over different horizons are aggregated.

As last resort, if no reliable forecasts are available, Goedhard et al. (2005), advice the use of the latest historical data possible- trailing data .

2.2.2.2. MULTIPLES

Multiples based models can be thought as special cases of the DCF models we have already discussed, in which we consider only the terminal value (represents on average 90% of the market value) and make no specific assumptions.¹² Accordingly, such as in DCF models, multiples can be separated into equity¹³ and enterprise values¹⁴. Equity-based multiples can thus be interpreted as a simplification of more complex equity-based models (e.g. dividend discount model), whereas the enterprise-based multiples stand as a simplification of more complex enterprise value based approaches (e.g. Free Cash Flow to Firm).

Another possible classification for multiples is according to the common variable used to standardize prices, such as earnings, asset or sales.

Multiples	Earnings-Based Multiples	Asset-Based Multiples	Sales-Based Multiples
Equity Values (E)	Price Earnings Ratio	Price to Book Value	Price/ Sales per Share
Enterprise Values (E+D)	Enterprise Value to EBIT Enterprise Value to EBITDA Enterprise Value/ Cash Flow	Enterprise Value to Book	Free Cash Flow yield

Table 2.2.2.2.1.: Multiples

¹² Young, M., Sullivan, P., Nokhasteh, A., and Holt, W. (1999)

¹³ Equity Value is the price multiplied by the number of shares outstanding, which estimate the value of a firm to shareholders;

¹⁴ Enterprise Value is the value of equity plus the value of debt, which deliver the value of a firm to the whole enterprise.

Table 2.2.2.2.1. exhibits the most popular multiples. However, the preference for one approach over the others depends on the company that is being subject to valuation. Lie & Lie (2002) examined the valuation accuracy of the 10 most common multiples for all active companies within the Compustat North America data base, and one of their conclusions was that the accuracy level of each approach depends on the characteristics of the company being valued, such as size, risk, profitability, level of intangible assets and being or not a financial firm.

In a more general context, Lie & Lie (2002) reached the conclusion that asset-based multiples provide the most accurate estimates whereas the sales multiples provide the least accurate estimates. The earnings based multiples provide accuracy in-between for average companies; however being as well as or better than the other multiples for companies with high earnings. In the same line of studies, Liu, Nissim and Thomas found that earnings forecasts are better summary measures of value than all other measures.

In addition, regarding earnings-based multiples, Lie & Lie (2002) suggested the use of EBITDA instead of EBIT and net income. Consistent with the results of Lie & Lie (2002), Goedhart et al. (2005), also recommend the use of enterprise value to EBITDA over P/E ratio, once that EBITDA is independent of the capital structure.

2.2.3. RELATIVE VALUATION LIMITATIONS

According to Fernández (2001) the multiples main problem is its broad dispersion. However, besides dispersion, is plain to see that it exhibits more pitfalls which are embedded in the relative valuation process.

“The strengths of relative valuation are also its main weaknesses”
Aswath Damodaran, 2002

The statement is easy to understand through the analysis of the relative valuation process. First, the subjectivity involving the decisions in relative valuations make them ease to manipulate. Next, the inherent assumption that markets correctly prices assets on average is far from being an absolute true and can result in overvaluation or

undervaluation according to the market's mood. Finally, it is useless for companies with no observable comparables, with little or no revenues, and with negative earnings.

2.2.4. PMI - RELATIVE VALUATION

The PMI's relative analysis will be focused on earnings-based multiples as according to the literature they are the most suitable for valuing companies with high earnings. Additionally, it was given preference for enterprise-value multiples over price multiples which is justifiable by the fact that enterprise value multiples are less sensitive to the effects of financial leverage.

As a result, since PMI comparable analysis implies valuing companies that use different amounts of leverage, two multiples were chosen for the method of comparables: the enterprise value to earnings before interest and taxes (EV/EBIT) and the enterprise value to earnings before interest, taxes, depreciation and amortization (EV/EBITDA). This way, I chose pre-interest earnings figures (EBITDA and EBIT) and left out of the valuation the post-interest figures such as EPS that rise with leverage.

On both multiples chosen, the numerator is the total market value of the firm net of cash. The reason why the enterprise value should not include cash is because both EBIT and EBITDA excludes the interest income from excess cash, thus not subtracting the cash would result in an exaggeration of the true value of the multiples (Damadoran 2002 p 501¹⁵).

The distinguishing factor among the two multiples is that EBITDA controls for differences in depreciation and amortization among businesses, in contrast to EBIT, which is post-depreciation and post-amortization. That makes EV/EBITDA more suitable for valuing capital-intensive businesses. Therefore, bearing in mind that the tobacco industry is relatively capital intensive a more accurate result is expected from the EV/EBITDA multiple.

¹⁵ The definition of EV/EBITDA coincides with the definition of Adjusted value/ EBITDA presented by Lie and Lie (2002) on page 46.

3. PMI - EXTERNAL ANALYSIS

PMI, as well as all other organizations, operates within an external environment. The external factors are not controlled by the company; however they have a crucial role in defining a company's success. The external analysis consists on studying the main dimensions of the macro- and micro-environment in which an organization operates. The macro-environment encompasses the factors that affect the company's performance on the long term, whereas the micro-environment consists on the factors that directly affect the industry on an immediate time period. At this point, two frameworks will be used: the PESTEL analysis to explore the macro-environment and the Porter's five forces framework to analyze the micro-environment.

3.1. MACRO-ENVIRONMENT

At a macro level, several factors might affect the long term performance of an industry, indicating its future direction. Resorting to the PESTEL framework, it is possible to assess the macro-environment in which a company operates. PESTEL is an acronym for political, economic, social, technological, environmental and legal analysis, which represents the key factors that affect and influence the industry's long term performance.

3.1.1. PESTEL ANALYSIS

Political Factors

Governments' policies and programs affect the production and trade of most tobacco companies around the world. The regulatory requirements by governments in some nations have been increasing and are expected to keep such trend, with the goal of averting the consumption of tobacco. The developed nations are the ones that display the highest level of government intervention, strongly influencing tobacco producers and traders; whereas the intervention in less developed nations is minimal and insignificant on an industry level. However, due to globalization and decreasing trading

barriers among countries, it is expected that in the future emerging markets might end up imposing the same regulations.

On top of the tobacco policy instruments (see appendix B) the significant increase in cigarette-related taxes in many governments clearly portrays the power that governments exercise over the tobacco industry.

Percentage tax applied to cigarettes

Organization for Economic Co-operation and Development (OECD) AVERAGE

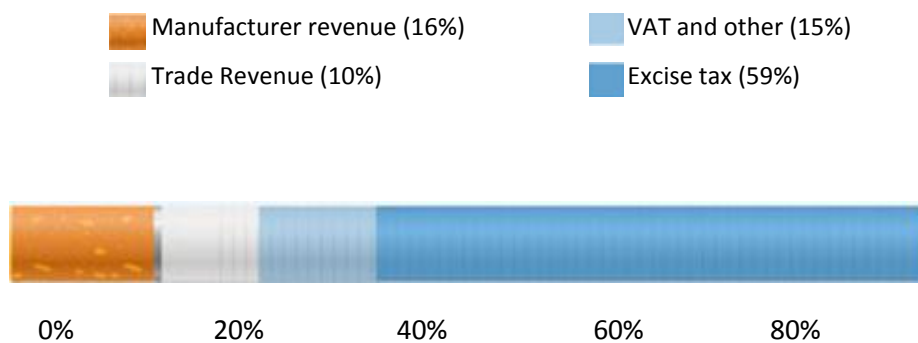


Figure 3.1.1.1.

Source: PMI estimates for OECD countries excluding US

The figure above exhibits the key components of a cigarette retail price. Tobacco products are the most heavily taxed consumer goods in the world, with excise tax and VAT (value added tax) accounting for more than 70% of the cigarette retail price. With such a high level of taxes, government collects over \$200 billion dollar in tax revenues annually, controls the price and consumption of tobacco products for some segments like young people, and leave tobacco companies with less freedom regarding price settlement.

However, the impacts that such high taxes can have in the tobacco business can go against the governments' interests. Instead of reducing tobacco consumption by increasing prices, high excise taxes can encourage the illegal smuggling of cigarettes. According to a study conducted by KPMG, "the illegal cigarette market in the EU is now larger than the legal cigarette markets of France, Ireland and Finland combined, and brings increased criminality to EU member states, as profits from illicit trade are often



used to fund other illegal activities, including drug smuggling, human trafficking and terrorism. In many EU countries, there are now two distinct cigarette markets, one legal regulated market which is declining, and an illegal unregulated market that is growing."

Economic Factors

"We're in a kind of business where we know people would much rather cut down on other areas of discretionary spending before they decide to either down-trade or cut down on their overall daily cigarette consumption." (British American Tobacco Chairman Jan du Plessis, 2008¹⁶)

Although the tobacco industry is more resilient than most of the other industries, it is not immune to economic fluctuations. According to the price (or income) elasticity of demand¹⁷, the demand of tobacco products can be considered as inelastic. While the total industry volume is not expected to suffer significant impacts due to economic conditions; huge changes on the economic development growth rate are probable to have a parallel effect on the industry volume trends.

As shown in the following figure, the emerging markets have been sustainably presenting an uptrend percentage of the global economic GDP based on purchasing-power-parity, while the contribution of developed countries on world's GDP is decreasing and is expected to keep such trend. As a result, the companies that are already present in emerging markets should strengthen their position, whereas the ones that are absent in those markets should manage to get in and benefit from the higher economic growth.

¹⁶ Source: <http://www.telegraph.co.uk/finance/newsbysector/retailandconsumer/2794132/Tobacco-industry-profits-from-old-habits.html>

¹⁷"Measures the percentage change in cigarette consumption for each 1% change in real price (or income) of cigarettes, usually adjusted for the rate of inflation"
<http://bmb.oxfordjournals.org/content/52/1/132.full.pdf>

**World's GDP
as a % of Developed and Emerging Economies**

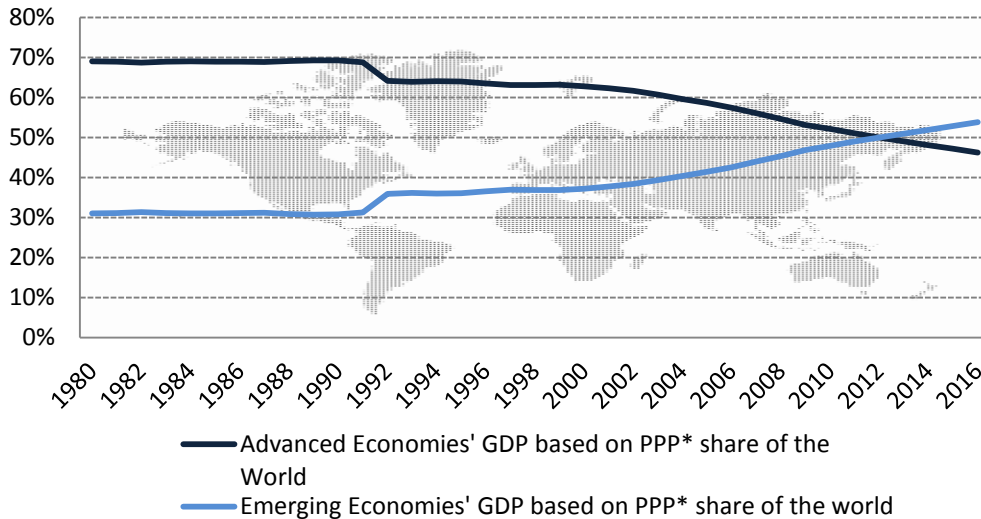


Figure 3.1.1.2.

PPP*: purchase-power-parity

Source: International Monetary Fund (IMF) as of September 20, 2011

Additionally, economic factors that can adversely affect the major players in the industry are currency exchange rates. PMI, as the other multinational tobacco companies, conducts its business in different countries at different currencies, later on translating the results into U.S. dollars based on average exchange rates prevailing during a reporting period. Subsequently, net revenues and operating income will be affected by devaluation/strengthening of U.S. dollar and foreign currencies.

Social Factors

On social trends, I emphasize the increase health awareness among consumers as well as the demographics trends. Indeed, the diminishing social acceptance of smoking represents, on my point of view, the major challenge for the tobacco industry. The association of tobacco consumption with the death and health problems of millions of people annually, spurred a wave of protests among population and encourages the foundation of organizations such as The World Health Organization’s (“WHO”)

Framework Convention on Tobacco Control (“FCTC”). Thus, the society’s increased health awareness functions as the catalyst of most anti-smoking regulations.

Even though there is an increase in the awareness of smoking-related problems, as shown in figure 3.1.1.3., the global tobacco consumption continues to increase over time.

GLOBAL CIGARETTE CONSUMPTION
Billions of sticks, 1880-2020

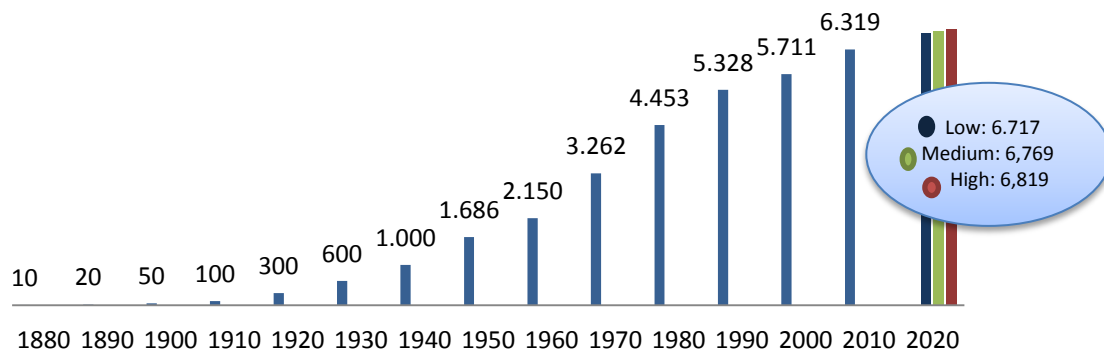


Figure 3.1.1.3

Note: Low, Medium, and high cigarette consumption projections for 2020 are based on low, medium, and high variant projections provided by United Nations World Population Prospects (2000 revision)

Source: The Tobacco Atlas, third edition.

As the industry matures in developed markets with the decrease of cigarettes consumption per capita and sales, the global tobacco consumption growth has been mainly due to the population growth. According to the United Nations Secretariat, the world population in 2050 will be 8.9 billion, which represents an increase of 47 per cent relative to year 2000. However, as shown in figure 3.1.1.4., much of the increase in population up to 2050 will take place in the less developed countries which will account for 99 per cent of the expected increment to world population in that period.

Total Population, more developed and less developed regions, estimates and medium scenario : 1950-2300

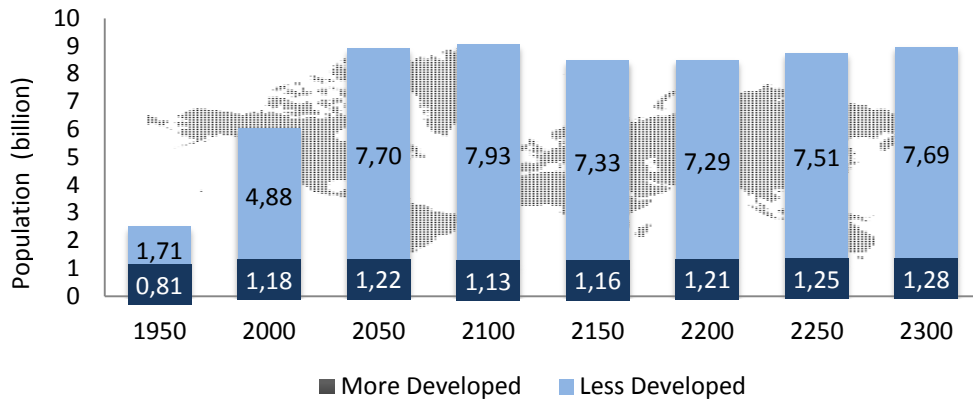


Figure 3.1.1.4
Source: United Nations Secretariat - "World Population to 2003"

Additionally, PMI is dynamically engaged in corporate social responsibility through the support of charitable giving programs that improve living conditions in places their employees reside and work, as well as in the farming communities where the company source its tobacco¹⁸.

Technological Factors

Technology can reduce costs by improving efficiency; can lead to higher quality products and pilot innovation. Consequently, getting the best out of technological developments is for sure a critical success factor within a competitive environment.

On top of tobacco companies’ technological challenges, is the current need of encountering commercially feasible new product technologies that may reduce the health problems caused by the consumption of tobacco products. Additionally, in order to adjust to the consumers’ increase environmental awareness, tobacco companies also need to invest in technologies that will enable them to reduce the business impact on the environment.

¹⁸ PMI 2010 Annual Report, p14.



Environmental Factors

Tobacco as well as other agricultural commodities, is highly affected by weather and climate changes. Growing concerns have been expressed not only regarding health smoking related problems but also regarding the smoking impact on the environment. While the quality of the tobacco business is highly correlated with the weather condition, tobacco industry has also been pointed out as having an adverse impact on the planet. The tobacco growing is pointed as a cause of deforestation in many areas of the world; smoking is considered as a contributor to climate change due to the production of greenhouse-effect gases, such as carbon dioxide and methane; and the irresponsible use of cigarettes is a common cause of forest fires worldwide. Consequently, the greater environmental awareness is an external factor that deserves attention from the tobacco manufacturers.

PMI is aware of the importance of this external factor and is increasing the efforts in order to reduce the environmental footprint of their activities. They are now focusing on the reduction of energy consumption, carbon dioxide production, water consumption, waste production, and recycling¹⁹.

Legal Factors

As already mentioned, social factors have been fostering severe legal constraints in the tobacco industry. As the main catalyst for such an increase number of regulation and legislation currently displayed in the tobacco industry, is the FCTC. The World Health Organization's (WHO) Framework Convention on Tobacco Control (FCTC), is the first international legal public healthy treaty and its objective is stated on the Article 3²⁰: *"The objective of this Convention and its protocols is to protect present and future generations from the devastating health, social, environmental and economic consequences of tobacco consumption and exposure to tobacco smoke by providing a framework for tobacco control measures to be implemented by the Parties at the*

¹⁹ http://www.pmi.com/eng/about_us/how_we_operate/pages/environmental_initiatives.aspx

²⁰ Draft WHO framework convention on tobacco control, 3 March 2003
<http://apps.who.int/gb/fctc/PDF/inb6/einb65.pdf>



national, regional and international levels in order to reduce continually and substantially the prevalence of tobacco use and exposure to tobacco smoke." The treaty core demand tobacco consumption reduction measures encloses: regulations on sales to minors; bans on advertising, marketing, promotions and sponsorships; restrictions and bans on the use of ingredients, such as: ceilings on tar, nicotine, carbon monoxide and other smoke constitutes; litigations against tobacco product manufacturers; restrictions on smoking in public areas; bans on the sale of duty free tobacco sales; plain packaging, among other legislations.

According to the FCTC its current total number of Parties rounds 174 countries which covers 87.4% of world population²¹. Concerning both the actual and proposed legislations, unquestionably, this convention represents a huge threat for the tobacco manufacturers, since the number of parties as well as number of anti-smoking legislations are expected to increase over time.

PESTEL Evaluation

The analysis of the 6 key dimensions of the macro-environment presents several challenges as well as opportunities for tobacco companies. Tobacco companies operate in different countries and are therefore exposed to different political, economic, regulatory and social factors.

The main advantage of the industry is the inelastic characteristic of tobacco goods. Although the consumption per capita has showed a decrease throughout the years, the decrease is compensated by the increase in the global population, leading to a stable economic environment.

The diminished social smoking acceptance appears as the main challenge of this industry. The increase consumers' health awareness has been translating into protests against tobacco products and anti-smoking regulations. Therefore, the tobacco

²¹ <http://www.fctc.org/>



business can be in serious risk if companies do not succeed in their attempt to produce products with the potential to reduce the risk of smoking related problems.

On top of anti-smoking regulations, I emphasize the high taxation imposed to tobacco products, in which excise taxes account for approximately 59% of cigarette retail price.

The industry growth opportunity lies in less developed markets as an attempt to compensate the decrease in sales in developed countries. Emerging markets displays high growth rate projections, high GDP and low government interventions compared with developed countries.

3.2. MICRO-ENVIRONMENT

As an attempt to better understand the tobacco industry context, consequently analyzing how the industry trends might affect PMI's future performance, I will use *Porter's Five Forces Framework*²². Within this framework I will then discuss five competitive forces inside the tobacco industry, thus analyzing the industry attractiveness.

