



Equity Valuation

Colgate-Palmolive Company

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Abstract

The purpose of this dissertation is to determine the intrinsic value of the operations of the multinational Soap and Cleaning Materials company, Colgate-Palmolive Company. The study focuses on recommending a buyer or seller position based on the company's estimated share price compared to the actual trading price. In times of uncertainty caused by the COVID-19 global health crisis, Colgate has been able to maintain its growth strategy and its objective to become more efficient through a mix of investments in innovation and high-growth segments and cost-saving initiatives. Therefore, the literature review concluded that the FCFF model is the most suitable approach to value the company complemented with a Relative Valuation to obtain more accurate financial forecasts.

The result of this dissertation is a value of USD 107,46 per share, representing a buy recommendation compared to the current market price on November 9th of USD 78,05. In addition, a comparison with TheStreet Rating Stock Report on Colgate, which estimated a share price of USD 89,6, was also performed to test the consistency of the variables considered

Abstrato

O objetivo desta dissertação é determinar o valor intrínseco das operações da empresa multinacional de sabonetes e materiais de limpeza, Colgate-Palmolive Company. O estudo dedica-se a recomendar uma posição de comprador ou vendedor tendo por base o preço estimado das ações da empresa quando comparado com o seu valor de mercado. Em tempos de incerteza causada pela crise global do COVID-19, a Colgate conseguiu manter a sua estratégia de crescimento e o seu objetivo de se tornar mais eficiente por meio de uma combinação de investimentos em inovação e segmentos de alto crescimento, assim como iniciativas de redução de custo. A revisão de literatura permite concluir que o modelo FCFF é a abordagem mais adequada para avaliar a empresa, complementado com uma avaliação com comparáveis por forma a obter previsões financeiras mais precisas.

O valor obtido desta dissertação é de USD 107,46 por ação, o que representa uma recomendação de compra quando comparado com o preço atual de mercado a 9 de dezembro de USD 78,05. Para testar a consistência das variáveis consideradas, foi também efetuada uma comparação com o TheStreet Rating Stock Report da Colgate, que estimou um preço de ação de USD 89,6.

Acknowledgments

As the final stage of my master's degree, this dissertation closes a beautiful chapter of my life. It was a challenge adventure that I believe that gave me valuable knowledges to grant me a great chance to pursuing my career goals, which is to be a professional in this dissertation' subject, firm valuations.

I would like to give my deep and sincere gratitude to my supervisor José Carlos Tudela Martins, for giving me guidance and advice through all the stages of writing my dissertation, as well as his constant availability and feedback given.

I would also like to give a special thanks to my father, sister and boyfriend for their patience in more stressful moments, without them this would not be possible. Finally, I would like to thank my friends and other family members, for their support and motivation at such an important stage of my life.

Executive Summary

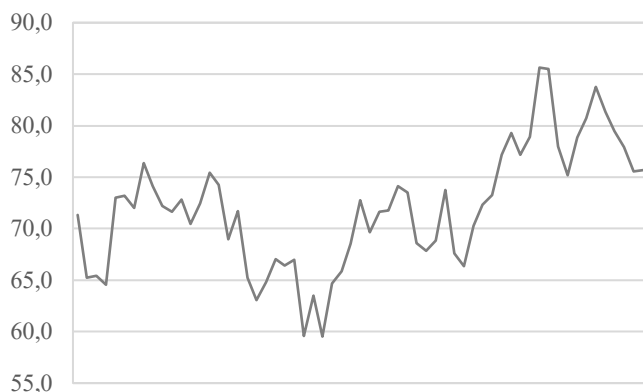
Colgate-Palmolive Co. is a global leader in the Soap and Cleaning materials industry owning 33 brands around the world under 4 operating segments. Its latest progresses are related to the Personal Care segment with the aim of investing in high-growth segments/markets and being part of the combat against COVID-19 pandemic. The main strategies to pursue its goal was the acquisition of Filorga C smethics and the relaunch of the entire line of Protex bar soaps with antibacterial formula that eliminates 99.9% of bacteria while boosting the skin's natural defenses.

The growth of Soap and Cleaning Materials companies is directly related to macroeconomic factors, the raw materials prices and, in the case of Colgate, the growth in emerging markets. The latter has been greatly contributing to Colgate's revenues, being Asia Pacific region the highest growth market. Because the company operates in more than 200 countries, it is highly sensitive to foreign exchange fluctuations, inflation, income taxes and commodity prices. To mitigate the impact of some of those risks, the company performs cost containment measures and selling price increases as well as the use of derivative instruments.

Since 2012, the company has been implementing restructuring programs to ensure sustained growth in unit volume, organic sales, operating profit, and earnings per share. The programs apply the initiatives in strategies that aim to optimize the global supply chain and facilities, expand commercial hubs and shared services, and streamline global functions.