3.2.1. PORTER'S FIVE FORCES ANALYSIS

The Threat of New Entrants

Despite the significant profitability level within the tobacco industry that may attract new firms, the threat of new entrants is very low due to the high entry barriers. Actually, operating at a domestic or regional level does not imply such high costs or high economies of scale, enabling small local firms to enter the market. However, considering that soon or later firms will want and need to expand to a national or global level, the barriers to entry are quite high. It requires high economies of scale to compete with the top tobacco firms already in the industry, and local launch firms can not catch up those economies of scale present in the tobacco manufacturing process. Additionally, competing at a national or global level is financially demanding.

²² Porter's Five Forces Framework developed by Michael Porter models an industry as being influenced by five forces: the threat of new entrants, the bargaining power of suppliers, the bargaining power of buyers, the threat of substitutes and the extent of competitive rivalry within the industry.



This industry also faces several legal and regulatory impositions by many governments, like high taxes and advertising restrictions (see appendix C), which made it difficult for new firms to survive in the tobacco market. Consequently, another issue in this industry is how to build brand awareness. Since the top players already have a lot of brand awareness and customers' loyalty, the restrictions on media advertising for tobacco products imposed by some governments, made it hard for new players to increase their brand awareness and gain customers.

Bargaining Power of Suppliers

Cigarette manufacturers normally acquire its raw materials from external suppliers like tobacco growers, tobacco stemmers, paper and fiber manufacturers, and re-driers. However, the major component in the cigarette production is tobacco leaf.

On 2007, according to the third edition of The Tobacco Atlas: "Tobacco is grown in more than 120 countries on almost 4 million hectares of the world's agricultural land, consuming as much arable land as all the world's orange groves or banana plantations."

According to PMI website, the company is one of the largest tobacco purchasers in the world, buying from leaf suppliers and farms in over 30 countries a total quantity of 600 thousand tons of tobacco leaf each year. The supply of leaf is also secured by some agreements that the company has with leaf suppliers, which ensure the stability of at least 10% of PMI's global leaf requirements, and enable the company to better align leaf supply and demand.

Consequently, due to the high number of tobacco leaf suppliers in the global market and the purchasing power of PMI, I conclude that the bargaining power of suppliers is low.

Bargaining Power of Buyers

Addicted customers tend not to care about subsequent harms, products quality or price. They normally attach personal values to the tobacco consumption, leading to



high customers' loyalty. Nonetheless, in periods of economic crisis, as a last resort, customers do tend to switch to cheaper brands, adding some pressure for expensive brands to lower prices. For instance, buyers' power was exhibited on the so known Marlboro Friday on 1993, when Philip Morris USA Inc. lowered the prices of its cigarettes leading brand Marlboro by 20% on an attempt to gain market share, thus causing many other leading tobacco companies to reduce the prices of their leading brands²³.

The increase health awareness by customers and subsequently increase regulation by some countries is also an issue that tobacco companies have to deal with. It is another example of consumers' power, since it adds pressure on companies to develop products with the potential to reduce the risk of tobacco related diseases (for instance, it is one of the goals of PMI²⁴) and made them switch focus from developed to developing countries where there is less government regulation and higher birth rate.

Conclusively, on a broader perspective I consider that buyers exercise a medium-low power over tobacco companies.

The Threat of Substitute Products

As a response to the consumers increase health awareness, the biggest substitute for tobacco consumers could be to quit smoking resorting to the use of alternative tobacco products, such as nicotine patches, gum, and inhalers among other products. However, although the idea of stop smoking could seem appealing at first under the hope of a healthier life and extra savings, these products did not gain much popularity and usage among tobacco consumers so far; lacking real substitutes for cigarettes.

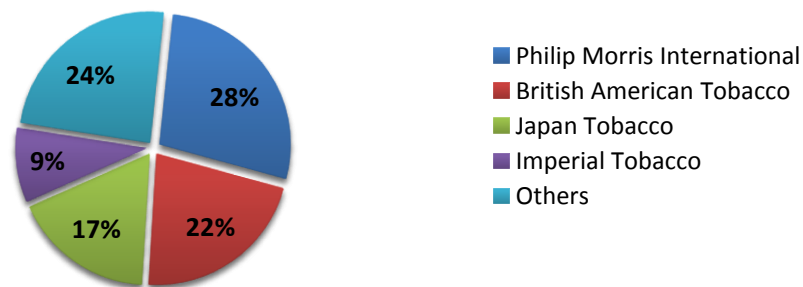
²³ Source: <http://www.independent.co.uk/news/business/runaway-consumers-put-heat-on-brands-marlboro-friday-has-been-seen-as-a-health-warning-for-many-companies-with-heavily-promoted-product-names-1487098.html>

²⁴Source:http://www.pmi.com/eng/about_us/company_overview/pages/philip_morris_international_goals.aspx

Internal Rivalry

Tobacco industry is one of the highest-concentrated industries across the world, with 76% of the international tobacco market being controlled by four companies. The industry can be explained as a product-differentiated oligopoly in which fewer top international players dominate the industry, supplying similar products but with different characteristics that enable them to gain market share over the competitors.

International Cigarette Industry Market Shares



2010: 3,3 trillion cigarettes - excluding China and US

25

Figure 3.2.1.5.

Recently, there are evidences of high competition in this industry in what comes to brands, packaging, quality, flavors, among other factors. Nevertheless, in what regards to pricing the products, excluding some very particular periods of severe price competition, the companies have been able to price cigarettes above competition levels for extended periods of time. This is reflected in the high profit margin that companies in this industry have and suggests some collusion even though no explicit evidence has been found so far.

Additionally, considering the interdependence present among the companies in this industry (sales of one company are affected by the rivals' decision), tobacco

²⁵ Source: PMI estimates with volumes on a calendar year basis, except for Imperial Tobacco Group, which reports on a fiscal year ending September 30th - <http://phx.corporate-ir.net/External.File?item=UGFyZW50SUQ9ODI5MDN8Q2hpbGRJRD0tMXxUeXBIPtM=&t=1>



companies' wide range of products that cover all customers' preferences, and the financial power of those companies; the competition in price in this industry appears as an unprofitable strategy at least in the short term, because changes in price can be quickly matched by rival companies. Conclusively, I consider rivalry in the tobacco industry as being medium.

5 Forces Evaluation

Although the tobacco industry has been pressured with anti-smoking regulations and increase health awareness, it is still an attractive industry, recognized as being a high profit margin business.

Legal impositions and threat of increase anti-smoking regulations, together with the required economies of scale to compete in a global market, are then the main reasons why this industry is so unattractive for new firms (**very low threat of new entrants**). Consequently, well established firms do not have to bother with new competition but with the companies that already have a strong presence in the market. There are four top players that control 76% of the global market (excluding Republic of China and US). These players have some level of interdependency when it comes to pricing the products, but exhibit high competition on brands, quality, packaging, among other factors (**medium rivalry**). Another factor that positively influences this industry is the absence of real substitute products (**low threat of substitute products**). The only substitute for tobacco consumers is to quit smoking resorting to the use of alternative tobacco products. Nevertheless, those alternative products did not gain much popularity and usage among tobacco consumers so far. Due to the addictive character of tobacco products, even in time of deep financial crisis, consumers search for cheaper ways of satisfying their addiction rather than stop smoking (**medium-low bargaining power of buyers**).

Some tobacco companies, like PMI, have entered into vertical integration agreement with some leaf suppliers, increasing stability in the supply and price of its major raw material (**low bargaining power of suppliers**). Conclusively, as an overall conclusion of



this analysis, I believe that tobacco industry is still an attractive industry. However, companies will have to bet on less harmful products and switch focus from developed to emerging markets, in order to keep its profit levels and revenue growth.



4. PMI - INTERNAL ANALYSIS

4.1. COMPANY OVERVIEW

Founded in 1847 as a seller of tobacco and ready-made cigarettes in London, Philip Morris International Inc. (PMI) has grown into an international tobacco company with headquarter in New York, Operation Center in Lausanne-Switzerland, and a workforce of more than 78,000 talented and motivated employees, working together towards the accomplishment of common goals: *“... to generate superior returns for shareholders, provide high quality and innovative products to adult smokers, and reduce the harm caused by tobacco products[...] work toward this last goal by supporting comprehensive regulation based on harm reduction and developing products with the potential to reduce the risk of disease.”*²⁶

Currently an independent US corporation, PMI operated as a subsidiary of Altria Group Inc. until March 2008. Following the spin-off, PMI became the leading publicly traded international tobacco company - listed on the New York Stock Exchange (NYSE) under the ticker of PM - and the fourth largest global consumer package goods company. Through a combination of organic growth, acquisition and geographic expansion, PMI has conquered its space in the tobacco industry worldwide and its products are presently sold in approximately 180 countries. The company manufactures and sales cigarettes and other tobacco products on both developed and emerging markets, boasting at least 15% of the international cigarette market outside the US, or 27% excluding the People’s Republic of China and the U.S. in 2010.

4.2. GEOGRAPHIC MIX

PMI reports results on four different segments based upon the geographic area in which customer resides: European Union (EU), Eastern Europe, Middle East & Africa (EEMEA), Asia and Latin America & Canada (LA&C).

²⁶ http://www.pmi.com/eng/about_us/company_overview/pages/company_overview.aspx

Net Revenues by Segment

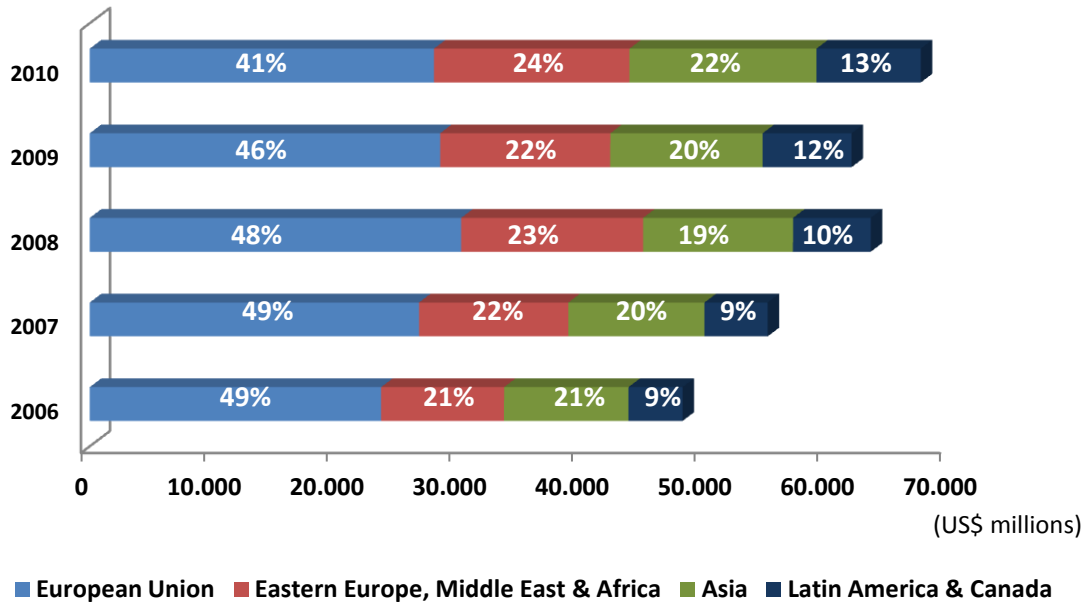


Figure 4.2.1.: PMI’s net revenue by geographic segments

Cigarette Volume By Segments

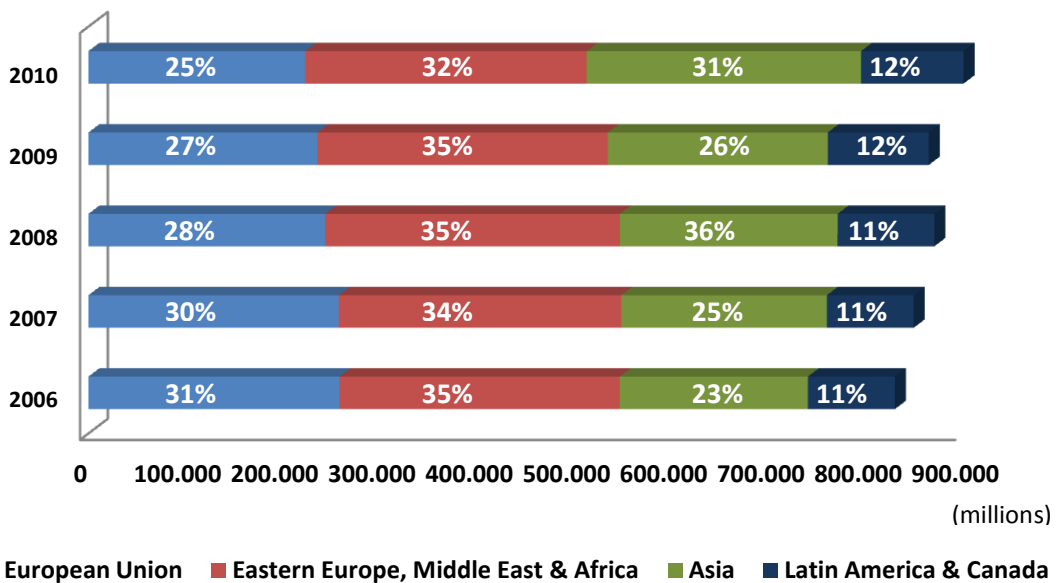


Figure 4.2.2.: PMI’s cigarette volume by geographic segments



European Union

As displayed above, EU region has been the main contributor of PMI total net revenues, over the last years. Nevertheless, it is plain to see that this region presents a downward trend with respect to both the percentage of net revenues and cigarette shipment volume. The decrease in net revenues has been due mainly to the unfavorable volume/mix, primarily attributable to the unfavorable societal trends, stricter regulations and continuing adverse economic conditions present in southern European markets, predominantly Greece, Portugal and Spain. The unfavorable volume/mix has been partly offset by the high pricing charge in this region.

Mainly due to the difficult environment, this geographic region is very price sensitive. PMI's premium segment has been under pressure while the low price category is strongly growing, particularly the *L&M* brand.

Eastern Europe, Middle East & Africa

According to figure 4.2.2., EEMEA region have been presenting a significant percentage of PMI's total cigarette shipment volume, which has been mainly driven by Middle East and North Africa.

This region presents potential opportunities for geographic expansion. The Middle East and Africa have significant growth prospects which are expected to compensate any eventual decline in the Eastern Europe market. This region also benefits from share of Russia, which is the largest cigarette market in the world.

Asia

Asia region, excluding China, is the region that offers the biggest potential for further growth; both on an industry level and in terms of PMI's volume.

PMI's cigarette shipment volume for this region has been presenting a consistent growth through the last five years. This was mainly due to favorable demographic trends, favorable pricing and acquisitions. The significant increase in 2010 cigarette



volume was largely attributable to the favorable impact of the combination of PMI and Fortune Tobacco, in the Philippines. On the other hand, cigarette market in Japan was negatively affected by the excise tax-driven price increases and the underlying market decline, a decrease of 10.8% in 2011 relative to 2010.

PMI revealed interest in reinforcing its presence in markets such as Korea, Indonesia, Bangladesh and Vietnam through geographic expansion.

Latin America & Canada

This region has much stricter regulation than Asia and EEMEA, but it still has a potential for further growth. The LA&C region has been presenting a slow but consistent growth for revenues and cigarette volumes.

The most promising markets in this geographic region appear to be Argentina, Brazil, Canada and Mexico, due to favorable demographic trends and expected growth in the economy. This segment also presents a premium segment skew that is favorable for PMI.

4.3. BRAND'S PORTFOLIO

Supporting PMI's expansion and global leadership position in the tobacco industry is its truly diverse and well-built brand portfolio which encompasses seven of the world's top fifteen international brands. Its strongest international brands by volume are *Marlboro* (the world's top-selling cigarette), *L&M* (the fourth most popular international brand), *Bond Street*, *Philip Morris*, *Chesterfield*, and *Parliament*. On a local level, PMI main brands comprise *Diana* in Italy, *Fortune* in the Philippines, *Morven Gold* in Pakistan, *Dji Sam Soe* and *A Mild* in Indonesia, and *Delicados* in Mexico.

PMI's portfolio includes three price segments aiming to satisfy customers regardless of their preferences: premium, mid-price, and value-priced products.



4.4. STRATEGIC POSITION

PMI positions itself as being an innovate company which focus on the consumers' satisfaction. PMI has tried to be worthy customer loyalty by matching customers' expectations and preferences through the development of consumer-relevant innovation. Subsequently, the company has as current main goal the development of products with the potential to reduce the harm caused by tobacco related products. Increased investments has been made with this respect and the acquisition of the global patents rights of a new technology that has the potential to reduce the harm of smoking through the employment of a unique method for delivering a nicotine-containing aerosol²⁷; is definitely a further important step, ahead the competitors and towards the development of new products with the potential to reduce smoking-related diseases, as stated by Doug Dean, the senior vice president of R&D department.

4.5. STRATEGIES FOR GROWTH

PMI manages to growth organically as well as through acquisitions and geographic expansion.

PMI growth is mainly driven by its premium segment, led by *Marlboro's* performance. Regarding its brand portfolio, PMI is benefiting from the brand awareness of its main brands, to introduce new packaging as well as new flavors, thus extending the lines across the portfolio. Portraying so is the *Marlboro Beyond*. It is the company latest innovation and is a cigarette that enables consumers to change the taste of the cigarette from regular to menthol through the activation of a menthol capsule.

The menthol segment in Asia revealed as being a key growth opportunity that PMI has successfully seized with *Marlboro Black Menthol* and *Marlboro Ice Blast*. This translates into a significant increase in cigarette volume share for Asia over the last

²⁷ See more information on: <http://investors.pmi.com/phoenix.zhtml?c=146476&p=irol-newsArticle&ID=1568329&highlight=>



years (see figure 4.2.2. above) and a growth opportunity that PMI doesn't want to miss. Another main target for future growth identified by PMI is EEMEA region.

There is evidence that PMI is compensating the declining in the European Union market with increasing exposure to several under-developed markets. As stated at the conference call led by Chairman and Chief Executive Officer Louis C. Camilleri on 16th November 2011, PMI has 24.2% of the world market as potential targets for geographic expansion. This percentage represents the markets that are still dominated by local companies, such as India, Bangladesh and Vietnam in which PMI present remains limited. Nevertheless, the company claims that it has already structures in place that should make possible for the company to steadily expand organically.

4.6. HISTORICAL FINANCIAL PERFORMANCE ANALYSIS

On an attempt to better understand the route of the company, I will proceed with PMI's historical analysis. Understanding the past of a company is an important step for forecasting its future. Through the historical analysis I want to define the company's trend in its financial metrics to see how well it has been competing in the tobacco industry and creating value over time.

The starting point is to reorganize the financial statements (income statement and balance sheet) generating new items such as net operating profit after taxes (NOPAT) and invested capital. Then, I will measure and analyze the company's profitability, growth, financial health and stock performance on a six-year period in order to evaluate the historical attractiveness of the company as an investment opportunity.

4.6.1. REORGANIZED ACCOUNTING STATEMENTS

The financial statements can be influenced by accounting principles. Therefore, to properly evaluate the company's historical performance is important to rearrange the accounting statements to reflect economic rather than accounting performance. The analytical income statement and the analytical balance sheet are presented below while the original financial statements are included in appendix D.



4.6.1.1. ANALYTICAL INCOME STATEMENT

The income statement was reorganized to better reflect the company economic performance. This was done by dividing the items into operations and financing.

The operating income minus operating expenses gives the company's earnings before interest and taxes (EBIT). EBIT is the profit that the company would have earned in a scenario with no interest and tax. By subtracting to this value the tax on operating earnings²⁸ we get NOPAT. NOPAT stands for net operating income after tax available for both debt holders and shareholders.

Additionally, NOPAT minus net financial expenses after tax and minority interest gives us the net income, which must coincide with the "bottom line" (net income) of the original income statement included in appendix D.