In this valuation, it is assumed that Colgate-Palmolive is already a mature company and capable to take advantage of its size to become more efficient, a variable that the market underestimates. The estimated value of this valuation is higher than the actual market value, thereby representing a buy recommendation of Colgate's stock.

Stock Price Historical Performance from 2016 to 2021:



RECOMMENDATION:

BUY

November 9th, 2021

PRICE:

USD \$ 78,05

TARGET PRICE:

USD \$ 107,46

THE STREET RATING REPORT TARGET PRICE:

USD \$ 89,06

September 26th, 2021

CREDIT RATING:

Moody's: Aa3

PERFORMANCE:

Financials	E2021	E2022	E2023
Revenues			
growth	5%	3%	3%
Gross Profit	63%	63%	63%
EBIT			
Margin	23%	23%	23%

Multiples	Ratio	Price
EV/ EBITDA	16,54x	80,47x
EV/EBIT	19,46x	84,40x

DCF	
Enterprise Value (M \$)	95 581
Financial Debt (M \$)	5 008
WACC	5,13%
g	2,41%
Equity Value (M \$)	90 573
Shares Outstanding (M)	843
Share Price (\$)	107,46

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1. Literature Review

The literature review presented here intends to adequately frame the themes of this dissertation to guarantee greater clarity and rigor in the terminology used.

1.1 An Introduction to Valuation

Damodaran (2006, page 18) states that “knowing what an asset is worth and what determines that value is a prerequisite for intelligent decision making”. For that reason, many consider valuation to be the heart of finance, as it plays a decisive role in several subjects in the world of finance.

As years pass by, valuation models have been multiplying and becoming more complex and institutionalized. This happens to be a consequence of the continuing process in computers and software that are now able to process more data automatically and due to the easier access to reliable information.

Valuation is a function of cash, timing and risk. Koller et. Al. (2015, page 17) states that no matter the valuation model and underlying assumptions used, “companies create value for their owners by investing cash now to generate more cash in the future. The amount of value they create is the difference between cash inflows and the cost of the investments made, adjusted to reflect the fact that tomorrow’s cash flows are worth less than today’s because of the time value of money and the riskiness of future cash flows”.

In general terms, there are four main approaches to do a valuation (Damodaran, 2006): Discounted Cash Flow valuation, Relative Valuation, Liquidation and Accounting valuation and Contingent Claim Valuation. According to Petersen and Plenborg (2012), the liquidation approach and the real option approach are rarely used by analysts because the first assumes that the company has no longer going concern issues, and the second relies on complex models that make the valuation’s estimates highly unsafe. For this reason, it will be presented merely the DCF approach and the relative valuation.

1.2 The DCF Model

A valuation using discounted cash-flows techniques implies that the value of an asset is the present value of the projected future cash flows on the asset discounted at an opportunity cost rate that reflects the riskiness of these cash-flows (Damodaran, 2006).

From that statement, we understand that the value of any asset based on a discounted cash-flow model, follows the expression beneath:

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

where,

n = Life of the asset

CF_t = Cash flow in period t

r = Discount rate reflecting the riskiness of the estimated cashflows

The DCF model is the foundation method that gave rise to other valuation approaches. Once the principles' s methods are understood, they can be adapted to many other methods. That is why this approach was widely used in the 1970s as best practice for valuing corporate assets (Luehrman, 1997) and it is still the favorite valuation methodology for analysts. Not only can be used to value a business or a stock, but also for decision-making regarding capital structure or operating expenditures.

1.2.1 Firm Valuation

1.2.1.1 Free Cash-Flow to Firm

In this section, it will be presented the methodology behind the calculations of the Free-Cash Flow to Firm. In this approach, it is fundamental to estimate the future cash-flow available to all investors of a firm – equity and non-equity holders. The free cash flow to the firm can be calculated by reorganizing the financial statements of the company in order to separate the operating items, non-operating items and capital structure (Koller et al., 2015). With this

reorganization it is possible to come up with the FCFF, i.e., “the residual cashflows after meeting all operating expenses, reinvestment needs and taxes, but prior to any payments to either debt or equity holders” (Damodaran, 2006, page 3) through the following calculation:

$$FCFF = NOPAT + Depreciation - CAPEX - \Delta NWC$$

where, *NOPAT* is the net operating profits after taxes which is equal to EBIT multiplied by $(1-t)$ and t is the corporate income tax rate. According to Schill (2013, page 5) “this tax rate is inclusive of all federal, state, local, and foreign jurisdictional income taxes.” Because *NOPAT* is an after-tax measure, it does not account for financing tax effects. That is why tax deductibility must be considered in WACC (Schill, 2013). The depreciation item includes all non-cash charges that are taxable. CAPEX is capital expenditures in fixed assets. ΔNWC is the change in net working capital, i.e., all current assets required for the operations of the business less all current liabilities that are interest free.