<i>(US\$ millions)</i>	2006	2007	2008	2009	2010	2011
Net revenues	48 302	55 243	63 640	62 080	67 713	76 346
Cost of Sales	8 146	8 711	9 328	9 022	9 713	10 678
Excise tax on products	27 533	32 433	37 935	37 045	40 505	45 249
Gross Profit	12 623	14 099	16 377	16 013	17 495	20 419
Marketing, administration and research costs	4 551	5 021	6 001	5 870	6 160	6880
Italian antitrust charge	61					
Asset impairment and exit costs	126	208	84	29	47	109
Amortization of Intangibles	23	28	44	74	88	98
Gains on sales of businesses	-488	-52				
EBIT	8 350	8 894	10 248	10 040	11 200	13 332
Tax on operating earnings	1 857	2 573	2 874	2 923	3 066	3 886
NOPAT	6 493	6 321	7 374	7 117	8 134	9 446
Interest expenses	-371	-268	-528	-905	-974	-934
Interest income	229	258	217	108	98	134
Interest expenses, net - before tax	-142	-10	-311	-797	-876	-800
Tax saving on interest expenses	32	3	87	232	240	233
Interest expenses, net - after tax	-110	-7	-224	-565	-636	-567
Minority interest	-253	-276	-260	-210	-239	-288
Net income	6 130	6 038	6 890	6 342	7 259	8 591
Effective Tax Rate	22%	29%	28%	29%	27%	29%

Table 4.6.1.1.1.: PMI Analytical Income Statement

²⁸ Tax on operating earnings = EBIT x Effective tax rate



4.6.1.2. ANALYTICAL BALANCE SHEET

The balance sheet was reorganized to better reflect the capital invested in operations. For control purposes, the invested capital was computed from both the asset side and equity and liability side. That is, the capital invested in operations should equal the net financing provided by investors to fund operations, regardless of the source of fund.

At this stage, it is important to respect the consistency principle between NOPAT and invested capital, meaning that the items considered as operations or financing in the income statement, respectively must be considered the same way in the balance sheet.

<i>(US\$ millions)</i>	2007	2008	2009	2010	2011
Assets					
Operating current assets	13 285	13 408	13 142	12 053	12 309
Operating current liabilities	7 600	9 560	9 434	9 672	11 077
Operating working capital	5 685	3 848	3 708	2 381	1 232
Net tangible fixed assets	6 435	6 348	6 390	6 499	6 250
Net intangible fixed assets	1 906	3 084	3 546	3 873	3 697
Goodwill	7 925	8 015	9 112	10 161	9 928
Net other assets	18	-282	213	294	292
Invested capital	21 969	21 013	22 969	23 208	21 399
Equity and liabilities					
Total PMI stockholders equity	15 595	7 500	5 716	3 506	229
Minority Interests	0	0	429	427	322
Redeemable non-controlling interest	0	0	0	1 188	1 212
Deferred long-term liability charges	1 240	1 401	1 688	2 027	1 976
Net total debt	4 568	10 430	13 876	14 799	15 995
Employment costs	566	1 682	1 260	1 261	1 665
Invested Capital	21 969	21 013	22 969	23 208	21 399

Table 4.6.1.2.1.: PMI Analytical Balance Sheet



4.6.2. PROFITABILITY ANALYSIS

Part of “The Fortune Global 500 – Most profitable Companies²⁹” for many years, PMI occupied places such as: 47th in 2008 and 49th in 2009. As it is visible in table 4.6.2.1., the company has been exhibiting consistent strong positive results both in the top line and bottom line of its income statement. Please see appendix D for full income statement.

(US\$ millions)	2006	2007	2008	2009	2010	2011
Top line (Net revenues)	48 302	55 243	63 640	62 080	67 713	76 346
Bottom line (Net Income)	6 130	6 038	6 890	6 342	7 259	8 591

Table 4.6.2.1.: PMI Historical Top line and Bottom line of Income Statement

According to PMI’s management, they have been trying to increase profitability through continuous cost management; nonetheless, the profitability of the company has been pressured by a declining in sales volume mainly in developed countries, increase in excise taxes on products, high marketing, administrative and research costs and also by increase interest expenses due to their substantial debt level in the balance sheets. Still, the company holds a solid earnings track record with consistent positive double digit profit margins:

	2006	2007	2008	2009	2010	2011
Gross Profit Margin	60.78%	61.81%	63.71%	63.96%	64.30%	65.66%
EBITDA Margin	43.37%	42.27%	43.14%	43.51%	44.59%	46.07%
EBIT Margin	40.20%	38.99%	39.87%	40.10%	41.16%	42.87%
EBT Margin	39.52%	38.95%	38.66%	36.92%	37.94%	40.30%
Net Profit Margin	29.52%	26.47%	26.80%	25.33%	26.68%	27.63%

Table 4.6.2.2.: PMI Historical Profit Margins

- **Gross Profit Margin** – Recorded a consistently increase throughout the last five years. From a level of 60.8% in 2006, the company was able to increase its gross profit margin by 5 percentages point to 65.7% in 2011. This suggests that the

²⁹ **The Fortune Global 500** refers to the Fortune annual ranking of the world’s largest corporations by revenues.



company has been efficiently using its raw materials, labor force among the other direct drivers of sales, to generate profits.

- **EBITDA Margin** – Fluctuated from 42% to 46% in the recent past. The EBITDA margin in 2011 increased 2.7 percentage point relative to the 2006 EBITDA margin of 43.4%.
- **EBIT Margin** – After deducting depreciation and amortization, PMI's EBIT margin rounded 39% - 43% over the last years.
- **EBT Margin** – Through the comparison of EBIT margin versus EBT margin we can see the impact of the interest expenses in the company's income statement. The EBT margin recorded values between 37% - 40%, slightly decreasing in the nearby years as the absolute amount of debt increased and so increased the interest expenses.
- **Net Profit Margin** - PMI's net profit margin was approximately 27% (range: 25.3% to 29.5%) over the last five years, meaning that the company has an approximate increase of 27% to its net income for every dollar of sales generated in the last five years.

The Economic Value Added (EVA) also reflects how effective the company has been employing its capital. EVA measures the value created by an investment in excess of the capital invested.

Mathematically is expressed as:

$$EVA = Invested\ Capital \times (ROIC - WACC) \quad or \quad [18]$$

$$EVA = NOPAT - (Invested\ Capital \times WACC)$$

The historical invested capital and NOPAT are already known from the analytical financial statements. By dividing NOPAT by invested capital in each year we get the annual return on invested capital (ROIC) which shows how well the company has been



using its capital to generate returns. The historical weighted average cost of capital (WACC) was extracted from Bloomberg; thus enabling the historical EVA measure.

<i>(US\$ millions)</i>	2007	2008	2009	2010	2011
NOPAT	6 321	7 374	7 117	8 134	9 446
Invested Capital	21 969	21 013	22 969	23 208	21 399
ROIC	29%	35%	31%	35%	44%
WACC	8.86%	9.77%	8.34%	8.39%	8.00%
Economic Spread	20%	25%	23%	27%	36%
Invested Capital	21 969	21 013	22 969	23 208	21 399
Economic Profit =Invested Capital*(ROIC-WACC)	4 375	5 321	5 201	6 187	7 734
Invested Capital	21 969	21 013	22 969	23 208	21 399
WACC	8.86%	9.77%	8.34%	8.39%	8.00%
Capital Charge	1 946	2 053	1 916	1 947	1 712
NOPAT	6 321	7 374	7 117	8 134	9 446
Economic Profit =NOPAT-(Invested Capital*WACC)	4 375	5 321	5 201	6 187	7 734

Table 4.6.2.3.: PMI Economic Profit

PMI has been producing a ROIC significantly higher than its WACC (table 4.6.2.3.), meaning that the company has been creating value for its investors throughout these years. The difference between the return on invested capital (debt and equity) and the respective cost of capital represents the value that the company has created for every dollar of capital that was invested in each year. Accordingly, if multiplied by the capital invested throughout these years, we realize that the company has been using its investors' capital more effectively than in the capital market. Then, given the company's strong competitive position we also project economic profits going forward.

4.6.3. GROWTH ANALYSIS

The value of a company is directly linked with its ability to grow cash flows in the future, which in turn is directly linked with the company's ability to organically grow its revenue. Whereas past growth is not always a good indicator of future growth, it does transmit information that can be important while making estimates for the future. By



looking at the PMI's revenues history, I will estimate the past revenue growth, analyze its drivers and thus evaluate its sustainability over time.

(US\$ millions)	Consolidated Results				
	2007	2008	2009	2010	2011
Δ (Volume/Mix)	-221	61	-620	-814	609
Δ (Price)	911	1 223	1 984	1 662	1 900
Δ (Currency Effect)	1 197	1 382	-2 625	694	1 249
Δ (Acquisitions)	155	203	564	628	137
Net Revenues	55 243	63 640	62 080	67 713	76 346
Growth	14,4%	15,2%	-2,5%	9,1%	12,7%
Excise Taxes on Products	32 433	37 935	37 045	40 505	45 249
Net Revenues Excluding Exercise Tax	22 810	25 705	25 035	27 208	31 097
Growth	9,8%	12,7%	-2,6%	8,7%	14,3%
Organic Growth		5,6%	5,3%	3,4%	9,2%

Table 4.6.3.1.: PMI Historical Revenue Growth

The table above presents the consolidated net revenue of PMI in the recent past, which has been mainly affected by the volume/mix³⁰ of products sold, the price of those products, changes in currency exchange rates and M&A. Rising health awareness, excise taxes, prices and legal barriers have been influencing demand resulting in a downward trend for the company's sales volume. As a result, PMI has been trying to raise net revenues through price increase in certain regions (see appendix E for the net revenues results by segment), by acquiring competitors, entering markets with weak regulations and developing products with the potential to reduce the risk of smoking related harms. Another critical driver of PMI results is the currency exchange rates. Even though the company does not perform any business in the United States, the fact that its results are reported in dollars, makes their results highly influenced by fluctuations in the currency exchange rates. As displayed in table 4.6.3.1., the company's net revenue have been nominally affected by inflation, valuation (e.g.: year 2009) or devaluation (e.g.: year 2008) of dollar when compared to

³⁰ The term mix refers to both product and geographic mix. "Product mix refers to the proportionate value of premium-price brands to mid-price or low-price brands in any given market, while geographic mix refers to the proportion of volume in more profitable markets versus volume in less profitable markets." - PMI 2010 Annual Report, p 17.

the other major currencies. Fortunately, excluding acquisitions and currency, the company has been able to organically growth its revenues, with an average growth rate of 5.9% since spin-off, which is within the company’s long-term constant currency target growth rate of between 4% and 6%, excluding acquisitions.

In addition to the absolute increase in net income, PMI’s earnings also showed strong real growth. As displayed in the following figure 4.6.3.2., on a constant currency basis, the company still reported a robust EPS growth of 15%, 16% and 21% on the year 2009, 2010 and 2011, respectively.

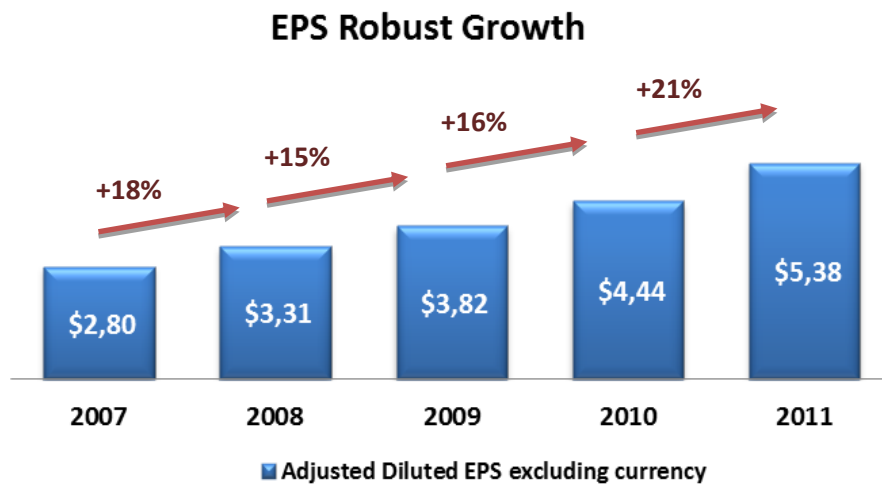


Figure 4.6.3.2.
Source: PMI 2011 annual report

PMI has a strong record of paying dividends with considerable growth, exhibiting an increase of 67.4% since spin-off in 2008, to an annualize dividend of \$3.08 dividend per common share (figure 4.6.3.3.). Additionally, PMI has a fairly low payout ratio to net income of 74% in 2008, 68% in 2009 and 61% in 2010, which suggests the possibility of future dividend increases.

Dividend Increases Since Spin-off

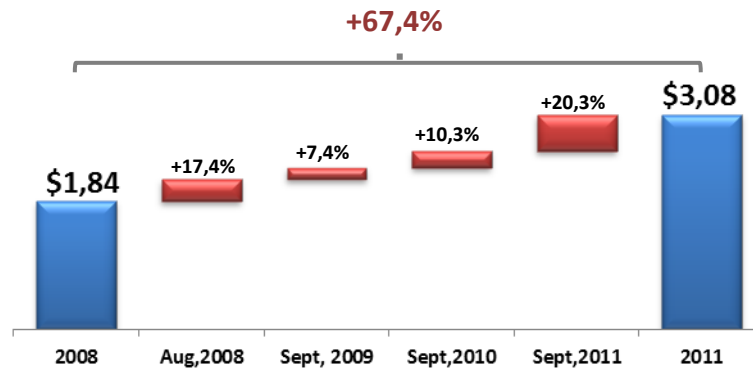


Figure 4.6.3.3.
Source: PMI 2011 annual report

4.6.4. FINANCIAL HEALTH AND CAPITAL STRUCTURE

As vital as the company profitability is whether the company has enough cash to meet its obligations.

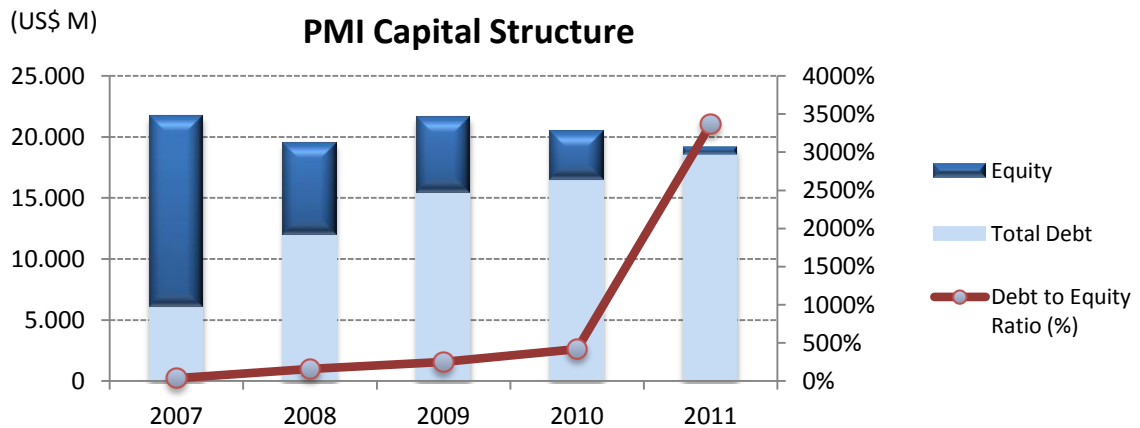


Figure 4.6.4.1.

According to the figure above, PMI is a heavily levered firm with a very large book value debt to equity ratio, which calls into question the company's future performance and sustainability. However, this is not as alarming when analyzing table 4.6.4.2.. The following table shows improvement signs in the balance sheets through the decrease in the total debt to EBITDA ratio as well as in the net debt to EBITDA ratio in the last



two years. Together with the raise in total debt, is the expected increase in the company's interest expenses. Nevertheless, by comparing the amount paid as interest and the EBIT (interest coverage ratio) of the company in any of those years, is notable that the company is having no difficulty meeting its debt obligations.

<i>(US\$ millions)</i>	2006	2007	2008	2009	2010	2011
Long-Term Debt	2 222	5 578	11 377	13 672	13 370	14 828
Short-Term Debt	551	491	584	1 744	3 132	3 717
Total Debt	2 773	6 069	11 961	15 416	16 502	18 545
Cash & Cash Equivalents	1 785	1 501	1 531	1 540	1 703	2 550
Net Debt	988	4 568	10 430	13 876	14 799	15 995
EBIT	8 350	8 894	10 248	10 040	11 200	13 332
EBITDA	9 008	9 642	11 090	10 893	12 132	14 325
Interest Expense, net	142	10	311	797	876	800
Total Debt/ EBITDA	0,31	0,63	1,08	1,42	1,36	1,29
Net Debt/ EBITDA	0,11	0,47	0,94	1,27	1,22	1,12
Interest Coverage Ratio	58,8	889,4	33,0	12,6	12,8	16,7

Table 4.6.4.2.: PMI Capital Structure

4.6.5. STOCK ANALYSIS

The following chart shows how PM closing price and dividend yield have been performing since spin-off in 2008.

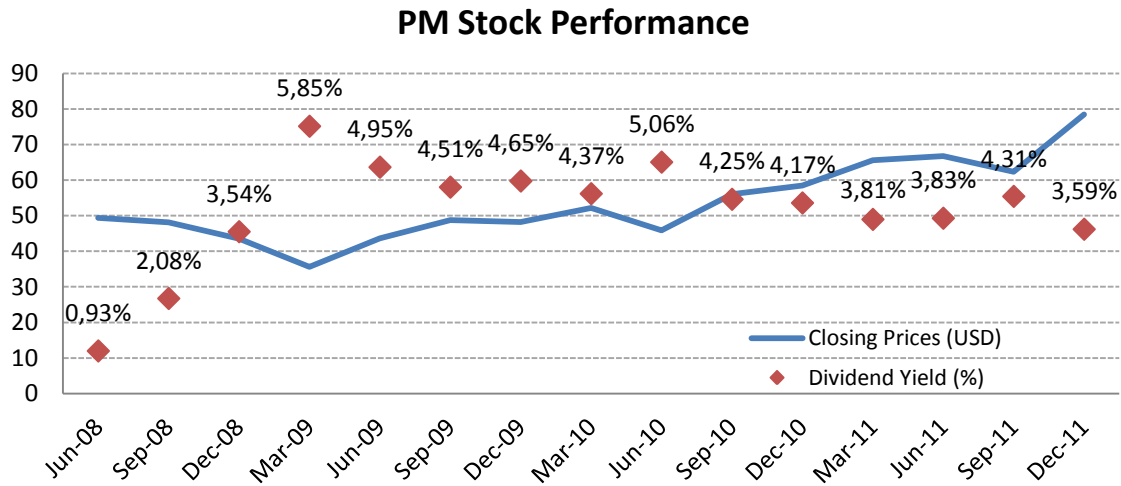


Figure 4.6.5.1.: PMI's stock performance

Stocks of tobacco companies are normally considered as defensive stocks. In other words, they are expected to generate stable earnings and constant dividends growth, regardless of the overall stock market condition. PM stock is not an exception to the rule, generating a strong EPS (figure 4.6.3.2.) and dividend growth (figure 4.6.3.3.), since spin-off in 2008. PM stock also generates an above average dividend yield since 2009 (range: 3.81% - 5.85%), given that PM closing price is not following its dividend increases. Thus, as an overall conclusion, the historical analysis suggests that there is a chance that the company is being undervalued by the market.

5. FORECAST

This chapter will focus on the forecast of PMI key drivers of future performance. The financial projections will reveal the impact that expected future changes in the macro- and micro-environment will have on the current business performance.

I will make forecasts for the two different periods implicit in the valuation of a public firm: the explicit valuation period (5 years) and the remaining life time of the company (from year 6 to eternity). As a result, I will provide detailed forecasts for the explicit valuation period, while the remaining years' performance will be obtained through the calculation of a terminal value.

To proceed with the forecasts, I relied on the company analysis done so far (external and internal), company conference calls and press releases, and my personal knowledge to estimate each of the items growth rate. It is worth mentioning that the forecasts present in this section will reflect PMI's plans, estimations and expectations, so that they cannot be seen as absolute true. PMI forecasts are normally done for OECD markets and non-OECD. That is because OECD significantly differs from non-OECD markets in what comes to societal trends, government regulations, legislations, economic environment, among other factors.



5.1. PMI KEY DRIVERS

The estimation of PMI key drivers will be divided into several parts. First, I will present the estimations for the main elements involved in the calculation of Free Cash-Flow to the Firm (FCFF). Finally, a terminal growth rate will be defined and the financial statements constructed.

5.1.1. FCFF

FCFF was estimated until 2016 and from then on it is expected that it will grow at a constant rate forever. The estimations were done in nominal terms and its main drivers are: revenues, costs related with the company operations, depreciation and amortization (D&A), capital expenditures (CAPEX) and net working capital.

$$FCF = NOPAT + \text{Noncash Operating Expenses} - \text{Investments in Invested Capital}$$

[18]

Where:

$$NOPAT = EBIT (1-T)$$

$$\text{Noncash Operating Expenses} = \text{Depreciation \& Amortization}$$

$$\text{Investments in Invested Capital} = \text{Change in Net Working Capital} + \text{Net Capital Expenditures} \pm \text{Change in other assets}$$

Hereafter, I will explain the basis for each driver projection and the FCFF calculation will be presented in the end.

5.1.1.1. NET REVENUES

The company's revenue was estimated by separately projecting revenues for each geographic segment: EU, EEMEA, Asia and LA&C. That is important due to the different external conditions surrounding these regions, which suggests different growth rates for revenues.