1.2.1.2 Adjusted Present-Value

As Luehrman (1997) says, the most challenging part of valuation is valuing operations. As mentioned before, there are several models to estimate the present value of a company, as well as authors agreeing to disagree on which is the most practical. Damodaran (2006, page 43) states that the APV approach “was first presented in Myers (1974) in the context of examining the interrelationship between investment and financing decisions”. To differentiate the two components previously mentioned, APV technic sums the equity solely financed assets with the value of all financing side effects. In other words, the present value of a firm must be its unlevered value discounted by an unlevered cost of equity plus the present value of expected tax benefits of debt minus the expected bankruptcy costs. We can unbundle this approach in 3 steps (Damodaran, 2006):

Step 1: Estimate the value of the firm with no leverage.

$$V^u = \frac{FCFF_0(1+g)}{\rho_u - g}$$

Where,

$$FCFF_0 = \text{Current after - tax operating cash flow to the firm}$$

$\rho_u = \text{Unlevered cost of equity}$

$g = \text{expected growth rate}$

Step 2: Valuing the expected tax benefit.

$$\text{Value of Tax Benefits} = \sum_{t=1}^{t=\infty} \frac{\text{Tax Rate}_t * \text{Interest Rate}_t * \text{Debt}_t}{(1 + r)^t}$$

At this point, it is important to discuss which rate to use to discount the present value of tax benefits. Kaplan and Ruback (1995) presented the “compressed APV” where the free cash flow and the tax shield can be combined first and then discounted at the pretax WACC. Cooper and Nyborg (2006) argue that the present value of tax benefits should be discounted back at the cost of debt.

Step 3: Valuing the expected bankruptcy cost.

$$\text{PV of Expected Bankruptcy cost} = \pi_a * BC$$

Where,

$\pi_a = \text{Probability of bankruptcy}$

$BC = \text{Present Value of bankruptcy cost}$

Therefore, the value of a firm estimated by the adjusted present value approach can be presented as the following:

$$\begin{aligned} & \text{Value of Business} \\ & = V^U + \text{Value of Tax Benefits} - \text{PV of Expected Bankruptcy cost} \end{aligned}$$

There are advantages and disadvantages of using this approach instead of the WACC-based method. On the one hand, APV allows analysts to estimate less restrictive assumptions, making the analysis less risky, by breaking apart value components and analyzing each part disconnectedly. However, on the other hand, APV does not work that well in practice. Analysts

prefer the WACC-based approach over APV since the default risk is linked to the costs of equity and debt, while in APV, “neither the probability of bankruptcy nor the bankruptcy costs can be estimated directly” (Damodaran, 2006, page 45). For this reason, most of the time, in practice, this component is ignored for it is believed that those direct costs are negligible (Warner, 1977) and, at the same time, because estimating indirect costs could cause significant damage to a firm’s operations, leading investors to the perception of distress.

Therefore, using the APV approach may not be the better method for valuing Colgate-Palmolive’s operations since, in most cases, it is guided by the tax theory of Modigliani-Miller, which assumes that debt is risk-free and investors should ignore bankruptcy costs, tax exhaustion and agency costs.

1.2.2 Equity Valuation

1.2.2.1 Free Cash-Flow to Equity

The Equity Cash-Flow model is a reasonable approach to estimate the shareholder’s cash-flows. While firm valuation approach estimates the value of all assets of a firm, available to debt holders and equity holders, equity valuation approach aims to estimate the value of the assets to the latter. In the ECF model the free cash flow available to shareholders is computed after deducting all payments to and from debt holders (new debt, debt repayments and interest payments) and then discounted by the opportunity cost of equity (DeMarzo, 2015).

$$FCFE = NOPAT + Depreciation - CAPEX - \Delta NWC + Net\ borrowings$$

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

Where, k_e is the cost of equity explain later in chapter 1.2.3.1.

“When leverage is high, equity is like a call option, owned by shareholders, on the assets of a company” (Luherman, 1997, page 139). This means that if the business is healthy, the investors will exercise the call option, debtholders will get their borrower’s amount and shareholders will get the remaining value. On the contrary, if the business is struggling, when exercising the option, the borrower will default. As this is true, the ECF method might be appropriate, however with the condition that will not estimate an accurate value for a levered equity claim (Luherman,

1997). For that reason, this valuation method will be put aside as Colgate-Palmolive employ leverage as an investment strategy.

1.2.2.2 Dividend Discount Model

According to Young et. al. (1999), the Dividend Discount Model and the Discounted Cash Flow model generate the same market value when based on a consistent set of information. The difference between this approach and the others that have been discussed is that it uses dividends as cash-flows, representing the oldest strand of discounted cash-flow models (Damodaran, 2006).