The historical revenues and cigarette volume by segments were provided in PMI's annual reports. The average regional cigarette pack price was obtained by dividing

revenues by sales volume. Then, for each region, I have estimated the growth rate of sales volume and price based on the historical trend, market conditions and the company’s overall expectation on each region.

I. Cigarettes Sales Volume

It is mainly influenced by societal trends, demographic trends, economic environment and price elasticity.

Societal trend is estimated to have an adverse impact on the tobacco volume sold, reflecting changes in consumer preferences linked with lifestyle choices and stricter regulations/laws.

Demographics trend is expected to compensate the decrease in consumption per capita.

Economic conditions are not expected to severely impact the tobacco volume trend. Nevertheless, significant shocks on the economic development growth rate are likely to generate an equivalent impact on the industry volume sold.

Regarding these factors, I relied on PMI’s historical industry volume trend analysis. At this point, historical data is especially useful since such impacts are hard to predict and are normally consequence of continuous change over time. See table 5.1.1.1.1.

	Impact on Tobacco Industry Volume [Ranges]	
	OECD	Non-OECD
Demographic Impact	0,1% +/- 0,5%	1,3% +/- 0,5%
Price Elasticity	-0,3 to -0,5	-0,4 to -0.6
Societal Trend	-1,4% +/- 0,5%	-0,4% +/- 0,5%

Table 5.1.1.1.1.: PMI Industry Volume – Historical trend Analysis

Source: PMI estimates

Morgan Stanley Global Consumer Retail Conference, November 16, 2011.



II. Product Price

The average cigarette prices variations are mainly attributable to disruptive large excise tax, PMI pricing strategy and changes in US dollar inflation rate.

- **Excise Tax**

Excise tax is considered an indirect tax since companies pass the cost to customers by raising the retail price. Tobacco products price increases have been primarily driven by disruptive large excise tax increases implemented by some governments. Although there are some rumors that excise tax might significantly increase in some countries, no concrete values were disclosed so far. Then, I assume that excise taxes will keep reasonable levels going forward, since governments are concerned about the effect that such high increase in taxes might have on the illicit cigarette market. As a result, I estimate no significant tax-driven price increases for the next years.

- **Pricing strategy**

The average cigarette price may also increase due to the company's goal of reducing price gaps among the different price segments (premium, mid-priced and low-priced). Successful in doing so in OECD markets, non-OECD markets are the current target due to the large price gaps that still exist there.

- **Inflation**

Prices are also affected by U.S. dollar inflation, since results are already in this currency. The United States inflation forecast was extracted from the "World Economic Outlook 2011" report prepared by the International Monetary Fund (IMF). See appendix F

EU

For EU region I projected a decrease in its revenues, primarily due to a shrinking overall cigarette volume levels. Impacting sales volume are the sluggish increase in



demographics, changes in consumer preferences and the unfavorable economic conditions notably in southern European markets. Although consumers are becoming more price sensitive, switching from premium to low-priced segments, it is not expected to significantly impact revenues since PMI have already decreased the price gap among price segments in this region. I projected prices to go in line with US dollar inflation.

(US\$ millions)	2006	2007	2008	2009	2010	2011	2012F	2013F	2014F	2015F	2016F
EU	23 745	26 829	30 265	28 550	28 050	29 768	28 591	27 559	26 650	25 910	25 247
% Consolidated revenues		48.57%	47.56%	45.99%	41.42%	38.99%	34.81%	31.14%	27.92%	25.59%	23.55%
% Growth		12.99%	12.81%	-5.67%	-1.75%	6.12%	-3.96%	-3.61%	-3.30%	-2.78%	-2.56%
Cigarette Volume	258 145	257 541	243 451	235 300	222 964	211 493	200 918	191 375	182 686	175 160	168 153
% Growth		-0.23%	-5.47%	-3.35%	-5.24%	-5.14%	-5.00%	-4.75%	-4.54%	-4.12%	-4.00%
Average Cigarette Price	0.092	0.104	0.124	0.121	0.126	0.141	0.142	0.144	0.146	0.148	0.150
% Growth		13.25%	19.34%	-2.40%	3.68%	11.88%	1.10%	1.20%	1.30%	1.40%	1.50%

Table 5.1.1.1.2.: PMI - EU revenues

EEMEA

EEMEA region is expected to present an increase rate of revenues growth in the years ahead. This is due to the favorable demographic trends and less severe anti-smoking regulations which diminish the negative impact of societal trend when compared to EU region. The increase rate of revenue growth is mainly due to the potential opportunities present in the Middle East and North Africa. I also project a reasonably fast rate of price growth due to the company ambition of reducing price gaps in this region.

(US\$ millions)	2006	2007	2008	2009	2010	2011	2012F	2013F	2014F	2015F	2016F
EEMEA	10 012	12 166	14 817	13 865	15 928	17 452	19 068	20 839	22 736	24 692	27 055
% Consolidated revenues	20.73%	22.02%	23.28%	22.33%	23.52%	22.86%	23.34%	23.85%	24.32%	24.93%	25.81%
% Growth		21.51%	21.79%	-6.43%	14.88%	9.57%	9.26%	9.29%	9.10%	8.60%	9.57%
Cigarette Volume	288 285	290 310	303 205	298 760	289 312	290 250	291 614	293 597	295 711	297 367	299 032
% Growth		0.70%	4.44%	-1.47%	-3.16%	0.32%	0.47%	0.68%	0.72%	0.56%	0.56%
Average Cigarette Price	0.035	0.042	0.049	0.046	0.055	0.060	0.065	0.071	0.077	0.083	0.090
% Growth		20.67%	16.61%	-5.03%	18.63%	9.21%	8.75%	8.55%	8.32%	8.00%	8.96%

Table 5.1.1.1.3.: PMI - EEMEA revenues



Asia

Asia, excluding China, is the most promising region in the tobacco industry and is expected to be the key driver of PMI's future revenues growth. Fostering this region's growth is the favorable demographic trend and favorable pricing. This region is also expected to keep benefiting from already made and potential acquisitions. Average prices are also expected to significantly increase as PMI reduce the price gap between product segments.

(US\$ millions)	2006	2007	2008	2009	2010	2011	2012F	2013F	2014F	2015F	2016F
Asia	10 139	11 097	12 222	12 413	15 235	19 590	23 499	27 585	31 967	35 762	39 378
% Consolidated revenues	20,99%	20,09%	19,20%	20,00%	22,50%	25,66%	28,76%	31,57%	34,19%	36,11%	37,57%
% Growth		9,45%	10,14%	1,56%	22,73%	28,59%	19,96%	17,39%	15,89%	11,87%	10,11%
Cigarette Volume	193 380	211 480	223 724	226 204	282 290	313 282	344 610	373 385	401 949	426 066	448 818
% Growth		9,36%	5,79%	1,11%	24,79%	10,98%	10,00%	8,35%	7,65%	6,00%	5,34%
Average Cigarette Price	0,052	0,052	0,055	0,055	0,054	0,063	0,068	0,074	0,080	0,084	0,088
% Growth		0,08%	4,11%	0,45%	-1,65%	15,86%	9,05%	8,34%	7,65%	5,54%	4,53%

Table 5.1.1.1.4.: PMI - Asia revenues

LA&C

I projected a slow but positive annual growth for LA&C revenues. Although this region is more regulated than Asia and EEMEA regions, the estimated growth will reflect the favorable demographics trend and economic development, notably in Brazil, Argentina, Canada and Mexico. Average prices are also expected to increase reflecting the increase in the low-price segment products' price, thus reducing the price gaps among product segments.

(US\$ millions)	2006	2007	2008	2009	2010	2011	2012F	2013F	2014F	2015F	2016F
LA&C	4 406	5 151	6 336	7 252	8 500	9 536	10 548	11 405	12 143	12 679	13 134
% Consolidated revenues	9.12%	9.32%	9.96%	11.68%	12.55%	12.49%	12.84%	12.89%	12.72%	12.52%	12.25%
% Growth		16.91%	23.01%	14.46%	17.21%	12.19%	10.61%	8.12%	6.48%	4.41%	3.59%
Cigarette Volume	89 490	89 307	99 377	103 779	105 290	100 241	97 735	98 243	98 685	98 883	99 229
% Growth		-0.20%	11.28%	4.43%	1.46%	-4.80%	-2.50%	0.52%	0.45%	0.20%	0.35%
Average Cigarette Price	0.049	0.058	0.064	0.070	0.081	0.095	0.108	0.116	0.123	0.128	0.132
% Growth		17.15%	10.54%	9.60%	15.53%	17.84%	13.45%	7.56%	6.00%	4.20%	3.23%

Table 5.1.1.1.5.: PMI - LA&C revenues



PMI

The consolidated revenues were obtained by adding the revenues of each segment.

(US\$ millions)	2006	2007	2008	2009	2010	2011	2012F	2013F	2014F	2015F	2016F
Total Net revenues	48 302	55 243	63 640	62 080	67 713	76 346	81 706	87 388	93 496	99 043	104 814
% Growth		14,37%	15,20%	-2,45%	9,07%	12,75%	7,02%	6,95%	6,99%	5,93%	5,83%
Cigarette Volume	829 300	848 638	869 757	864 043	899 856	915 266	934 878	956 600	979 032	997 475	1 015 232
%Growth		2,33%	2,49%	-0,66%	4,14%	1,71%	2,14%	2,32%	2,34%	1,88%	1,78%
Average Cigarette Price	0,058	0,065	0,073	0,072	0,075	0,083	0,087	0,091	0,095	0,099	0,103
% Growth		11,8%	12,4%	-1,8%	4,7%	10,9%	4,8%	4,5%	4,5%	4,0%	4,0%

Table 5.1.1.1.6.: PMI consolidated revenues

5.1.1.1.1. ACQUISITIONS

In order to gain market share and remain competitive, tobacco companies have been growing mainly through acquisitions. Currently, the industry is highly concentrated with very few available companies for top players (PMI, BAT, IMT and JAPAF) to acquire or merge. Excluding state companies, Altria and RAI appear as the largest companies available; however, none of them seem as potential acquisitions for PMI due to the litigious character of US market. As a result, in the absence of disclosed information suggesting the opposite, I assume no more large acquisitions for PMI. I project smaller acquisitions to the future; nevertheless I expect the effects of these smaller acquisitions not to be material to PMI consolidated financial position, results or cash flows, such as in 2011 that they represented 0.18% of consolidated net revenues. Therefore, due to the difficulty inherent in such estimation and its insignificance in the consolidated results, I choose not to explicitly model potential acquisitions thus setting a revenues growth from acquisitions equal to zero.

5.1.1.1.2. CURRENCY EXCHANGE RATE

A distinctive character of PMI is that it operates only in countries outside the United States but reports results in US dollar. This makes the company particularly susceptible to changes in currency exchange rates.



In order to manage foreign currency exposure, PMI uses several financial instruments, such as: forward foreign exchange contracts, foreign currency swaps and foreign currency options. Nevertheless, the company is still exposed to fluctuation of US dollar relative to the other major currencies; which significantly impacts PMI consolidated net revenues.

Projecting currency exchange rate changes is a difficult task which would probably introduce errors in the estimation. Therefore, considering that results are already in U.S. dollar, I will assume the weighted average of the foreign exchange value of the U.S. dollar against the other major currencies to stay relatively flat. Therefore, in the future the consolidated revenues can be adjusted according to the US dollar performance: whereas a weakening US dollar will positively affect PMI consolidated revenues forecast while a strengthening US dollar will reduce PMI reported revenues.

5.1.1.2. COSTS

Henceforth, the forecasts were done on a consolidated perspective. Notwithstanding that it would be more accurate to continue with forecasts by geographic areas the disclosed information is not enough to do so.

5.1.1.2.1. COST OF GOODS SOLD

Cost of goods sold (COGS) refers to all the expenses present on the manufacturing process of the product. It encompasses the total cost of raw materials and consumables required to produce the products sold in each year. Therefore, it is influenced not only by changes in price of goods but also by changes in the sales volume and the amount of those goods in inventory. Since these drivers are already covered in the consolidated revenues, COGS is normally expressed as a percentage of total revenues.

Cost of Goods Sold (COGS) consists mostly of tobacco leaf and direct material costs, which represented 35% and 27% respectively, of PMI cost base in 2011. According to PMI annual report, purchased leaf tobacco costs are expected to present a moderate increase going forward, roughly in line with inflation, due to the company direct



involvement with Brazilian farmers. Direct material costs increases are also expected to remain moderate, although additional costs might arise from the implementation of reduced cigarette ignition propensity standard (RCIP)³¹.

PMI has been successful in its attempt to reduce the COGS as a percentage of the total net revenues. In the future I assume that raw materials and consumables costs will go in line with inflation while inventory is expected to keep its 2011 portion of net revenues (11%).

(US\$ millions)	2008	2009	2010	2011	2012F	2013F	2014F	2015F	2016F
Raw materials & consumables	9 035	9 479	10 603	10 875	10 995	11 127	11 271	11 429	11 600
Inventory	9 664	9 207	8 317	8 120	8 690	9 295	9 944	10 534	11 148
Changes in Inventory	293	-457	-890	-197	570	604	650	590	614
COGS	9 328	9 022	9 713	10 678	11 565	11 731	11 921	12 019	12 214
% Net Revenues	14,66%	14,53%	14,34%	13,99%	14,15%	13,42%	12,75%	12,14%	11,65%

Table 5.1.1.2.1.1.: PMI COGS

5.1.1.2.2. EXCISE TAX

As already stated, excise tax is expected to keep reasonable levels in the future due to its impact in the illegal market. Since excise tax is a tax paid when a product is sold, the most accurate approach is to forecast it as a percentage of net revenues. At this point, I relied on historical data. Through the historical analysis is visible that excise tax has been presenting an almost stable percentage of net revenues in the last three years. Therefore, I assume that it will be a constant rate of the net revenues in the next years. The percentage chosen was 59% which is 0.27 percentages point smaller than in 2011 and corresponds to the historical average.

(US\$ millions)	2006	2007	2008	2009	2010	2011	2012F	2013F	2014F	2015F	2016F
Excise tax	27 533	32 433	37 935	37 045	40 505	45 249	48 458	52 212	56 323	59 726	63 261
% Net Revenues	57.00%	58.71%	59.61%	59.67%	59.82%	59.27%	59.00%	59.00%	59.00%	59.00%	59.00%

Table 5.1.1.2.2.1.: PMI Excise Tax

³¹ ““Reduced Ignition Propensity” or (RIP) is the most accurate term used to describe cigarettes which have reduced propensity to start fires and should be the preferred term to refer to cigarettes variously describe as “fire safe” or “self-extinguishing.” - Source: A review of policy relevant information, by Simon Chapman and Antony Balmain.



5.1.1.2.3. MARKETING, ADMINISTRATION & RESEARCH COSTS

In this item PMI includes the cost of marketing the products, administration costs such as general corporate expenses, and the costs incurred in the development of new products. According to PMI's recent press release, the most significant component of this item is the selling (cost of sales force) and marketing expenses (advertising and promotion of products). At this point, it would be more accurate to separately estimate each expense. However, in the absence of discriminated values for each expense I have proceeded with the forecast of these expenses as a whole. The historical analysis revealed a stable percentage of marketing, administration & research costs relative to net revenues. As a result, assuming that PMI will keep its cost strategy going forward, it is expected that these expense will keep its historical trend, representing 9% of net revenues going forward.

(US\$ millions)	2006	2007	2008	2009	2010	2011	2012F	2013F	2014F	2015F	2016F
Marketing, administration and R&D	4 551	5 021	6 001	5 870	6 160	6 880	7 598	8 186	8 831	9 365	9 919
% Net Revenues	9.42%	9.09%	9.43%	9.46%	9.10%	9.01%	9.25%	9.25%	9.25%	9.25%	9.25%

Table 5.1.1.2.3.1.: PMI Marketing, Administration & R&D

5.1.1.2.4. ASSET IMPAIRMENT AND EXIT COSTS

The company's assets across the balance sheet can be impacted by irregular economic conditions and unstable financial markets which results in asset impairments. Thus, I projected asset impairment and exit costs to go in line with U.S. dollar inflation going forward. Surprises are expected in this item however the impact in the company results is immaterial.

(US\$ millions)	2006	2007	2008	2009	2010	2011	2012F	2013F	2014F	2015F	2016F
Asset Impairment & Exit Costs	126	208	84	29	47	109	110	112	113	115	116
% Net Revenues	0.26%	0.38%	0.13%	0.05%	0.07%	0.14%	0.13%	0.13%	0.12%	0.11%	0.11%

Table 5.1.1.2.4.1.: PMI Asset Impairment & Exit Costs

5.1.1.2.5. CAPITAL EXPENDITURES

The lack of fully disclosed data imposes significant constraints in the estimation of capital expenditures (CAPEX). CAPEX refers to all the expenses incurred by the



company in order to acquire assets that will benefit its business in the future. The expenditures incurred by PMI in the recent years were primarily for modernization and consolidation of manufacturing facilities, expansion of R&D facilities, and expansion of production capacity. After spin off in 2008, CAPEX decreased significantly. The decreased present in 2009 relative to the previous years is due to the conclusion of the manufacturing facilities in Greece and Indonesia and the company R&D center in Switzerland. Ideally, capex would be forecasted by type of fixed assets. However, due to information constraints I opted to forecast it as a percentage of net revenues because such investments in capex are expected to have a direct long term impact on revenues.

As the company is planning on reducing costs while increasing margins, I assumed a slightly decrease growth rate of CAPEX over net revenues.

(US\$ millions)	2006	2007	2008	2009	2010	2011	2012F	2013F	2014F	2015F	2016F
Capital Expenditures	886	1 072	1 099	715	713	897	940	1 005	1 066	1 129	1 195
% Net Revenues	1,83%	1,94%	1,73%	1,15%	1,05%	1,17%	1,15%	1,15%	1,14%	1,14%	1,14%

Table 5.1.1.2.5.1.: PMI Capital Expenditures

5.1.1.2.6. DEPRECIATION & AMORTIZATION

Depreciation and amortization (D&A) for the following years were estimated based on historical data with few assumptions for the future values.

As a starting point, I computed future values for gross total fixed assets (tangible and intangible) by adding the value of CAPEX (computed in section 5.1.1.2.5.) to the gross fixed asset of previous years. The gross tangible fixed assets and gross intangible fixed assets were individually estimated by maintaining their 2011 proportion over total gross fixed assets. Finally, by considering that depreciation and amortization will keep its current ratio over gross tangible and gross intangible fixed assets, respectively; and also their 2011 estimated assets' life, I was able to separately project depreciation and amortization.



(US\$ millions)	2009	2010	2011	2012F	2013F	2014F	2015F	2016F
(A) Gross Tangible Fixed Assets	12 258	12 759	12 913	13 563	14 316	15 116	15 963	16 859
% A/E	77%	75%	75%	75%	75%	75%	75%	75%
(B) Depreciation	779	844	895	949	1 002	1 058	1 117	1 180
% B/ A	6%	7%	7%	7%	7%	7%	7%	7%
Estimated Life of Assets	16	15	14	14	14	14	14	14
(C) Gross Intangible Fixed Assets	3 743	4 153	4 231	4 521	4 772	5 039	5 321	5 620
% C / E	23%	25%	25%	25%	25%	25%	25%	25%
(D) Amortization	74	88	98	104	110	116	122	129
% D / C	2,0%	2,1%	2,3%	2,3%	2,3%	2,3%	2,3%	2,3%
Estimated Life of Assets	51	47	43	43	43	43	43	43
(E) Gross Total Fixed Assets	16 001	16 912	17 144	18 084	19 089	20 154	21 284	22 478
(F) Depreciation & Amortization	853	932	993	1 053	1 112	1 174	1 240	1 309
% F/ E	5,33%	5,51%	5,79%	5,83%	5,83%	5,83%	5,83%	5,83%

Table 5.1.1.2.6.1.: PMI Depreciation & Amortization

5.1.1.2.7. NET WORKING CAPITAL

Computed by subtracting current liabilities from current assets, net working capital (NWC) measures the company ability to meet its short-term liabilities with its current assets.

$$\text{Net Working Capital} = \text{Current Assets} - \text{Current Liabilities} \quad [19]$$

When analyzing current assets and current liabilities there are three accounts that deserves special attention as they are the accounts where managers have the most direct impact:

Accounts	Goal
Current Assets: Accounts Receivable (AR)	Reduce the amount of time that goods are held in inventory
Inventory	Collect accounts receivable more quickly
Current Liabilities: Accounts Payable (AP)	Pay bills more slowly

Table 5.1.1.2.7.1.: Net Working Capital Accounts

PMI has been effectively managing these accounts. The company was able to decrease the inventory levels, primarily due to lower leaf tobacco and finished goods inventories, resulting into a declining trend for days inventory outstanding (DIO). Days



sales outstanding (DSO) has decreased since spin off as more cash was collected from account receivable reflecting timing of collecting; and days payable outstanding (DPO) presented an upward trend in the last three years. As a result, PMI has been showing a continuous reduction in its cash conversion cycle (CCC).

For the following years, DIO is projected to slightly increase while DSO and DPO are assumed to remain at their current level. As a result, the company's CCC is expected to increase in the future due to an increase in the operating cycle.

(US\$ millions)	2007	2008	2009	2010	2011	2012F	2013F	2014F	2015F	2016F
DSO	20	16	18	16	15	15	15	15	15	15
DIO	393	379	372	313	278	275	289	304	320	334
Operating Cycle	413	396	391	329	293	290	304	319	335	349
DPO	34	40	27	31	35	35	35	35	35	35
CCC	379	356	364	297	258	255	269	284	300	314

Table 5.1.1.2.7.2.: PMI Cash Conversion Cycle

Where: DSO= Accounts Receivable/Sales per year

DIO= Inventory/COGS per year

DPO= Accounts Payable/COGS per year

CCC= DSO+DIO-DPO

From the CCC forecast I was able to project the company's net working capital requirements. The expected days outstanding enabled the estimation of accounts receivable, inventory and accounts payable.

Indeed, PMI has been effectively reducing its NWC to grow operating cash flow and is expected that the company will keep its effective working capital controls. Nevertheless, NWC cannot be a source of cash flows forever. It will reach a point in time where the system will present no more inefficiency and any further decreases in working capital can have a negative impact in revenues growth and profits. Therefore, considering that PMI manages NWC efficiently, the working capital changes from year to year will be analyzed as a percent of revenues. As seen in table 5.1.1.2.7.3., in the



future, the ratio between NWC and net revenues will be almost constant, varying from 13.4% to 13.6%.

(US\$ millions)	2009	2010	2011	2012F	2013F	2014F	2015F	2016F
Accounts Receivable	3 098	3 009	3 201	3 349	3 591	3 842	4 070	4 296
Inventory	9 207	8 317	8 120	8 690	9 295	9 944	10 534	11 148
Accounts Payable	670	835	1 031	1 106	1 125	1 143	1 153	1 168
Net Working Capital	11 635	10 491	10 290	10 933	11 761	12 643	13 452	14 276
Δ NWC	136	-1144	-201	643	828	882	808	824
% Net Revenues	18,7%	15,5%	13,5%	13,4%	13,5%	13,5%	13,6%	13,6%

Table 5.1.1.2.7.3.: PMI Working Capital

5.1.1.2. TERMINAL GROWTH RATE

The company's terminal growth rate (TGR) was estimated based on the International Monetary Fund (IMF) forecasts for the real GDP growth rate and inflation for 2016.

As stated in the literature review, no company can grow faster than the economy forever. Thus, the company's maximum TGR equals the real growth rate of the GDP plus inflation.

After 2016, the real GDP growth rate was estimated as the weighted average of the expected real growth rate of the GDP for advanced markets and developing and emerging markets. At this point, based on the external and internal analysis previously prepared, few assumptions were made:

- No more substantial market share gains are expected from 2016 onwards. Developed markets are assumed to stagnate after 2016 while the developing and emerging markets are assumed to see their growth rate fall approximately 1/6, to 1.12%.
- Post-2016, advanced economies are expected to account for 45% of net revenues while emerging and developing markets will account for the remaining 55%.



The company's cash flows from 2016 onwards are then assumed to grow 2.12% a year forever. See table 5.1.1.2.1.

Geographic Segments	% Net Revenues by Region	Real GDP growth for 2016*	Growth for post-2016
Advanced Economies	45%	2,70%	0,00%
Emerging and developing markets	55%	6,72%	1,12%
		Weighted Average Real GDP	0,62%
		Inflation	1,50%
		TGR	2,12%

Table 5.1.1.2.1.: PMI Terminal Growth Rate

* IMF projections

5.1.1.3. FREE CASH FLOW ESTIMATION

After projecting all the required inputs, free cash flow to the firm (FCFF) was computed for the upcoming years and the results are exhibited below.

(US\$ millions)	2012F	2013F	2014F	2015F	2016F
	Year 1	Year 2	Year 3	Year 4	Year 5
EBIT	14162	15793	17535	19189	20818
(-) Taxes @ 29%	4107	4580	5085	5565	6037
(=) EBIT*(1-T)	10055	11213	12450	13624	14781
(+) D&A	1.053	1.112	1.174	1.240	1.309
(=) Operating Cash Flow	11108	12325	13623	14864	16090
(-) Δ Net Working Capital	643	828	882	808	824
(-) Capital expenditures	940	1005	1066	1129	1195
(-) Δ Other Assets	0	0	0	0	0
(=) Free Cash Flow of assets	9526	10492	11675	12927	14071
Terminal adjusted FCF					13957

Table 5.1.1.3.: PMI FCFF Forecast

The terminal adjusted FCF is the basis for the terminal value estimation. The FCFF of year five was adjusted to capital expenditures and depreciation & amortization, to respect the underlying concept regarding the continuing value.



5.1.2. DIVIDENDS

PMI had an annualized level of dividend per share of 3.08 in 2011, which corresponds to an increase of 67.4% since spin-off (year 2008). The company strong cash flow performance enabled it to increase its dividend per share while slightly decreasing its dividend payout ratio to net income. The company dividend payout ratio was 56% in 2011, which is below its peer group average dividend ratio of 63.67% and the industry average of 67.56%. Nonetheless, the company's annual dividend per share was still higher than its peers.

For the following years, the company is assumed to maintain its current payout ratio of 56%.

5.1.3. FINANCIAL STATEMENTS

After projecting individual line items related with the company's operations, the next step is the construction of the company's principal financial maps: consolidated statement of earnings, consolidated balance sheets and consolidated statement of cash flows. All the forecasted financial statements are included in appendix H while the estimation steps are explained below.

Consolidated Income Statement Forecast

The forecasted items above enabled the estimation of the company's operating income (EBIT) for the following years. Thus, in order to complete the company's statement of earnings, few line items remain to be forecasted: interest expense, net; provision for income taxes and minority interests.

Interest expense, net is the interest expense after deducting the interest income. The interest income refers to the interest received from short term investments, most specifically the interest received from cash & cash equivalents. For the following years, interest income was computed multiplying the amount in cash at the beginning of that year by the USD Libor rate – 1.05%. To estimate interest expenses we multiply total



debt at the beginning of that year by the historical weighted-average interest rate of 4.95%. At this particular case, resorting to the historical data seems accurate because the company's total debt has been mostly composed by fixed-rate debt - over 89 percent of total debt in the last 4 years. (Please consult appendix G: PMI – Historical Debt Structure & Interest Rate)

The effective tax rate on operating profits is expected to remain at its 2011 level of 29 percent, which also corresponds to the average effective rate of the last 5 years. Net earnings attributable to non-controlling interests (minority interests) will remain at 3 percent of earnings.

Consolidated Balance Sheet Forecast

The balance sheet line items were forecasted using the stocks approach rather than flow approach. According to Koller et al. (2005), “the relationship between the balance sheet accounts and revenue (or other volume measures) is more stable than that between balance sheet changes and changes in revenue”.

The majority of the operating line items were forecasted above. The remaining operating lines were projected as a percentage of revenue, and goodwill was held at its current level because the revenue growth from acquisition was assumed to equal zero. Regarding the non-operating line items, deferred income taxes were assumed to remain constant and income tax payable was assumed to be a constant percentage of EBT (6.5%).

Then, the company's sources of financing were forecasted in order to complete the balance sheet.

Retained earnings were computed through the principle of clean surplus accounting:

$$\text{Retained Earnings}_{(t+1)} = \text{Retained Earnings}_t + \text{Net Income} - \text{Dividends} \quad [20]$$



The existing debt was projected based on the retirement schedules disclosed in PMI's 2011 annual report³² and a new line was created to reflect the future financial needs – “New long-term debt”.

The existing long-term debt was retired on schedule. The short-term debt was forecasted to equal the current portion of long-term debt; because the company is expected to liquidate its “real” short-term debt (debt with maturity equal to one year or less).

Consolidated Statement of Cash Flows

Finally, with the first two financial maps I was able to construct the cash flow statement by using the indirect method. It is also exhibited in appendix H.

³² PMI 2011 Annual Report, note 7 p. 58

6. PMI VALUATION

As stated in the literature review, three methodologies were chosen to value PMI's performance. First, PMI intrinsic value was estimated through two discounted cash flow models – the adjusted present value (APV) model and the capital cash flow (CCF) model. Additionally, as a complement to these models, the company's value was also obtained by examining market prices of comparable assets – relative valuation approach.

6.1. ADJUSTED PRESENT VALUE (APV) VALUATION

The APV model enabled the calculation of PMI's intrinsic value through the following steps.

Unlevered Value of PMI (V_U)

As a starting point, PMI was valued as being an unlevered firm. After projecting the company FCFE for the next five years and the respective terminal growth rate it was now required to estimate the correct discount rate for the cash flows. Considering that the goal here is the valuation of PMI as if it is a debt free company, the correct discount rate is the unlevered cost of equity. See equation 21

$$K_U = R_F + \beta_U (R_M - R_F) \quad [21]$$

R_F	2.00%
β_U	0.76
$R_M - R_F$	8.66%

According to the literature review, the correct risk free rate (R_F) is the nominal U.S. 10-years Treasury bond rate. The risk free rate and the US market risk (R_M) were extracted from Bloomberg website. The unlevered beta (β_U) for the tobacco industry was extracted from the Damodaran website.



Financing Side Effects

The first step in the APV method presupposes that the company is entirely financed by equity. However, as this is not realistic, the method requires an independent analysis of the financing side effects. As referred in the literature review, among all financing side effects, the most important ones are the value of interest tax shields and the bankruptcy costs (direct and indirect costs).

After defining the value of net debt, the estimation of the present value of tax shields (PVTS) was not a difficult task. At this point, the most important thing was the choice of an appropriate discount rate that reflects the riskiness of tax shields which is certainly a reason for disagreement among many academics. Considering that PMI is a profitable but highly leveraged firm with an unstable capital structure, the most appropriate discount rate is the firm's cost of debt (2.48% - appendix I) plus its probability of default. The probability of default of PMI is 0.53% and it was indirectly estimated through the company's bond rating (appendix J: PMI credit rating and respective default rate). Thus, for the forthcoming years, to know how much is saved in taxes due to financial leverage, the prior year's net debt must be multiplied by the cost of debt (2.48%) and then by the marginal tax rate (35%)³³. From 2016 onwards, assuming that indebtedness will grow as the company grows - constant capital structure - the terminal growth rate for the company interest tax shields was considered to be the same as the terminal growth rate of cash flows (2.31%).

In order to have an inside about the company's bankruptcy cost I resorted to the study performed by Korteweg A. (2007) which estimates bankruptcy costs across industries. However, the study does not present the percentage bankruptcy costs for the tobacco industry. Thus, I used the estimated bankruptcy cost of the food industry (66.10%) as a proxy since it is the closest to the tobacco industry. Accordingly, the unlevered value of PMI was multiplied each year by the percentage loss (66.10%) and discounted back at the same rate as tax shields in order to reach the present value of bankruptcy cost.

³³ The statutory tax rate in United States of America



Then, to get the present value of expected bankruptcy costs, this value was multiplied by PMI's probability of default.

The unlevered value of the firm plus the present value of expected interest tax shields and minus the present value of expected bankruptcy costs equals the value of operations. At this stage, since cash flows are generated throughout the year and not as a lump sum, a mid-year adjustment was made, leading to the value of operations equal to \$213.19 billion. To this value, the value of nonoperating assets was added to estimate PMI's enterprise value (\$215.74 billion). From the enterprise value I have subtracted the nonequity claims such as total debt and minority interests to arrive at PMI's equity value (\$193.40 billion). Finally, dividing the equity value by the current number of shares outstanding (05-08-2012) leads to a **price target of \$112.32**. (Please see appendix K: PMI - APV valuation)

6.2. CAPITAL CASH FLOW (CCF) VALUATION

The capital cash flow model (CCF) is a much simple valuation approach than the APV model. In this model, the value of operations was estimated by discounting all cash available to suppliers of capital, including the side effects of debt financing, at the cost of assets (K_A/K_U). This is a simple valuation procedure that assumes that the financing side effects are as risky as operating assets. (Exhibited in appendix L: PMI – CCF Valuation)

6.3. APV VALUATION VERSUS CCF VALUATION

The APV valuation differs from the CCF valuation in the way financing side effects are treated. Whereas in the APV valuation the interest tax shields and bankruptcy costs were discounted at the cost of debt plus the probability of default, in the CCF valuation they were discounted at the cost of assets (unlevered cost of equity). As a result, the fair value estimated with the APV model was higher than the one resulted from the CCF model.

As the literature claims, under the same set of assumptions different methodologies must generate the same results. To test the veracity of such statement, I performed an APV valuation assuming that the financing side effects are as risky as the operating assets. As expected the value of operations (\$200.52 billion) was the same as the one found in the CCF valuation which confirms that the quality of the results are directly linked with the quality of the assumptions and not with the methodology chosen. Please see appendix M: PMI – APV valuation vs. CCF valuation.

6.4. RELATIVE VALUATION

The last valuation approach used is relative valuation. Since the other valuation models have as main emphasis individual assumptions about the company's growth; the usefulness of relative valuation approach is that it enables comparisons with the market. At this point, it is crucial to define an appropriate peer group for PMI. The multiples used are: EV/EBITDA and EV/EBIT multiples.

6.4.1. PEER GROUP

Firstly, I chose to use Global Industry Classification Standards (GICS) in order to narrow my potential peers. An eight-digit code (30203010)³⁴ has been chosen to identify PMI potential peers, which include all and only the companies that belong to the tobacco industry. Completely aware of the trade-off between size of an industry and homogeneity, the reason to restrict my potential peers only to the tobacco industry is due to the particularities(macro- and micro-environment) present in this industry that severely affect firms' performance. This way, all the companies chosen will be facing the same risks associated with the industry.

³⁴ 'The GICS eight digit code can be broken down into four parts. All Economic Sectors are represented by the leftmost two digits; Industry Groups are represented by the combination of the leftmost 4 digits; Industries are represented by the combination of the leftmost 6 digits; and Sub-Industries are represented by the combination of the leftmost 8 digits.' For more information on GICS, please visit: <http://www.standardandpoors.com>



Secondly, I performed an individual analysis of the companies present in the tobacco industry in order to reach a more appropriate and homogenous peer group for PMI. The criteria established as more relevant for the comparison were the following:

Financial Criteria

- **Market Capitalization** as an indicator of the size of the company. The peer group is constituted by large-cap firms, in other words, by firms with a market capitalization between \$10B and \$200B.
- **Payout Ratio** in order to analyze the growth potential for each company.
- **ROE** as a proxy for cash flow potential (Damodaran 2002 p. 463); and **ROIC**.
- **Beta** to measure systematic risk

Non-Financial Criteria

- **Public International Companies** with substantial global sales, particularly in emerging markets, for them to share the same risks and opportunities.
- **Pure-play³⁵ companies** earning the vast majority of their revenues and profits from just a single business.
- **Brand's portfolio** which encompasses products for the different price segments.

Based on the criteria present above PMI peer group will include three companies: British American Tobacco (BTI), Imperial Tobacco Company (IMT.L) and Japan Tobacco International (2914-JP). For the peer group analysis and choice a special attention was given to the non-financial criteria, since according to the financial figures no company can be accurately compared with PMI. See Table 6.4.1.1.

³⁵ 'A pure-play company is a company devoted to one line of business, or a company whose stock price is highly correlated with the fortunes of a specific investing theme or strategy.' Read more: <http://www.investopedia.com/terms/p/pureplay.asp#ixzz1aUwXZ3sw>



	Peer Group				Weighted Average
	PM	BTI	IMT.L	2914 JP	
Market Cap (B USD) (13.03.12)	146,63	100,93	25,91	54,49	65,39
Payout Ratio (%)	57,82	80,10	53,34	44,78	63,67
ROE (%)	460,03	35,63	24,46	9,160	26,43
Adjusted Beta	0,75	0,76	0,60	0,77	0,70
Raw Beta	0,62	0,64	0,39	0,66	0,56
ROIC (%)	40,60	18,27	11,53	7,32	13,72
	Weights	45%	35%	20%	

Table 6.4.1.1.: PMI peer group: financial criteria

Source: Yahoo finance and Bloomberg

Notwithstanding the importance of the financial figures, my choice for each company is explained below.

British American Tobacco (Ticker Symbol: BTI) – 45%

British American Tobacco PLC (BAT) manufacturers, markets and sells a comprehensive range of cigarettes and other tobacco products. It has operations in more than 180 markets where it offers its product under approximately 200 brands. The company broad brand portfolio target consumers across different price segments. Founded in 1992, BIT operates independently of Remgro Ltd. since November 03, 2008.

BIT is believed as being the best comparable for PMI. Following PMI, it is the second largest public tobacco company in the world with a market capitalization of approximately 100,93B. According to some analysts, when compared to PMI, BIT has a lower projected short-term growth rate for revenues but a higher revenues growth rate in the long-term. As PMI it is a highly international firm and operates in almost the same geographic regions with the exception that BIT has business in the US market; suggesting almost the same risks and opportunities for the two companies. As a result, it was attributed the largest weight of 45%.



Imperial Tobacco Group (Ticker Symbol: IMT.L) – 35%

Founded in 1901, Imperial Tobacco products (cigarettes, tobaccos and rolling papers) are currently sold in over 160 countries worldwide. The company is the owner of a versatile multiproduct portfolio, which together with its geographic diversity provides a strong potential for future growth.

Imperial Tobacco is the world's third largest tobacco company in terms of market capitalization among the top four public international tobacco companies. Although it also offers products that cover the different price segments, IMT.L is the world's largest manufacturer of cigars, fine-cut tobacco and tobacco papers, while PMI focuses on the premium brands. In addition, analysts project a higher revenue growth rate for IMT.L when compared to PMI. The companies also differ on the expansion strategy, as IMT.L appears to have a strong emphasis on the European regions for developing purposes. However, besides the differences presented, IMT.L is still believed to be the second most appropriate comparable for PMI; with a weight of 35%.

Japan Tobacco International (Ticker Symbol: 2914-JP) – 20%

Japan Tobacco International (JTI) is a leading international tobacco product manufacturer, with a market capitalization of 41,70B and a truly international perspective.

JTI segments the market into international and domestic market. According to its historical trend, sales volume has been growing in international market while declining in domestic market. JTI is not supposed to grow as fast as PMI; however the company's position in the industry is very significant (market share of 10%) the reason why I believe it should be part of PMI peer group with a weight of 20%.

6.4.2. MULTIPLES VALUATION

After choosing the peer group and attributed the respective weight for each firm within it, it is possible to proceed with the relative valuation.



It was analyzed both trailing and forward multiples and the relative valuation outputs were the following:

	EV/EBIT						EV/EBITDA					
	TTM		2012E		2013E		TTM		2012E		2013E	
PMI	12,26	x	11,97	X	10,73	x	11,44	x	11,14	x	10,03	x
BTI	12,88	x	11,87	X	11,14	x	11,18	x	10,86	x	10,20	x
IMP.L	13,10	x	11,32	X	10,80	x	10,78	x	10,36	x	9,89	x
2914-JP	10,03	x	8,95	X	8,41	x	7,89	x	7,17	x	6,82	x
Peer Group Weighted Avg.	12,39	x	11,09	X	10,47	x	10,38	x	9,95	x	9,42	x

Table 6.4.2.1.: PMI multiples results

Looking at the ratios above, one can see that PMI is considerably aligned with the industry weighted average. For the weighted average, the analysis considered an upward (Max) and downward (Min) adjustment of 3% in the estimation of a price target to PMI. (See Appendix N)

According to the literature, the forward multiples promote greater accuracy in pricing companies. As a result, I chose to focus my analysis in the values of the forward multiples with the longer time horizon (2013). Accordingly, the EV/EBIT suggests a share price of \$88.03 while the EV/EBITDA suggests a share price of \$81.54. The average of the two ratios gives a **target price for PMI's shares of \$ 84.78.**

6.5. VERIFYING VALUATION RESULTS

Valuation is based on forecasts of a company's cash flows and respective discount rates. Therefore, the valuation process has an intrinsic high degree of uncertainty and estimation error. In order to minimize the possibility of errors and ensure the quality of the assumptions, several checks were performed.

6.5.1. SENSITIVITY ANALYSIS

The sensitivity analysis was performed to confirm the robustness of my valuation results under alternative assumptions. Most specifically, I will check the effect that changes in some key variables will have on PMI's estimated share price.