The underlying principle of the dividend discount model is based on the expected cash-flows that the investors look forward to earning when buying a stock, which is the dividends the stock pays during the holding period and the expected share price at the end of that period. Because the future dividends determine the later cash-flow, the value of the stock can be written as the present value of the forecasted dividends in perpetuity.

$$\text{Value per share} = \sum_{t=1}^{t=h} \frac{E(DPS_t)}{(1 + k_e)^t} + \frac{P_h}{(1 + k_e)^h}$$

Where,

$$P_h = \frac{E(DPS_{h+1})}{k_e - g}$$

The last expression aims to estimate the terminal value of the stock through the Gordon Growth Model. Therefore, we make assumptions about predicted future growth rates in profits and payout ratios to reach the expected dividends (Damodaran, 2006). Finally, the CAPM model estimates the cost of equity, explained below.

As with every valuation model, the DDM presents advantages and disadvantages on its applicability. According to Damodaran (2006), on the one hand, it uses fewer assumptions to determine expected dividends for being the only tangible cash-flow from the firm that investors receive, making the model more intuitive. However, on the other hand, it is a big assumption to assume that the company will pay its dividends forever instead of holding back cash for investments. Also, and on the contrary, some companies pay more dividends than generate

cash-flow, funding the difference with new debt or equity and, consequently, overestimating the equity value.

1.2.3 WACC

As previously seen, the WACC rate is used in enterprise valuation, where free cash flows are approachable to all investors. We use this rate to discount the future free cash flow for time and risk.

The cost of capital is defined as the after-tax cost of debt multiplied by the proportion of debt plus the cost of equity multiplied by the equity ratio. From that, we understand that we can write the WACC formula as the following:

$$WACC = \frac{D}{D + E} k_d(1 - T_m) + \frac{E}{D + E} k_e$$

The proportions of debt and equity used must be weighted on the market values. It is essential to understand that because the interest tax shield has been excluded from the FCFF formula, this negative component must be included in the discount rate, by reducing the cost of debt (Koller et al., 2015).

In general terms, the return that an investor expects to gain for investing in a company rather than one with similar risk is translated into the cost of capital (Koller et al., 2015). However, according to Damodaran (2006), there are two ways of viewing that risk: the first is in terms of the default risk that a company faces when compromising its obligations to pay interests and principals; the second is in terms of the gap between the expected returns and the actual returns of an investment. These two risks are addressed in the WACC formula as being the cost of debt (k_d) and the cost of equity (k_e), respectively.

1.2.3.1 Cost of Equity

The cost of equity represents the expected rate of return that an investor is willing to earn when investing in a company's equity and bearing the risk of ownership. To address the market risk, the expected return must be a function of a risk adjustment factor, known as beta. There are

plenty of studies that discuss the most appropriate model to estimate the cost of equity, being the Capital Asset Pricing Model (CAPM) the longest and the most common model used for adjusting for market risk.

The CAPM stipulates that the expected return of any asset is the expected return of a riskless asset plus the expected market risk premium adjusted to the systematic risk of that asset to the market.

$$E(R_i) = r_f + \beta_i[E(R_m) - r_f]$$

The CAPM model assumes that “there are no transactions costs, and investors have no access to private information (...) ensuring that investors will keep diversifying until they hold a piece of every traded asset and will differ only in terms of how much of their wealth they invest in this market portfolio and how much in a riskless asset” (Damodaran, 2006, page 75).

The cost of equity can be calculated based on different methodologies. Unlike CAPM, the Fama-French three-factor model suggests a broader way to address market risk, by adjusting the cost equity to the stock’s sensitivity to the market as a whole (CAPM approach), a portfolio based on market capitalization and a portfolio based on a book-to-market ratio. Due to its simplicity, the CAPM model will be used.

1.2.3.1.1 Risk-free rate

The risk-free rate represents the expected return that an investor knows for sure he will gain for investing his funds in an asset. As the expected return of a riskless asset equals its actual return, the condition for this investment is to have no default risk. The securities that are more suitable to meet this condition are issued by a government, like Treasury bonds.

According to Koller (2015), the most theoretical approach to estimate the risk-free rate is to use the YTM of a long-term government bond with a duration that matches the maturity of the cash-flow. However, this method is not commonly used since it is highly time-consuming. Most analysts argue that it is more suitable to use a 10-year government bond as a single YTM, instead of a longer-dated one such as the 30-year government bond which might not be liquid enough to be seen as a risk-free asset.

As Colgate-Palmolive is a U.S.-based company, it is believed that the 10-year U.S. Treasury bond provides an appropriate rate for its valuation.

1.2.3.1.2 Beta

Damodaran (2012) says the beta of a security captures the risk that it adds to a market portfolio in the CAPM. The greater the beta, the more sensitive a company's security is to market fluctuations. In practice, many authors agree to use a peer group beta, since computing an appropriate company's beta is highly imprecise (Damodaran, 2006). To estimate the raw equity beta, it is common to use a linear regression that relates the company's stock returns with a market index returns:

$$R_i = \alpha + \beta R_m$$

Where,

R_i = *Company's stock return*

α = *Regression constant*

β = *Equity beta*

R_m = *Market index return*

Because the Equity beta is composed of historical market returns, many beta services adjust it for future risk, by moving the estimated beta toward the overall average of all companies (Koller et. al., 2015). Marshall Plume (1975, in Koller et. Al., 2015) stated that betas tend to return to the mean and he was able to estimate fixed weights among companies, used by service beta Bloomberg.

$$\text{Adjusted beta} = 0.33 + 0.67(\text{Raw beta})$$

1.2.3.1.3 Market risk premium

According to Zenner et. al. (2008, page 1), the market risk premium “reflects the incremental premium required by investors, relative to a risk-free asset like U.S. Treasury bonds, to invest in a globally diversified market portfolio”. There is no universal method to calculate this premium, since measuring an expected return that rewards the risk from the risk itself is quite debatable. The use of historical average returns has been a standard practice in business research. The authors stated that excess returns could be computed by the difference between

average stock index return and the average return on treasury bonds. Koller et. al. (2015) also stated that the time horizon should be as long as possible and the averaging method should be a mix between arithmetic and geometric average.

This is right in a U.S. based company. However, suppose the company operates in other markets outside the U.S., or even emerging markets. In that case, the applicability of this practice might slightly change. In that scenario, it would probably be observed survivorship bias since the data used in the sample of the historical returns are composed of countries with strong returns (S. Brown, 1995 in Koller et. Al., 2015). Instead, Damodaran (2012) suggests that, for non-U.S. markets, historical risk premiums cannot be applied in risk models and any equity market's risk premium can be written as follows:

$$\text{Market Risk Premium} = \text{Premium for mature equity market} + \text{Country premium}$$

1.2.3.2 Cost of Debt

The cost of debt aims to represent the likelihood of a company entering in default, by computing how much it costs to the firm to finance projects with debt.

Damodaran (2012) focused on estimating a default spread that may be used to calculate the cost of debt. For an investment-grade company, the bond's market price, together with its cash-flows and maturity, can be used to calculate a yield, which is then used as the cost of debt. Even though, Koller et. al (2010) defend that a valuation based on the YTM is highly inconsistent for settling in a promised yield and not in an expected return, investment-grade companies are subject to a very low probability of default, making the inconsistencies immaterial. As Colgate-Palmolive Co.'s credit rating is at Aa3 rated by Moody's, the yield to maturity of its bonds seems a reasonable proxy.

1.2.4 Terminal value and growth rate

According to Young et. al. (1999, page 5) "the terminal value is generally by far the most important element in any valuation estimate", as it represents a significant stake of the entire company's value. The computation of this value comes from the need that it is not reasonable to forecast cash-flows forever and, for that reason, the terminal value should translate the value of a company at the point in the future that the CF's estimations were no longer performed.

The Stable growth model is the most common approach used by analysts for its consistency. This model estimates the terminal value by using a perpetual growth model, assuming that the cash flows of a company will grow at a constant rate forever, at some point in the future,.

$$Terminal\ Value_t = \frac{Cash\ Flow_{t+1}}{r - Stable\ growth}$$

In order to estimate the stable growth rate, the cash-flows of the firm under valuation must reach a steady state performance. This means that, after the length of the high growth period, it is expected that a company's size will become an impediment to continued rapid expansion. At that point, the stable growth rate must meet some criteria, such as it can't exceed the growth rate of the economy in which operates.

1.3 Relative Valuation

Even though the DCF analysis is seen as the most reliable and accurate approach to value a company, the relative valuation provides rich insights and helps in summarizing and testing the valuation. Goedhart et. al. (2005) suggest that a multiple analysis complemented with a discounted cash flow analysis makes a valuation more accurate in the financial forecasts. These forecasts can achieve better performance when using multiples of similar companies to compare with the multiples of the company under valuation. The philosophy of this method is that comparable assets should sell for comparable prices. However, multiples can be misled if not correctly executed. Goedhart et. al. (2005) presented two common problems in the relative valuation: choosing comparable firms that do not match similar expectations of ROIC and growth; and choosing certain multiples that do not suit the company's context. For that reason, the authors presented four principles to overcome an unbiased analysis:

1. Use peers with similar prospects for ROIC and growth

It is a challenging task to find an appropriate peer group. Most managers begin by analyzing a company's industry and, after having a list of comparable firms, perform an intense examination of its operating and financial items, the products they sell, what strategic advantages they possess, in order to answer about the two critical drivers mentioned above: how profits are generated and how they grow.

2. Use of forward-looking multiples

Liu et. al. (2000 in Goedhart et. Al., 2005, page 9) showed that “forward-looking multiples promoted greater accuracy in pricing” rather than multiples based on historical profits. This was observed when predicting the average pricing error of each multiple by making the difference between the company’s earnings times the industry average multiple and its actual price, divided by its actual price.