Using the APV valuation (conducted in section 6.1.) as the base case scenario, an upward and downward bounds were set to the main drivers of future performance: net revenues, terminal growth rate, unlevered cost of equity and cost of debt.

Net Revenues

Net revenues is definitely one of the key inputs of the valuation, as it drives the majority of the other inputs. Consolidated net revenues were forecasted by separately projecting the average cigarette price and cigarette volume for each geographic segment. These projections required assumptions on a social, economic, political and legal standpoint. To check how changes in these assumptions would affect valuation, I increased and decreased 5% the consolidated cigarettes volume, the average product price and consolidated net revenues, on a ceteris paribus basis.

- Consolidated cigarette volume

Consolidated Cigarette Volume	-5%	Current Value	5%
Price Target	\$85,17	\$112,32	\$139,47

- Average cigarette price

Average cigarette price	-5%	Current Value	5%
Price Target	\$85,17	\$112,32	\$139,47

- Consolidated net revenues

Net Revenues	-5%	Current Value	5%
Price Target	\$85,17	\$112,32	\$139,47

As expected changes in the key drivers of revenues affect not only revenues but several other items that were forecasted directly from revenues. Once net revenues is cigarette volume multiplied by the average cigarette price, whether you set the bounds to cigarette volume, to the cigarette price or to the consolidated revenues, it

will lead to the same value for net revenues and consequently to the same price target. Unsurprisingly, there is a positive relationship between the company's net revenues and price target. That is, either if one sets bounds to the key drivers of revenues or directly to the consolidated net revenues, an upward adjustment leads to an increase in the price target whereas a downward adjustment leads to a decrease in the price target.

Terminal Growth Rate (TGR)

The terminal value accounts for approximately 80% of PMI's valuation. For this reason, changes in the terminal growth rate (TGR) deeply affect the final output of the valuation. The TGR was forecasted through the most common and simple approach in which TGR equals the weighted average of the nominal growth rate of GDP for advanced economies and developing and emerging markets. At that point, some assumptions were made regarding the weights and the post-2016 nominal market growth rate by geography. To see how changes in these assumptions would affect the estimated share price I considered three different scenarios:

- Scenario 1: Increased and decrease 10% the estimated TGR.

TGR	-10%	Current Value	10%
Price Target	\$107,78	\$112,32	\$118,04

- Scenario 2: Assume equal weights for advanced economies and developing and emerging economies.

TGR	World GDP (weighted average)	World GDP (equally distributed)
Price Target	\$112,32	\$111,03

- Scenario 3: Assume that the post-2016 market real growth rate equals IMF projections for 2016.



TGR	My estimations for post-2016 market real growth rate	IMF estimation for 2016 market real growth rate
Price Target	\$112,32	\$286,58

Discount Rates

- **Unlevered Cost of Equity (Ku)**

Unlevered Cost of Equity(Ku)	7,00%	7,50%	8,00%	8,58%	9,00%	9,50%	10,00%
Price Target	\$150,96	\$136,29	\$124,12	\$112,32	\$105,09	\$97,52	\$90,91

- **Cost of Debt (Kd)**

Cost of Debt (Kd)	2,00%	2,48%	3,00%	3,50%	4,00%	4,50%	5,00%
Price Target	\$188,13	\$112,32	\$110,48	\$109,71	\$109,29	\$109,05	\$108,91

Unavoidably, when we increase the discount rates the company's price target decreases and when we decrease the discount rates the company's price target increases.

Bankruptcy Cost (%BC)

Additionally, I made the sensitivity analysis of the percentage bankruptcy cost (%BC). The best proxy encountered for %BC was the estimated percentage loss in case of distress for the food industry. As no estimation for the tobacco industry was found, I used the estimations for the food industry because according to the industry classification systems, it is the closest to the tobacco industry. Therefore, it seemed important to proceed with the sensitivity analysis of this value. However, due to the company's insignificant probability of default, changes in the %BC are immaterial to the final output of the valuation.

Bankruptcy Cost (%)	30%	40%	50%	66%	70%	80%	90%
Price Target	\$112,60	\$112,52	\$112,44	\$112,32	\$112,29	\$112,21	\$112,13



6.5.2. PLAUSIBILITY ANALYSIS

This analysis consists on analyzing the valuation results, to test whether they are plausible or not.

The two valuation approaches used – DCF valuation and relative valuation - gave different results. Nevertheless, all the results are above the current market share price of \$87.53 (as of 05.04.2012), except the result of EV/EBITA multiple that suggests a price target slightly lower than the current market value.

The APV valuation gave a price target for PMI's shares of \$112.32 suggesting that the company is undervalued by \$24.79. The sensitivity analysis performed above shows that in accordance with the assumptions, the price target estimated with the APV model can vary from \$85.17 to \$286.58. In the most adverse scenario, the estimated price target is marginally below the current market value by \$2.36.

The price target achieved through EV/EBITDA multiple suggests that the company is slightly overvalued. Nevertheless, due to the differences among PMI and its peer group, there is a chance that this value is skewed. Therefore the conclusions were primarily based on the APV valuation.

Furthermore, the valuation results go in line with the historical analysis conducted in section 4 which proposes that the company is being undervalued since spin-off in 2008. As a result, PM is an undervalued stock because the market has not incorporated yet the improvement in performance that PMI has been exhibiting since spin-off in 2008.

6.5.3. COMPARISON INVESTMENT BANK

In this section I will compare my valuation methodologies, assumptions and results with the ones of an investment bank, in order to identify the main discrepancies among them. For the purpose, I chose UBS Investment Bank who has a regular coverage of Philip Morris Int'. The benchmark report was done by analyst Jonathan

Leinster on the April 19th 2012. Ideally, I would have directly discussed the methodologies used and the results reached with Jonathan Leinster. However, since that was not possible, I have tried to trace the main discrepancies through a deeply analysis of his report.

The UBS investment bank estimated a target price per share of \$83.00 through the FCFF valuation; whereas I have conducted an APV valuation and reached a value of \$112.32. Although, in my understanding, the APV valuation is the most appropriate valuation approach for PMI, the usage of different valuation methodologies should not be justification for reaching different valuation outputs. As the literature affirms, the direct sources of the discrepancy in the end-results are the assumptions intrinsic in each model and not the models themselves.

Firstly, I will analyze the assumptions regarding the company’s operations. The following table portrays the main differences in assumptions for the key drivers of future performance from each valuation. The comparison will be based on the next three forecasted years because UBS valuation report exhibits only three years of explicit cash flows forecast.

	2012		2013		2014	
	Own Valuation	UBS Valuation	Own Valuation	UBS Valuation	Own Valuation	UBS Valuation
Sales growth (%)	7,73%	5,00%	6,95%	5,20%	6,99%	5,20%
Operating Expenses (\$M)	19338	17207	20036	18010	20799	18802
D&A (\$M)	1053	994	1112	995	1174	1005
CAPEX (\$M)	940	900	1005	1000	1066	1100
EBIT (\$M)	14162	14562	15793	15455	17535	16454
Effective Tax (%)	29,00%	30,00%	29,00%	30,00%	29,00%	30,00%

Table 6.5.3.1.: Valuation comparison

According to table 6.5.3.1., there is a significant difference in the sales growth. It is plain to see that, at the time of valuation, UBS Investment Bank was less optimistic than I am regarding the company’s potential future performance. UBS Investment Bank projects the cigarette volume sold for the company to decrease mainly due to

expected significant market volume declines in developed markets. On the contrary, I believe that the company has the tools to compensate the possible decrease in volume in developed countries with an increase in less developed markets. Regarding the cigarettes price, we both believe that the company will be able to maintain its strong pricing strategy which will positively impact revenues. The different sales growth projections have also implications in the estimated operating costs; so as expected, I projected higher operating costs than UBS.

Additionally, an important factor to take into consideration is currency exchange rates. The company is highly sensitive to fluctuations in USD exchange rates. In my valuation, I have assumed the weighted average of the foreign exchange value of the U.S. dollar against the other major currencies to stay relatively flat. This way I have avoided the errors that the estimation of such irregular item could introduce in the valuation exercise. In turn, UBS estimated currency translation to have a negative impact on revenues although the exact percentage was not present in the report.

As stated before, different valuation models were used and therefore required different inputs. Following, I will compare the data used for the discount rates. See table 6.5.3.2.

Valuation Model	Own Valuation	UBS Valuation
	APV	FCFF
Unlevered beta	0,76	N/A
Levered beta	0,85	1,11
Marg. tax rate	35,00%	30,00%
Unlevered cost of equity	8,58%	N/A
Levered cost of equity	9,36%	7,38%
Cost of debt	2,48%	6,41%
WACC	N/A	6,95%

Table 6.5.3.2.: Assumptions for discount factors

In my valuation, since I used the APV model, the FCF were discounted at the unlevered cost of equity; while UBS discounted FCF at the WACC (FCFF model). As expected, the



unlevered cost of equity is higher than the WACC because the last one incorporates the value of financing side effects. The levered beta used by UBS is greater than 1 which indicates above average systematic risk. Notably, there is a significant difference between the levered costs of equity and an even greater difference between the costs of debt, those differences are justifiable by different assumptions and also by the time when their valuation was done. Unfortunately, due to lack of information, I cannot extend the comparison much further.

Likewise in explicit period, the terminal growth rate assumed by the investment bank was also smaller than mine. UBS assumed an insignificant TGR of 0.1% while I used a TGR of 2.12%. This is the main discrepancy among the two valuations and on my point of view it is the reason for such high difference in end-results.

As a result of the discrepancies mentioned above, the final estimated equity value by UBS was \$146.229M which is below my estimated equity value of \$193.398M. The UBS had a neutral recommendation whereas I strongly recommend investors to buy PMI's stocks.

	Own Valuation	UBS Valuation
Enterprise value (\$M)	220428	170124
Adjustments (\$M)	-22344	-23895
Equity Value (\$M)	198084	146229
Price Target (\$)	115	83
Recommendation	Buy	Neutral

Table 6.5.3.4.: Valuation results

7. CONCLUSION

The purpose of this dissertation was to estimate a fair value for Philip Morris International's stock. At this point, I feel that my goal was accomplished. The research question was answered grounded on the equity valuation theories and methodologies, and a deep analysis of the external and internal environment surrounding the company.

Throughout the different stages of the valuation exercise I had significantly enhanced my expertise on equity valuation and several conclusions were reached.

Firstly, from the literature review, it is evident that there is no universal method that would best suit the valuation of any company under any context. Alternatively, there are plenty of methodologies, all with pros and cons, and the choice of one method over the others depends on the characteristics of the company target of valuation. That is because according to the company's characteristics some methods can offer a more direct path which decreases the possibility of errors throughout the process. This is the reason why I have opted to use the adjusted present value model to value Philip Morris International and multiples as a complement.

Secondly, although some methodologies could best suit the valuation of specific companies and decrease the probability of errors; under the same set of assumptions the final outcome should be the same regardless of the method in place. The statement "All roads leads to Rome" was confirmed in section 6.3., when under the same set of assumptions both APV valuation and CCF valuation led to the same results.

Thirdly, it is obvious that the treatment of interest tax shields (ITS) is still a reason for disagreement among academics and a point of dispersion between methodologies. This dissertation aimed to embrace this topic and show how different ITS' treatments could impact the valuation outcome. Due to different discount rates for ITS, the APV valuation (conducted in section 6.1.) led to an estimated share price 10.8% higher than the one estimated through the CCF valuation (conducted in section 6.2.). This is a



significant dispersion because PMI is a highly leverage firm and therefore the value of ITS represents a significant component of the firm's total value. Conclusively, I encourage further debate and research round this topic because it significantly affects the valuation outcome of highly levered firms such as PMI.

Additionally, an important fact regarding valuation is that it is not an objective science. It is based on projections which in turn rely on the quality of the data used and assumptions made. This was clearly portrayed in the sensitivity analysis in which we see that changes in some key assumptions can severely impact the valuation output. Unfortunately, I did not have access to any additional information besides what was already available in the reports. The lack of information hindered my forecasts for the company's key drivers of performance, specially the forecast of capital expenditures, depreciation and amortization. As a result, the objective was to make the most realistic assumptions based on the information gathered but aware of the information restrictions.

Finally, the last and main conclusion reached is that PMI's current market value is not matching the company's potential future performance. The company is undervalued according to my valuation. Despite the unfavorable external pressures toward the tobacco industry, the company presents a strong growth strategy and prospective future performance. As a result, I consider PM stock as a strong investment opportunity and recommend investors to BUY. Nevertheless, it is worth mentioning that the recommendation can be downgraded if several events take place:

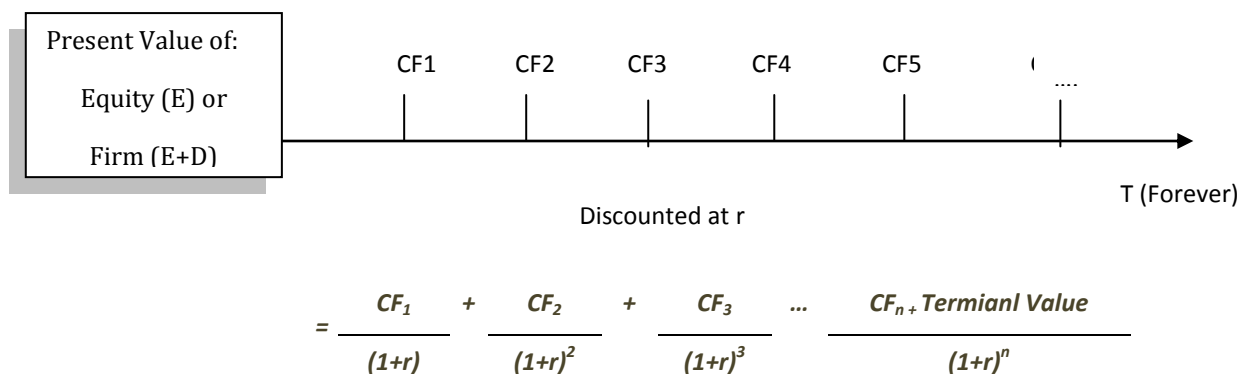
- If governments implement disruptive large excise tax increase, this will force PMI to increase cigarette price which will have a negative impact on sales.
- If the company does not succeed in its attempt to develop less harmful products, the increase health awareness can have a significant negative impact on the company's long-term volume and revenues.



- If US dollar strengthened relative to other currencies. This will have a negative impact on revenues because the company has operations only outside US but its results are reported in dollars.
- If emerging markets do not grow as fast as expected, the company will see its volume decrease.

8. APPENDICES

APPENDIX A: DISCOUNTED CASH FLOW (DCF) MODELS



DCF Models	Cash Flow (CF)	CF Formula	Discount Rate (r)	R Formula
FCFE	Free Cash Flow to the Equity	<i>Net Income</i> -(CAPEX – D&A) -Changes in WC +(New debt –Debt rep.) =FCFE	Cost of Equity (Ke)	$Ke = r_f + \beta \times r_p$
DDM	Dividends	FCFE x Pay-out ratio = Dividends	Cost of Equity (Ke)	$Ke = r_f + \beta \times r_p$
FCFF	Free Cash Flow to the Firm	EBIT (1-T) -(CAPEX-D&A) -Change in WC =FCFF	Weighted Average Cost of Capital (WACC)	$WACC = \frac{D}{V} \times (1-T) \times Kd + \frac{E}{V} \times Ke$
CCF	Capital Cash Flow	FCFF + Interest Tax Shields =CCF	Risk of Assets (KA)	$KA = r_f + \beta_u \times r_p$

Sources: Damodaran(2002),Damodaran(2006), Ruback(2002), Rosenberg and Rudd(1998),

Legend: **CAPEX**- Capital Expenditures; **D**-Value of debt; **Debt rep.**-Debt replacement; **D&A**- Depretiation and Amortization; **E**-Value of Equity; **EBIT**- Earnings Before Interest and Taxes; **WC**- Working Capital; **Rf**- risk free; **Rp**- Risk Premium; **βu**-Beta unleveraged; **T** – Effective tax rate.



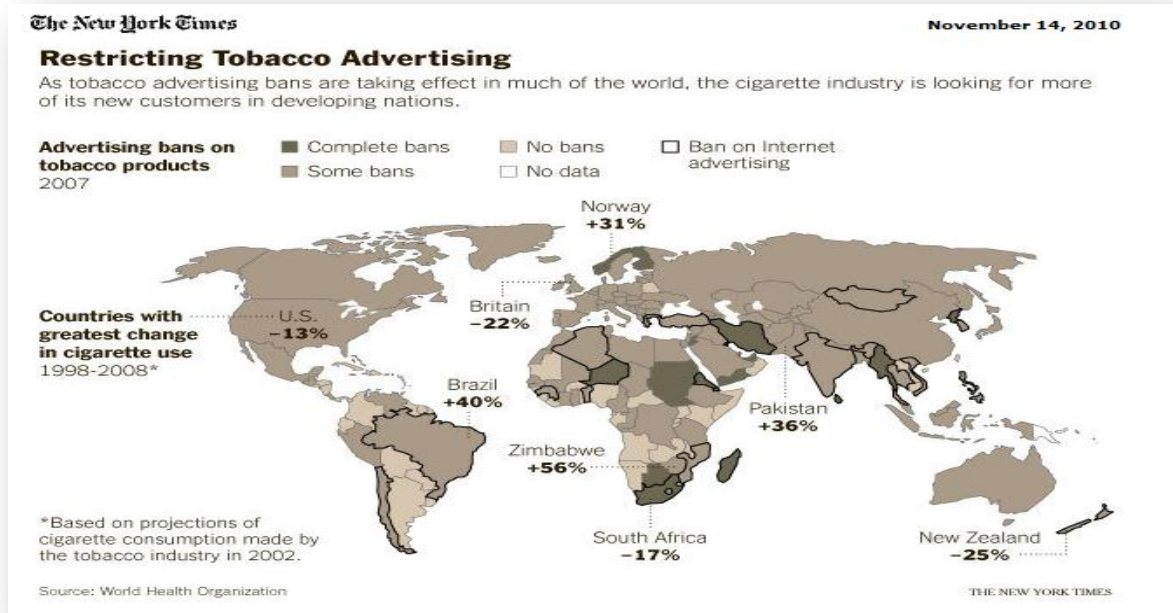
APPENDIX B: TOBACCO POLICY INSTRUMENTS

Policy instrument	Description	Effect on tobacco market
Smoking restrictions	Prohibition of smoking in workplaces, restaurants, and other places. Antismoking campaigns.	Reduce demand for tobacco products
Exercise taxes	Tax assessment per unit of tobacco products. Federal taxes paid by manufacturers. State taxes paid by wholesalers.	Manufacturers raise prices to cover all or part of settlement costs. Higher prices are passed on to consumers, reducing demand for tobacco products.
Settlement payments	Payments from manufacturers to State governments or other entities to settle legal claims	Manufacturers raise prices to cover all or part of settlement costs. Higher prices are passed on to consumers, reducing demand for tobacco products.
Food and Drug Administrative (FDA) regulation	FDA could limit levels of tar and nicotine in cigarettes and issue labeling, recordkeeping, and manufacturing regulations if given authority to do so by Congress.	May force manufacturers to eliminate some products. Costs of compliance may be passed on to consumers. Could reduce overall demand and shift the mix of leaf types towards lower tar and nicotine content.
Elimination of tobacco program	Price supports and marketing quotas eliminated	Lower leaf prices, but removal of restrictions on planting and marketing, frees up efficient producers to expand. Quota owners lose rental income. Manufacturers benefit from lower leaf prices. Leaf exports rise

Source: Economic Research Service/ USDA³⁶

³⁶ Tobacco Policy by ERS visited on November 28, 2011 <http://www.ers.usda.gov/publications/aer789/aer789b.pdf>

APPENDIX C: WORLDWIDE RESTRICTIONS ON TOBACCO ADVERTISING³⁷



³⁷ The New York Times “Cigarette Giants in Global Fight on Tighter Rules” visited on November 20, 2011 <http://www.nytimes.com/2010/11/14/business/global/14smoke.html>



APPENDIX D: PMI - HISTORICAL FINANCIAL STATEMENTS

(in millions of dollars, except per share data)

Consolidated Income Statement (2006-2011)						
	2006	2007	2008	2009	2010	2011
European Union	23 745	26 829	30 265	28 550	28 050	29 768
Eastern Europe, Middle East & Africa	10 012	12 166	14 817	13 865	15 928	17 452
Asia	10 139	11 097	12 222	12 413	15 235	19 590
Latin America & Canada	4 406	5 151	6 336	7 252	8 500	9 536
Net revenues	48 302	55 243	63 640	62 080	67 713	76 346
Cost of Sales	8 146	8 711	9 328	9 022	9 713	10 678
Excise tax on products	27 533	32 433	37 935	37 045	40 505	45 249
Gross Profit	12 623	14 099	16 377	16 013	17 495	20 419
Marketing, administration and research costs	4 551	5 021	6 001	5 870	6 160	6880
Italian antitrust charge	61					
Asset impairment and exit costs	126	208	84	29	47	109
Amortization of Intangibles	23	28	44	74	88	98
Gains on sales of businesses	-488	-52				
Operating Income	8 350	8 894	10 248	10 040	11 200	13 332
Interest expense, net	142	10	311	797	876	800
Earnings Before Income Taxes	8 208	8 884	9 937	9 243	10 324	12 532
Provision for income taxes	1 825	2 570	2 787	2 691	2 826	3 653
Net earnings attributable to noncontrolling interest	6 383	6 314	7 150	6 552	7 498	8 879
Net Earnings attributable to noncontrolling interests	253	276	260	210	239	288
Net Income	6 130	6 038	6 890	6 342	7 259	8 591
Per share data:						
Basic earnings per share	\$2,91	\$2,86	\$3,32	\$3,25	\$3,93	\$4,85
Diluted earnings per share	\$2,91	\$2,86	\$3,31	\$3,24	\$3,92	\$4,85

Consolidated Balance Sheet (2007-2011)					
	2007	2008	2009	2010	2011
Assets					
Cash and cash equivalents	1 501	1531	1540	1703	2550
Receivables	3 099	2848	3098	3009	3201
Inventories:					
Leaf tobacco	4 018	3924	4183	4026	3463
Other raw materials	1 205	1137	1275	1314	1185



EQUITY VALUATION - PHILIP MORRIS INTERNATIONAL, INC.