3. Use enterprise value multiples

Goedhart et. al. (2005) suggests that, even though the P/E multiples are the most commonly used, they might mislead the valuation. The Price-to-earnings ratio measures the company’s market share price in relation to its earnings per share. However, the feasibility of this multiple is questioned not only because it is quite susceptible to changes by variations in capital structure but also because it includes several non-operating items. This latter problem should always be adjusted since, in most cases, these are sporadic events. Therefore, the ratio of enterprise value to EBITDA is a good solution to overcome the manipulation that the P/E multiples face, because it includes the profit available to all investors, equity holders and debtholders, making it less sensitive to changes in capital structure. Nevertheless, it is still subject to an adjustment for non-operating items.

4. Adjust the enterprise-value-to-EBITDA multiple for non-operating items

As stated above, a ratio based on earnings includes several non-operating items, which makes the multiple higher and, consequently, manipulates the company’s actual value. Some standard adjustments made are concerned to excess cash, operating leases, employee stock options and pensions.

2. General Overview

It is vital to have a clear idea of the big picture to perform an accurate valuation of Colgate-Palmolive. By analyzing the industry in which the company operates, such as the main drivers and competitors, as well as the macroeconomic and global conditions, it will be achieved a better understanding of the business environment along with its competitive advantages and risks to perform consistent forecasts in the valuation.

2.1 Macroeconomic conditions

According to the IMF, the global economy is expected to improve at the end of 2021, compared to the previous year. The 2020-year damage economies globally due to the surge of COVID-19 and the global supply constraints that came with it. From the 2nd quarter to the 3rd quarter of 2021, a rebound increase was noticed as consequence of initial recovery from the pandemic and “survivorship and recovery” plans implemented by governments. After 2021, a continuous deceleration among economies is expected, being the emerging markets the ones that will follow this trend the least and advanced economies that will experience lower growth rates.

United States economy has been growing at the same pace as the global advanced economies and is expected to reach higher GDP growth in 2021.

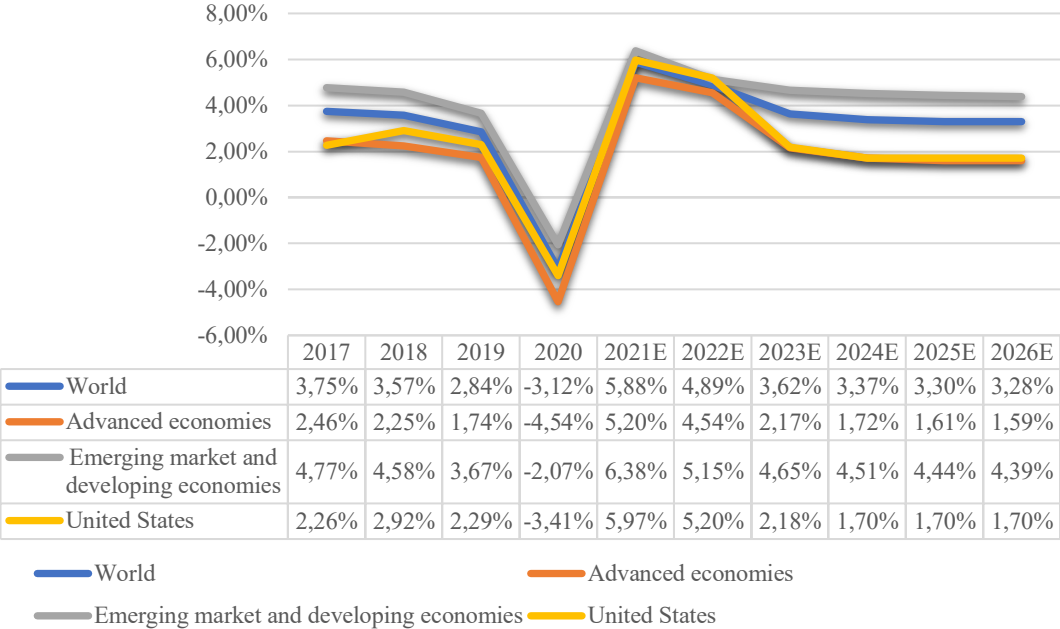


Figure 1 - Historical and Forecasted GDP growth rates. Source: IMF

Regarding inflation, in 2020 the global inflation rate amounted to 3.18% compared to 2019 and it is expected to reach 4.35% in 2021. During 2020, advanced economies were affected by the lockdown period of the COVID-19 pandemic, which “pause” economies and caused turbulence in the global supply chain. In 2021 a significant rise in consumer prices is expected as a consequence of price pressures to face supply chain disruptions, which will bring volatility in prices of goods and services. However, according to the IMF, global inflation will stabilize at a lower inflation rate in the next five years.

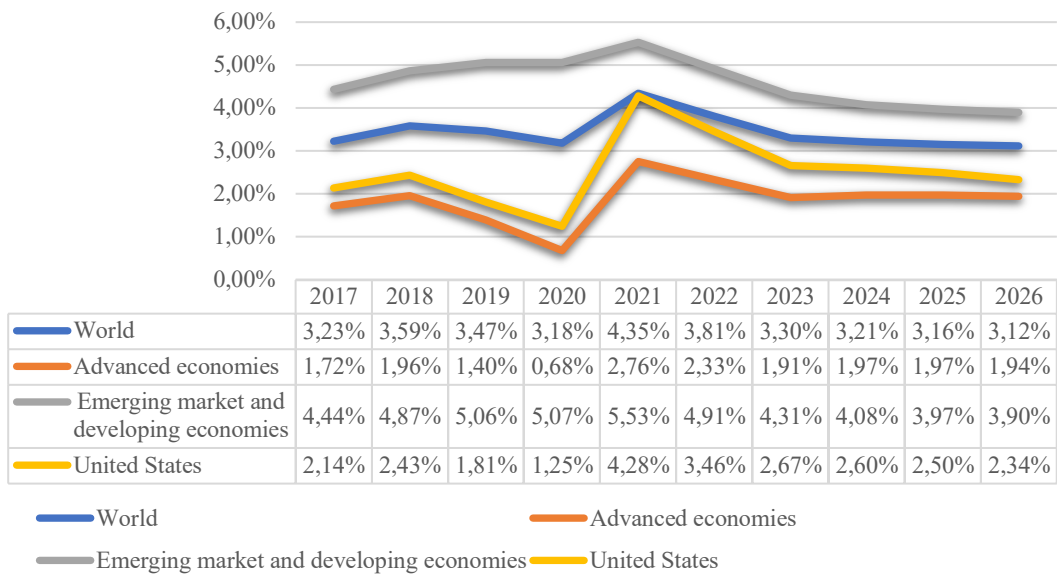
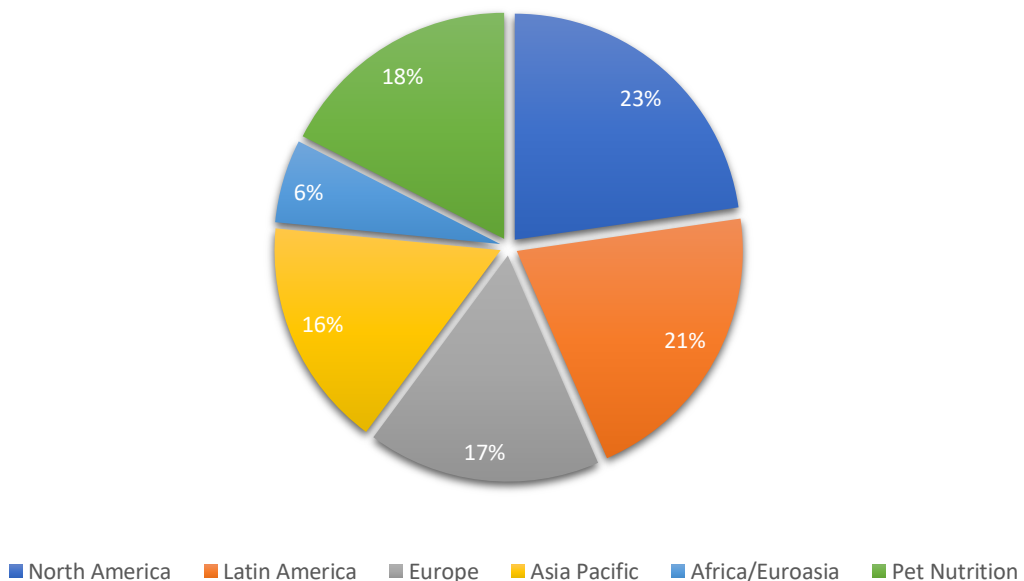


Figure 2 - Historical and Forecasted Inflation rate. Source: IMF

Emerging markets, which contributed 44% to 2020's net sales, presented the higher prices due to price pressures derived from macroeconomic volatility, political instability, deregulation of the industry, among other specific factors, and are expected to lower prices in the next five years. The United States have been presenting high volatility in prices, which might cause



turbulence in Colgate’s supply chain and overall business since the United States in the region that most contribute to Colgate’s total sales.

2.2 Soap and Cleaning Materials industry

Colgate-Palmolive is a household and consumer goods company that operates in the Personal products and services industry, falling within the Manufacturing sector and the Soap and Cleaning Materials industry. According to Zacks Investment Research, Inc. Companies involved in this industry include: personal care products which comprises oral care products, deodorants and skin and hair products; home care products which comprise dishwashing liquids, laundry care and other cleaning products; among other which might include baby and feminine care, food and refreshments and pet nutrition products.

Over the past five years, the Soap and Cleaning Materials industry has faced volatile demand due to *Figure 3 - Colgate's 2020 percentage of Net sales by region. Source: Colgate's* price changes within this market, high competition and new entrants bringing innovative products and technics regularly. COVID-19 seems to have benefited the Soap and Cleaning Material industry as the products within this sector represent the first line of defense against the virus. It also has increased the competitive environment within the industry as companies struggled to showcase how their products would help combat the current health crisis. According to Zacks Industry Rank, Soap and Cleaning Material Industry is expected solid short-term prospects due to a result of positive earnings outlook in these companies as a whole, constituting a valuable asset for the investor’s portfolio (see Appendix III).