Finished product	4 148	4603	3749	2977	3472
	9 371	9664	9207	8317	8120
Deferred income taxes	302	322	305	371	397
Due from Altria Group, Inc. and affiliates	257				
Other current assets	256	574	532	356	591
Total Current Assets	14 786	14939	14682	13756	14859
Property, plant and equipment, at cost:					
Land and land improvements	590	547	579	703	692
Buildings and building equipment	3 345	3351	3593	3720	3738
Machinery and equipment	6 952	7170	7591	7857	7880
Construction in progress	798	632	495	479	603
Fixed Assets	11 685	11700	12258	12759	12913
Less: accumulated depreciation	5 250	5352	5868	6260	6663
Net Fixed Assets	6 435	6348	6390	6499	6250
Goodwill	7 925	8015	9112	10161	9928
Other intangible assets, net	1 906	3084	3546	3873	3697
Other assets	725	586	822	761	754
Total Assets	31 777	32972	34552	35050	35488
Liabilities					
Short-term borrowings	400	375	1662	1 747	1 511
Current portion of long-term debt	91	209	82	1 385	2 206
Accounts payable	819	1013	670	835	1 031
Accrued liabilities:					
Marketing and selling	453	457	441	393	519
Taxes, except income taxes	4 504	4502	4824	4 884	5 346
Employment costs	562	665	752	739	894
Dividends payable		1090	1101	1 162	1 341
Other	610	1167	955	920	873
Income Taxes	478	488	500	601	897
Deferred income taxes	174	178	191	138	176
Total current liabilities	8 091	10144	11178	12 804	14 794
Long-term debt	5 578	11377	13672	13 370	14 828
Deferred long-term liability charges	1 240	1401	1688	2 027	1 976
Employment Costs	566	1682	1260	1 261	1 665
Other liabilities	707	868	609	467	462
Total Liabilities	16 182	25 472	28 407	29 929	33 725
Redeemable noncontrolling interests				1 188	1 212
Stockholders' Equity					
Common stock					
Additional paid-in capital	1 265	1 581	1 403	1 225	1 235
Earnings reinvested in the business	12 642	13 354	15 358	18 133	21 757
Accumulated other comprehensive losses	1 688	-2 281	-817	-1 140	-2 863



EQUITY VALUATION - PHILIP MORRIS INTERNATIONAL, INC.

	15 595	12 654	15 944	18 218	20 129
Cost of repurchased stock		5 154	10 228	14 712	19 900
Total PMI stockholders equity	15 595	7 500	5 716	3 506	229
Noncontrolling interests			429	427	322
Total stockholders' equity	15 595	7 500	6 145	3 933	551
Total Liabilities and Stockholders' Equity	31 777	32 972	34 552	35 050	35 488



APPENDIX E: PMI - HISTORICAL REVENUES RESULTS BY SEGMENTS

(in millions of dollars, except per share data)

	European Union					Eastern Europe, Middle East & Africa (EEMA)				
	2007	2008	2009	2010	2011	2007	2008	2009	2010	2011
Δ (Volume/Mix)	-185	-454	-372	-452	-337	151	362	-197	-147	127
Δ (Price)	387	382	520	391	298	241	500	820	605	271
Δ (Currency Effect)	757	899	-856	-172	440	330	296	-1 400	76	49
Δ (Acquisitions)			61	3				41	80	25
Net Revenues	26 829	30 265	28 550	28 050	29 768	12 166	14 817	13 865	15 928	17 452
Growth		12.8%	-5.7%	-1.8%	6.1%		21.8%	-6.4%	14.9%	9.6%
Excise Taxes on Products	17 994	20 577	19 509	19 239	20 556	5 820	7 313	7 070	8 519	9 571
Net Revenues Excluding Exercise Taxes on Products	8 835	9 688	9 041	8 811	9 212	6 346	7 504	6 795	7 409	7 881
Growth		9.7%	-6.7%	-2.5%	4.6%		18.2%	-9.4%	9.0%	6.4%
Organic Growth		-0.8%	1.5%	-0.7%	-0.4%		13.6%	8.3%	6.7%	5.4%

	Asia					Latin America & Canada				
	2007	2008	2009	2010	2011	2007	2008	2009	2010	2011
Δ (Volume/Mix)	-205	148	16	-243	977	18	367	-67	28	-158
Δ (Price)	154	203	368	491	991	129	138	276	175	334
Δ (Currency Effect)	76	140	-41	611	690	34	47	-328	179	-70
Δ (Acquisitions)	118	46		548	112	37	157	462		
Net Revenues	11 097	12 222	12 413	15 235	19 590	5 151	6 336	7 252	8 500	9 536
Growth		10.1%	1.6%	22.7%	28.6%		23.0%	14.5%	17.2%	12.2%
Excise Taxes on Products	5 449	6 037	5 885	7 300	8 885	3 170	4 008	4 581	5 447	6 237
Net Revenues Excluding Exercise Taxes on Products	5 648	6 185	6 528	7 935	10 705	1 981	2 328	2 671	3 053	3 299
Growth		9.5%	5.5%	21.6%	34.9%		17.5%	14.7%	14.3%	8.1%
Organic Growth		6.2%	6.2%	3.8%	24.8%		7.2%	9.0%	7.6%	5.8%



APPENDIX F: INFLATION

	Average											
	1993-2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012f	2016f
US	1.9	2.1%	2.8%	3.3%	3.2%	2.9%	2.2%	1.1%	1.2%	2.1%	1.1%	1.5%

2009	2010	2011	2012f	2013f	2014f	2015f	2016f
1.1%	1.2%	2.1%	1.1%	1.20%	1.30%	1.4%	1.50%

Source: International Monetary Fund

APPENDIX G: PMI - HISTORICAL DEBT STRUCTURE & INTEREST RATE

	% Total Debt				Average
	2008	2009	2010	2011	
Fixed-rate debt/ Total debt	88%	89%	87%	90%	89%
Adjustable-rate debt/ Total debt	12%	11%	13%	10%	12%
Weighted-average interest rate:	5.50%	5.00%	4.90%	4.40%	4.95%



APPENDIX H: PMI - FORECASTED FINANCIAL STATEMENTS

(in millions of dollars, except per share data)

Consolidated Income Statement Forecast

	2012F	2013F	2014F	2015F	2016F
EU	28591	27559	26650	25910	25247
EEMEA	19068	20839	22736	24692	27055
Asia	23499	27585	31967	35762	39378
LA&C	10548	11405	12143	12679	13134
Total Net revenues	81706	87388	93496	99043	104814
Excise Taxes	48.207	51.559	55.163	58.435	61.840
Total Net revenues excluding excise taxes	33500	35829	38333	40607	42974
Cost of Sales	11.565	11.731	11.921	12.019	12.214
Gross Profit	21935	24098	26413	28589	30759
Gross Profit Margin	65,5%	67,3%	68,9%	70,4%	71,6%
Marketing, administration and research costs	7.558	8.084	8.649	9.162	9.696
Italian antitrust charge					
Asset impairment and exit costs	110	112	113	115	116
Gains on sales of businesses					
Amortization of Intangibles	104	110	116	122	129
EBIT	14162	15793	17535	19189	20818
EBIT Margin	42,3%	44,1%	45,7%	47,3%	48,4%
Interest expense, net	891	885	901	910	886
EBT	13271	14908	16634	18279	19932
EBT Margin	39,6%	41,6%	43,4%	45,0%	46,4%
Provision for income taxes	3849	4323	4824	5301	5780
Net Earnings	9422	10585	11810	12978	14151
Net Earnings attributable to noncontrolling interests	283	318	354	389	425
Net earnings attributable to PMI [Net Income]	9140	10267	11456	12589	13727
Net Profit Margin	27,3%	28,7%	29,9%	31,0%	31,9%

Consolidated Balance Sheet Forecast

	2012F	2013F	2014F	2015F	2016F
Assets					
Cash and cash equivalents	2205	1788	2814	3584	5041
Receivables	3349	3591	3842	4070	4296
Inventories:					



EQUITY VALUATION - PHILIP MORRIS INTERNATIONAL, INC.

Leaf tobacco	3706	3964	4241	4492	4754
Other raw materials	1307	1398	1496	1585	1677
Finished product	3677	3932	4207	4457	4717
	8690	9295	9944	10534	11148
Deffered income taxes	397	397	397	397	397
Due from Altria Group, Inc. and affiliates					
Other current assets	621	664	711	753	797
Total Current Assets	15262	15735	17708	19338	21678
Property, plant, and equipment	13563	14316	15116	15963	16859
Less: accumulated depreciation	7026	7325	7636	8039	8474
Property, plant, and equipment, net	6536	6991	7480	7923	8385
Goodwill	9928	9928	9928	9928	9928
Other intangible assets, net	3955	4230	4525	4794	5073
Other assets	817	874	935	990	1048
Total Assets	36498	37757	40576	42974	46112
Liabilities					
Short-term borrowings	0	0	0	0	0
Current portion of long-term debt	2811	1256	972	2563	4927
Accounts payable	1106	1125	1143	1153	1168
Accrued liabilities	9805	10487	11220	11885	12578
Income Taxes	863	970	1082	1190	1299
Deffered income taxes	176	176	176	176	176
Total current liabilities	14760	14013	14593	16967	20147
Existing long-term debt	12017	10761	9789	7226	2299
New long-term debt	3296	6221	7574	7900	10000
Deffered long-term liability charges	1976	1976	1976	1976	1976
Employment Costs	1781	1905	2038	2159	2285
Other liabilities	462	462	462	462	462
Total Liabilities	34293	35338	36432	36690	37169
Redeemable noncontrolling interests					
Stockholders' Equity					
Common stock					
Additional paid-in capital	1235	1416	1515	1604	1698
Earnings reinvested in the business	24150	28671	33717	39266	45320
Accumulated other comprehensive losses	-2863	-2863	-2863	-2863	-2863
	22522	27224	32368	38007	44155
Cost of repurchased stock	20639	25127	28547	32045	35534
Total PMI stockholders equity	1884	2097	3821	5962	8621
Noncontrolling interests	322	322	322	322	322
Total stockholders' equity	2206	2419	4143	6284	8943
Total Liabilities and Stockholders' Equity	36498	37757	40576	42974	46112



Consolidated Cash Flow Statement Forecast

	2012F	2013F	2014F	2015F	2016F
Cash Provided by (Used in) Operating Activities					
Net Earnings	9.422	10.592	11.822	13.001	14.186
Adjustments to reconcile net earnings to operating cash flows:					
Depreciation and amortization	1053	1112	1174	1240	1309
Deferred income tax provision	77	87	97	106	116
Gains on sales of businesses					
Asset impairment and exit costs, net of cash paid	6	6	6	6	7
Cash effects of charges, net of effects from acquired and divested companies:					
Receivables, net	-148	-243	-251	-228	-225
Inventories	-570	-604	-650	-590	-614
Accounts payable	75	19	18	9	16
Income Taxes	-34	107	113	108	108
Accrued liabilities	832	682	733	666	693
Other current assets	30	43	46	42	44
Pension plan contributions	-570	-610	-652	-691	-731
Changes in amounts due from Altria Group, Inc. and affiliates					
Other	332	332	332	332	332
Net cash provided by operating activities	10505	11523	12788	14002	15240
Cash Provided by (Used in) Investing Activities					
Capital Expenditure	-940	-1005	-1066	-1129	-1195
Purchase of businesses, net acquired cash	-80	-80	-80	-80	-80
Other	-55	-55	-55	-55	-55
Net cash used in investing activities	-1075	-1140	-1201	-1264	-1330
Cash Provided by (Used in) Financing Activities					
Net (repayment) issuance of short-term borrowings	-1511	0	0	0	0
Long-term debt proceeds	3296	2000	1353	326	2100
Long-term debt repaid	-2206	-2811	-1256	-972	-2563
Repurchases of common stock	-4000	-4000	-4000	-4000	-4000
Issuance of common stock	75	75	75	75	75
Dividends paid to public shareholders	-5118	-5754	-6422	-7062	-7706
Other	-311	-311	-311	-334	-360
Net cash used in financing activities	-9775	-10801	-10561	-11967	-12454
Effect of exchange rate changes on cash & cash equivalents	0	0	0	0	0
Cash and cash equivalents:					
Increase	-345	-418	1026	771	1456
Balance at the beginning of year	2550	2205	1788	2814	3584
Balance at the end of year	2205	1788	2814	3584	5041



APPENDIX I: PMI - COST OF DEBT ESTIMATION

Yield Spread over U.S. Treasuries by Bond Rating:

Basis points

Ratings	1	2	3	5	7	10	30
Aaa/AAA	34	28	35	21	22	28	50
Aa1/AA+	37	31	33	34	40	29	62
Aa2/AA	39	33	34	35	42	34	64
Aa3/AA-	40	34	36	37	43	37	65
A2/A	57	49	49	57	65	48	82
Baa2/BBB	79	91	96	108	111	102	134
Ba2/BB	228	245	260	257	250	236	263
B2/B	387	384	384	349	332	303	319

Source: Bloomberg 2003

Cost of Debt (Kd) = Yield Spread + Risk Free Rate = 0.48% + 2.00% = **2.48%**

APPENDIX J: PMI - CREDIT RATING AND RESPECTIVE DEFAULT SPREAD

	Short-term	Long-term	Outlook	Bond Rating	Default Rate (%)
Moody's	P-1	A2	Stable	D	100.00
Standard & Poor's	A-1	A	Stable	C	80.00
Fitch	F1	A	Stable	CC	65.00
				CCC	46.61
				B-	32.50
				B	26.36
				B+	19.28
				BB	12.20
				BBB	2.30
				A-	1.41
				A	0.53
				A+	0.40
				AA	0.28
				AAA	0.01

Source: Altman and Kishore (2000)



APPENDIX K: PMI – APV VALUATION

Adjusted Present Value Valuation Summary

(US\$ millions)

Year	FCF	ITS	BC	PV of FCF@	PV of ITS @	PV of BC @
				Ku:8,58%	Kd+P(D):3,01%	Kd+P(D):3,01%
2012	9525,90	138,84	6296,62	8772,97	134,78	6112,63
2013	10491,83	138,18	6935,10	8898,82	134,14	6535,73
2014	11675,24	142,79	7717,33	9119,85	138,62	7060,40
2015	12926,63	134,72	8544,51	9299,26	130,79	7588,73
2016	14071,39	122,43	9301,19	9322,68	118,85	8019,39
Continuing value	220409,04	13985,65	145690,38	146026,95	13576,98	125612,81
				191440,53	14234,16	160929,69

(x) Mid-year adjustment factor 1,04

(=) Value of operations 213192,33

(+) Value of cash & cash equivalents 2550,00

(=) Enterprise value 215742,33

(-) Value of Debt 20841,00

(-) Minority interest 1503,00

(=) Equity 193398,33

(/) Number of shares outstanding 1721,87

(at 05-08-2012, million)

(=) Estimated share value(in dollars) \$112,32

Current Price \$87,53

Undervalued \$24,79



APPENDIX L: PMI – CCF VALUATION

Capital Cash Flow (CCF) Valuation

(US\$ millions)

	2011	2012F	2013F	2014F	2015F	2016F	TV
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Post- Year 5
EBIT		14162	15793	17535	19189	20818	
(-) Taxes @ 29%		4107	4580	5085	5565	6037	
(=) EBIT*(1-T)		10055	11213	12450	13624	14781	
(+) D&A		1.053	1.112	1.174	1.240	1.309	
(=) Operating Cash Flow		11108	12325	13623	14864	16090	
(-) Δ Net Working Capital		643	828	882	808	824	
(-) Capital expenditures		940	1005	1066	1129	1195	
(=) Free Cash Flow of assets		9526	10492	11675	12927	14071	220409
(+) Expected Interest Tax Shield (ITS)		138	137	142	134	122	13912
(-) Expected Bankruptcy Cost		33	37	41	45	49	772
(=) CCF		9631	10593	11776	13015	14144	233548
Discount factor - K_U @ 8.58%	1,000	0,9210	0,8482	0,7811	0,7194	0,6625	0,6625
Present Value, each year		8869	8984	9199	9363	9371	154732
Firm Value		200518					
Mid-year adjustment factor		1,041					
Value of Operating Assets		200519					
Value of cash & cash equivalents		2550					
Enterprise Value		197969					
Value of Debt		20841					
Minority Interest		1503					
Equity Value		175625					
Number of shares outstanding (at 05-08-2012, million)		1721,87					
Estimated share value (in dollars)		\$102					



APPENDIX M: PMI – APV VALUATION VERSUS CCF VALUATION

(US\$ millions)

Value of Unlevered Firm	191441
Total PV of Expected Interest Tax Shields @ Ku	9749
Total PV of Expected Bankruptcy Costs @ Ku	671
APV - Firm Value with ITS & BC @ Ku	200518

CCF - Firm Value	200518
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APPENDIX N: PMI – RELATIVE VALUATION

(in millions of dollars, except per share data)

		EV/EBIT			EV/EBITDA		
		TTM	2012E	2013E	TTM	2012E	2013E
EV (\$M)	Min	166.158	152.395	160.418	149.172	146.819	154.394
	Mean	171.297	157.108	165.380	153.786	151.360	159.169
	Max	176.436	161.821	170.341	158.399	155.901	163.944
Equity (\$M)	Min	147.390	133.627	141.650	130.404	128.051	135.626
	Mean	152.529	138.340	146.612	135.018	132.592	140.401
	Max	157.668	143.053	151.573	139.631	137.133	145.176
Implied Price	Min	85,60	77,61	82,27	75,73	74,37	78,77
	Mean	88,58	80,34	85,15	78,41	77,00	81,54
	Max	91,57	83,08	88,03	81,09	79,64	84,31

Price Target	\$84,78
Current Price	\$87,53
Overvalued	\$2,75

APPENDIX O: EXECUTIVE SUMMARY

Philip Morris International Inc. (PMI)



Ticker: PM

Industry: Tobacco

Recommendation: BUY

Current price: \$87.53

Target Price: \$ 112.32

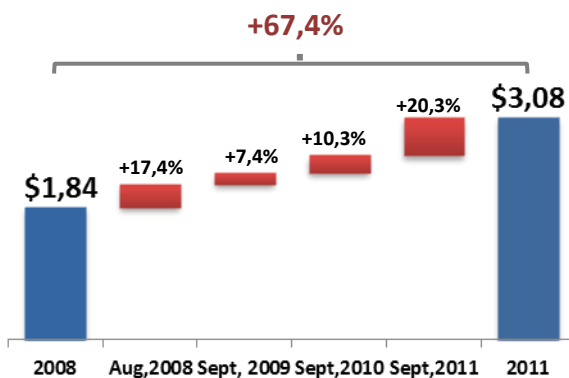
28% Upside Potential

Investment Thesis

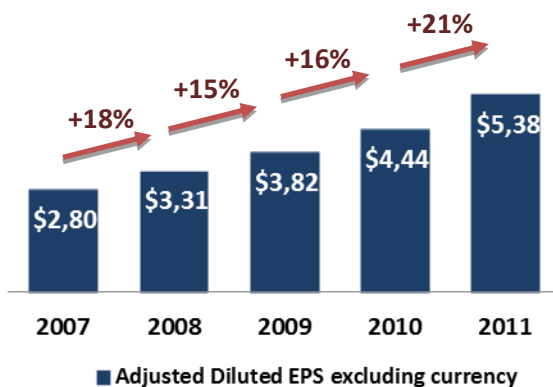
Company Data

Price(\$)	87,53
Date Of Price	08 May 12
Price Target (\$)	112,32
Mkt Cap (\$ B)	150,7
Shares O/S (\$ M)	1.721,90
EV/EBITDA (ttm)	11,44
EV/EBIT (ttm)	12,26

Dividend Increases Since Spin-off



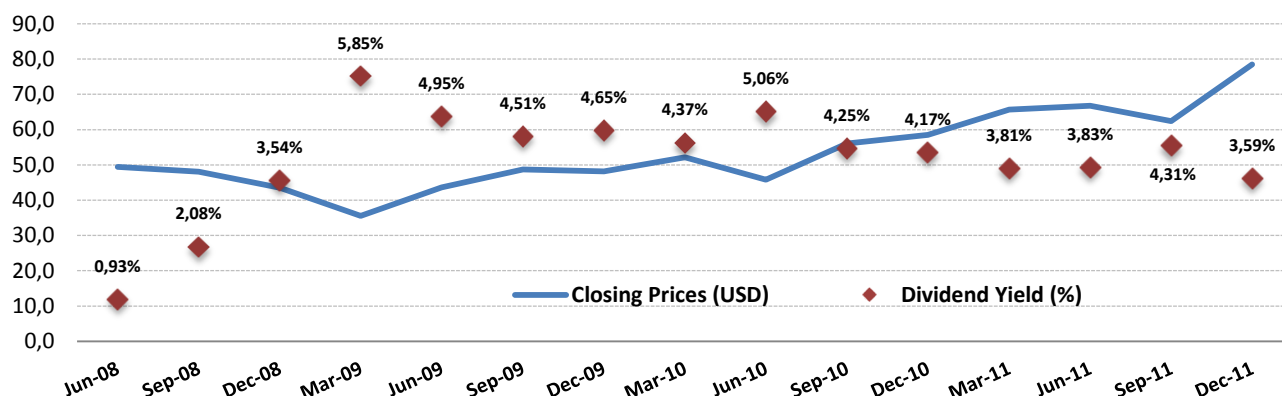
EPS Robust Growth



- PMI's current leading position in the tobacco industry offers the company great advantages in entering new markets or acquiring firms.
- PMI has a strong pricing strategy. Its high brand loyalty allows the company to pass any unexpected cost to customers, by raising the retail price.
- PMI is currently focused on the development of less harmful products which is imperative for future success. If the company achieves this goal, it will meet customers' expectations and increase the chance of gaining market share.
- The company's volume has been fostered by emerging markets, mainly Asia. This trend is expected to continue.
- Since spin-off in 2008, the company has increased its dividends per share by 67.4%. Additionally, the company has also benefited its shareholders by increasing its EPS through share repurchase plans. It has been spending approximately \$5 billion each year on the repurchase of common stock since 2008; and it is planning to spend a similar amount on share repurchases this year. These are bullish signs that the PMI is sending to the market that the company will be able to keep its high cash flows generation in the future.
- Main risks to the company's future performance concern consumer preference, government regulations and legal impositions, demographic changes, economic environment and currency exchange rates.
- As all non-Chinese tobacco companies, PMI is still managing to enter the world's largest cigarette market, China.



PM Stock Performance



Segment Analysis	2008	2009	2010	2011	2012F	2013F	2014F	2015F	2016F
Net Revenues	63.640	62.080	67.713	76.346	81.706	87.388	93.496	99.043	104.814
EU	30.265	28.550	28.050	29.768	28.591	27.559	26.650	25.910	25.247
% change	13%	-6%	-2%	6%	-4%	-4%	-3%	-3%	-3%
EEMEA	14.817	13.865	15.928	17.452	19.068	20.839	22.736	24.692	27.055
% change	22%	-6%	15%	10%	9%	9%	9%	9%	10%
Asia	12.222	12.413	15.235	19.590	23.499	27.585	31.967	35.762	39.378
% change	10%	2%	23%	29%	20%	17%	16%	12%	10%
LA&C	6.336	7.252	8.500	9.536	10.548	11.405	12.143	12.679	13.134
% change	23%	14%	17%	12%	11%	8%	6%	4%	4%

Highlights	2008	2009	2010	2011	2012F	2013F	2014F	2015F	2016F
Net Revenues	63.640	62.080	67.713	76.346	81.706	87.388	93.496	99.043	104.814
Revenues (excluding excise tax)	25.705	25.035	27.208	31.097	33.500	35.829	38.333	40.607	42.974
EBITDA	11.090	10.893	12.132	14.325	15.215	16.905	18.709	20.429	22.127
EBIT	10.248	10.040	11.200	13.332	14.162	15.793	17.535	19.189	20.818
Net Income	6.890	6.342	7.259	8.591	9.140	10.275	11.467	12.611	13.760
EPS	3,32	3,25	3,93	4,85	5,31	5,97	6,66	7,32	7,99
DPS	1,03	2,29	2,45	2,78	2,97	3,34	3,73	4,10	4,48

Growth (%)	2008	2009	2010	2011	2012F	2013F	2014F	2015F	2016F
Net Revenues	15,2%	-2,5%	9,1%	12,7%	7,0%	7,0%	7,0%	5,9%	5,8%
Revenues	12,7%	-2,6%	8,7%	14,3%	7,7%	7,0%	7,0%	5,9%	5,8%
EBITDA		-1,8%	11,4%	18,1%	6,2%	11,1%	10,7%	9,2%	8,3%
EBIT	15,2%	-2,0%	11,6%	19,0%	6,2%	11,5%	11,0%	9,4%	8,5%

Margins (%)	2008	2009	2010	2011	2012F	2013F	2014F	2015F	2016F
Gross Profit Margin	63,7%	64,0%	64,3%	65,7%	65,5%	67,3%	68,9%	70,4%	71,6%
EBITDA Margin	43,1%	43,5%	44,6%	46,1%	45,4%	47,2%	48,8%	50,3%	51,5%
EBIT Margin	39,9%	40,1%	41,2%	42,9%	42,3%	44,1%	45,7%	47,3%	48,4%
Net Profit Margin	26,8%	25,3%	26,7%	27,6%	27,3%	28,7%	29,9%	31,1%	32,0%

Investment Ratios (x)	2008	2009	2010	2011	2012F	2013F	2014F	2015F	2016F
Capex/revenues (%)	4,3%	2,9%	2,6%	2,9%	2,8%	2,8%	2,8%	2,8%	2,8%
Capex/ depreciation	1,38	0,84	0,77	0,90	0,89	0,90	0,91	0,91	0,91



Philip Morris International

Philip Morris International (PMI) was demerged from Atria Group in 2008 and it is currently the world's leading publicly traded tobacco company and the fourth largest global consumer package good company. It has a truly diverse and well-built brand portfolio which comprises the world's largest cigarette brand outside of the US market, Marlboro. Its products cover different price segments and are currently sold in approximately 180 countries. PMI is the market leader in Indonesia, Philippines, Turkey, Ukraine, Italy, Germany, among other markets. Currently, 65% of the company's profit comes from developed markets while the remaining 35% comes from emerging markets.

Drivers for Growth

Positive

- The company's competitive positioning, strong brand portfolio, geographic mix, revenue and strategies for growth, are the main drivers for future performance.
- Its profit margins, give the necessary cash for further geographic expansion and mergers and acquisitions.
- Its market share is safeguarded with its diverse and well-built brand portfolio. More specifically, the world's number one brand, Marlboro. The company is working on launching new products under its already well-known brands which will have a positive impact on revenues.
- The inelastic characteristic of tobacco goods enables tobacco companies to exhibit good results even under deep economic crisis.
- The company's vertical integration with suppliers allowed the company to decrease its COGS and to expect more advantages from pricing strategies.
- Emerging markets display high growth rate projections, high GDP and low government interventions compared with developed countries. Thus, PMI's current



leading position in many emerging markets strengthens the company's potential future performance.

Negative

- The diminished social smoking acceptance is the main threat to this industry. The increase consumers' health awareness has led to many protests against tobacco products and anti-smoking regulations.
- The potential increase in legal impositions.
- The potential increase of anti-smoking regulations, particularly taxes.
- The unfavorable economic environment in developed markets, primarily EU.



Forecast

- The increase in total cigarette volume is driven by emerging markets. The market volume is expected to keep declining in developed markets, particularly in EU. Nevertheless, this decrease will be more than compensated with PMI's strong presence in Asia and Latin America. **Volumes have a moderate increase**
- The average cigarette price is expected to rise above inflation mainly due to the company's pricing strategy. The company aims to reduce price gaps among the different price segments (premium, mid-priced and low-priced), which is possible due to the high brand loyalty. **Average prices continue to rise**
- Excise Tax is expected to keep reasonable levels going forward, since governments are concerned about the effect that such high increase in taxes might have on the illicit cigarette market. As a result, I estimate excise tax as 59% of net revenues. **Excise Tax/Net Revenues at 59%**
- Leaf costs are expected to go roughly in line with inflation due to the company's vertical integration with some suppliers. **Leaf costs go in line with inflation**
- For the next years, the annualized quarterly dividends are expected to equate a dividend payout ratio of 56%. **56% Dividend payout ratio**
- From now on, is assumed a \$4 billion share repurchase per year.
- It was assumed a slightly decrease growth rate of CAPEX over revenues, due to the company's goal of reducing costs and increasing margins. **Decrease growth of CAPEX/revenues**
- The company has been effectively reducing its net working capital. In the future, the company is expected to keep its effective working capital controls, although no more significant reduction such as in 2010 is expected to occur. **Effective NWC control**



Discounted Cash Flow Analysis

My BUY rating for PMI came directly from the APV valuation. Thorough evaluation, I found that PMI's stocks are considerably undervalued with a 28% upward potential. The APV model is considered the most accurate valuation model due to the company's unknown future capital structure. Through this model, I found an estimated share price of \$112.32.

Adjusted Present Value Valuation Summary

Year	Free Cash Flow (\$ million)	Interest tax shield (ITS)	Bankruptcy Costs (BC)	Present value of FCF @ Ku	Present Value of ITS @ Kd+P(D)	Present Value of BC @ Kd+P(D)
2012	9.526	139	6.297	8.773	135	6.113
2013	10.492	138	6.935	8.899	134	6.536
2014	11.675	143	7.717	9.120	139	7.060
2015	12.927	135	8.545	9.299	131	7.589
2016	14.071	122	9.301	9.323	119	8.019
Continuing value	220.409	13.986	145.690	146.027	13.577	125.613
				191.441	14.234	160.930

Present Value of FCF	191.441
(+) Present value of ITS@ Kd+P(D)	14.234
(x) Probability of no default	99,5%
(-) Present Value of BC @ Kd+P(D)	160.930
(x) Probability of default	0,53%
Firm value with ITS and BC @ Kd+P(D)	204.746
(x) Mid-year adjustment factor	1,04
(=) Value of operations	213.192
(+) Value of cash & cash equivalents	2.550
(=) Enterprise value	215.742
(-) Value of Debt	20.841
(-) Minority interest	1.503
(=) Equity	193.398
(/) Number of shares outstanding (at 05-08-2012, million)	1.722
(=) Estimated share value(in dollars)	112
Current Price	88
Undervalued	25

(in millions of dollars, except per share data)



Assumptions:

R _f	2,00%	K _D	2,48%
R _M	10,66%	Probability of Default: P(D)	0,53%
R _M -R _f	8,66%	K _D + P(D)	3,01%
β _U	0,76	Effective Tax Rate	29,00%
K _U	8,58%	Marginal Tax Rate for US	35,00%
Yield spread	0,48%	TGR	2,12%
K _D	2,48%	Bankruptcy Cost (%)	66,10%
Probability of Default: P(D)	0,53%	WACC	8,42%

Comparable Analysis

As a complement to the DCF analysis, it was conducted a PMI's comparable analysis based on two multiples: EV/EBITDA and EV/EBIT. The company's peer group encompasses: British American Tobacco (BTI), Imperial Tobacco Group (IMT.L) and Japan Tobacco (2914-JP). Based on forward multiples (2013), EV/EBIT gave an estimated share price of \$88.03 while the EV/EBITDA suggested an estimated price target of \$81.54. Thus, according to the last multiple, the company is overvalued. Nevertheless, this estimation for the target price is not believed to be as accurate as the one reached in the APV valuation because there are significant differences between PMI and its peer group that can be skewing the final results.

	EV/EBIT			EV/EBITDA		
	TTM	2012E	2013E	TTM	2012E	2013E
PMI	12,26 x	11,97 x	10,73 x	11,44 x	11,14 x	10,03 x
BTI	12,88 x	11,87 x	11,14 x	11,18 x	10,86 x	10,20 x
IMP.L	13,10 x	11,32 x	10,80 x	10,78 x	10,36 x	9,89 x
2914-JP	10,03 x	8,95 x	8,41 x	7,89 x	7,17 x	6,82 x
Peer Group Weighted Avg.	12,39 x	11,09 x	10,47 x	10,38 x	9,95 x	9,42 x



		EV/EBIT			EV/EBITDA		
		TTM	2012E	2013E	TTM	2012E	2013E
EV (\$M)	Min	166.158	152.395	160.418	149.172	146.819	154.394
	Max	176.436	161.821	170.341	158.399	155.901	163.944
Equity (\$M)	Min	147.390	133.627	141.650	130.404	128.051	135.626
	Mean	152.529	138.340	146.612	135.018	132.592	140.401
	Max	157.668	143.053	151.573	139.631	137.133	145.176
	Min	85,60	77,61	82,27	75,73	74,37	78,77
Implied Price	Mean	88,58	80,34	85,15	78,41	77,00	81,54
	Max	91,57	83,08	88,03	81,09	79,64	84,31

Recommendation

I recommend a BUY for PM, because I believe that its current value does not equal its strong potential for future performance. Nevertheless, my recommendation can be downgraded if several events occur:

- If governments implement disruptive large excise tax increase, this will force PMI to increase cigarette price which will have a negative impact on sales.
- If the company does not succeed in its attempt to develop less harmful products, the increase health awareness can have a significant negative impact on the company's long-term volume and revenues.
- If US dollar strengthened relative to other currencies. This will have a negative impact on revenues because the company has operations only outside US but its results are reported in dollars.
- If emerging markets do not grow as fast as expected, the company will see its volume decrease.



Philip Morris International: Financial Statements

Income Statement	2008	2009	2010	2011	2012F	% ch	2013F	% ch	2014F	% ch
Revenues	25.705	25.035	27.208	31.097	33.500	7,7%	35.829	7,0%	38.333	7,0%
Operating expenses	14.615	14.142	15.076	16.772	18.284	9,0%	18.924	3,5%	19.625	3,7%
EBITDA	11.090	10.893	12.132	14.325	15.215	6,2%	16.905	11,1%	18.709	10,7%
Depreciation and amortization	842	853	932	993	1.053	6,1%	1.112	5,6%	1.174	5,6%
EBIT	10.248	10.040	11.200	13.332	14.162	6,2%	15.793	11,5%	17.535	11,0%
Interest expense, net	311	797	876	800	891	11,4%	874	-1,9%	884	1,1%
EBT	9.937	9.243	10.324	12.532	13.271	5,9%	14.919	12,4%	16.650	11,6%
Provision for income taxes	2.787	2.691	2.826	3.653	3.849	5,4%	4.326	12,4%	4.829	11,6%
Net Earnings	7.150	6.552	7.498	8.879	9.422	6,1%	10.592	12,4%	11.822	11,6%
Net Earnings attributable to noncontrolling interests	260	210	239	288	283	-1,9%	318	12,4%	355	11,6%
Net earnings attributable to PMI [Net Income]	6.890	6.342	7.259	8.591	9.140	6,4%	10.275	12,4%	11.467	11,6%
Balance Sheet	2008	2009	2010	2011	2012F	% ch	2013F	% ch	2014F	% ch
Cash and Cash equivalents	1.531	1.540	1.703	2.550	2.205	-13,5%	1.788	-18,9%	2.814	57,4%
Other current assets	13.408	13.142	12.053	12.309	13.057	6,1%	13.947	6,8%	14.894	6,8%
Total current assets	14.939	14.682	13.756	14.859	15.262	2,7%	15.735	3,1%	17.708	12,5%
Net tangible fixed assets	6.348	6.390	6.499	6.250	6.536	4,6%	6.991	7,0%	7.480	7,0%
Net intangible fixed assets	3.084	3.546	3.873	3.697	3.955	7,0%	4.230	7,0%	4.525	7,0%
Goowill	8.015	9.112	10.161	9.928	9.928	0,0%	9.928	0,0%	9.928	0,0%
Investments/Other assets	586	822	761	754	817	8,4%	874	7,0%	935	7,0%
Total assets	32.972	34.552	35.050	35.488	36.498	2,8%	37.757	3,4%	40.576	7,5%
Trade payables & other ST liabilities	9.769	9.516	11.057	13.283	14.760	11,1%	14.013	-5,1%	14.593	4,1%
Short term debt	375	1.662	1.747	1.511	-	-	-	-	-	#DIV/0!
Total current liabilities	10.144	11.178	12.804	14.794	14.760	-0,2%	14.013	-5,1%	14.593	4,1%
Long term debt	11.377	13.672	13.370	14.828	15.313	3,3%	16.982	10,9%	17.363	2,2%
Other long term liabilities	3.951	3.557	3.755	4.103	4.219	2,8%	4.343	2,9%	4.476	3,1%
Total liabilities	25.472	28.407	29.929	33.725	34.293	1,7%	35.338	3,0%	36.432	3,1%
Redeemable noncontrolling interests	-	-	1.188	1.212	-	-	-	-	-	-
Equity & minority interest	7.500	6.145	3.933	551	2.206	300,3%	2.419	9,7%	4.143	71,3%
Total liability & equity	32.972	34.552	35.050	35.488	36.498	2,8%	37.757	3,4%	40.576	7,5%
Cash Flow Statement	2008	2009	2010	2011	2012F	% ch	2013F	% ch	2014F	% ch
Net earnings	7.150	6.552	7.498	8.879	9.422	6,1%	10.592	12,4%	11.822	11,6%
Adjustments	785	1.332	1.939	1.650	1.083	-34,4%	931	-14,0%	966	3,8%
Net cash from operations	7.935	7.884	9.437	10.529	10.505	-0,2%	11.523	9,7%	12.788	11,0%
Capital Expenditures	- 1.099	- 715	- 713	- 897	- 940	4,8%	- 1.005	7,0%	- 1.066	6,1%
Purchase of businesses, net acquired cash	- 1.663	- 429	- 83	- 80	- 80	0,0%	- 80	0,0%	- 80	0,0%
Other	- 399	46	86	55	55	0,0%	55	0,0%	55	0,0%
Net cash used in investing activities	- 3.161	- 1.098	- 710	- 1.032	- 1.075	4,1%	- 1.140	6,1%	- 1.201	5,3%
Net (repayment) issuance of short-term borrowings	- 449	246	9	226	1.511	568,6%	-	-	-	-
Long-term debt proceeds	11.892	2.987	1.130	3.767	3.296	-12,5%	2.000	-39,3%	1.353	-32,4%
Long-term debt repaid	- 5.736	- 101	- 183	- 1.483	- 2.206	48,8%	- 2.811	27,4%	- 1.256	-55,3%
Shares repurchases	- 5.256	- 5.625	- 5.030	- 5.372	- 4.000	-25,5%	- 4.000	0,0%	- 4.000	0,0%
Issuance of common stock	118	177	229	75	75	0,0%	75	0,0%	75	0,0%
Dividends paid	- 2.060	- 4.327	- 4.423	- 4.788	- 5.118	6,9%	- 5.754	12,4%	- 6.422	11,6%
Other cash from financing	- 332	- 268	- 292	- 311	- 311	0,0%	- 311	0,0%	- 311	0,0%
Cash from financing activities	- 1.823	- 6.911	- 8.578	- 8.338	- 9.775	17,2%	- 10.801	10,5%	- 10.561	-2,2%
Exchange rate changes effect on cash and cash equivalents	- 566	134	14	312	-	-	0	-	0	-
Cash and cash equivalents:										
Increase	30	9	163	847	345	-140,7%	-418	21,1%	1026	-345,7%
Balance at the beginning of year	1.501	1.531	1.540	1.703	2.550	49,7%	2205	-13,5%	1788	-18,9%
Balance at the end of year	1.531	1.540	1.703	2.550	2.205	-13,5%	1788	-18,9%	2814	57,4%

(in millions of dollars, except per share data)



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