3. Company Overview

3.1 General overview

Colgate-Palmolive Company is a U.S. based consumer goods company, founded in 1806 in New York City by William Colgate. The company is widely known around the world for its #1 market share in toothpaste of its Oral Care segment.

In 2020, the company was present in more than 200 countries worldwide and was considered the top performing company in the Household products industry by the Dow Jones Sustainability Indices (DJSI). Moreover, Colgate Palmolive has won s innovation, sustainability, diversity and inclusion awards. In addition, the company is rather known by investors for paying its dividend constantly and increasing them for 58 consecutive years. Colgate-Palmolive stock composes the S&P 500 index and the S&P 100 and it is traded on the New York Stock Exchange.

Since its foundation, Colgate has been striving for profitable and sustainable growth, as well as caring and innovative impact in its customers lives by delivering healthier solutions with social responsibility.

According to market share data, the company is recognized as a global leader in toothpaste and manual toothbrush within the Oral Care segment, liquid hand soap within the Personal Care segment, and pet nutrition categories.

The Pet Nutrition segment operates under Hill's Science Diet and Hill's Prescription Diet. The company has been improving the margins of this segment every year, accomplishing its presence in over 80 countries, mainly in the United States and Europe.

Colgate's products are sold to traditional and eCommerce retailers, wholesalers, and distributors. During the last five years, the company has been focusing on its digital competences globally, amounting to 46% of eCommerce sales in 2020, mainly driven by the Pet Nutrition segment and North American business.

As for investing activities, Colgate meets its high growth segment strategy through business acquisitions and the purchase and sale of marketable securities and investments. In 2020, investing activities include acquiring Hello Products LLC, an oral care business and in 2019, the acquisition of Laboratories Filorga C smetiques S.A., a skin health business, and the Nigeria Joint Venture.

3.2 Risks

Colgate-Palmolive is exposed to several risks related to industry, operational, legal, and financial issues. For being a worldwide company, Colgate's operations are affected by foreign exchange rates, interest rates and commodity prices fluctuations.

The company addresses some strategies, so the impact of foreign exchange risk does not offset a big steak of the earnings of the business. The segments more exposed to this risk in 2020, were the ones operating in Latin America and Africa/Eurasia, having reported in 2020-year an unfavorable foreign exchange impact on sales of 14% and 8.5%, respectively. To reduce this impact, the company performs cost containment measures and selling price increases. For foreign currency purchases and investments in foreign subsidiaries, the company uses derivative instruments, such as foreign currency contracts, option contracts, foreign and local currency deposits and local currency borrowings to reduce its exposure.

As far as interest rate risk is concerned, the company does not own huge amounts of debt, being the interests very residual. However, it still prepares for eventual volatility by using interest rate swaps to limit any changes in earnings and cash flows and forward-starting interest rate swaps for future debt issuance.

Additionally, Colgate-Palmolive is vulnerable to price fluctuations in raw materials used in manufacturing. The company manages this risk by cost containment measures and future contracts, which are only used in a restricted number of cases.

3.2.1 COVID-19

Even though the COVID-19 pandemic has contributed to an economic slowdown worldwide, Colgate-Palmolive' going concern remained. During 2020's year, it was reported a considerable increase in demand across certain categories of the company related to cleaner products. At the same time, Colgate has experienced highly competitive environment in terms of new players in this market as well as new products.

On the other hand, specific company stakeholders, such as suppliers, retailers and distributors experienced turbulence in their businesses. Government rules and restricted consumer movement worldwide deprived Colgate from certain channels of distributions and ability to manufacture. The eCommerce' sales increased during 2020-year as a result of those restrictions that shifted consumers' preferences to purchase products via online.

In the end, and as a result of COVID-19, the demand for Colgate's products and its availability has been volatile. In addition, its supply chain has disruptions, as well as doubtful commitment from third parties, unstable political and economic conditions, fluctuation on capital markets and foreign exchange rates, all of these concerns might lead to several impacts in its operations and cash-flows.

3.3 Strategy

Colgate-Palmolive adapts its growth and social impact strategies every year. The three key initiatives of the growth strategy hold on “driving premium innovation in core business”, “pursuing adjacent categories and high-growth segments” and “expanding in faster-growing channels and markets”.

In the fourth quarter of 2012, Colgate implemented a restructuring program, referred as Global Growth and Efficiency Program, concluded in December 2019. The program’s initiatives aimed to ensure sustained growth in unit volume, organic sales, operating profit and earnings per share by optimizing the global supply chain and facilities, expanding commercial hubs and shared business services and streamlining global functions. As a result, the company could fulfill almost all of the initiatives provided for in the program. At its end, such initiatives to reduce costs and increase asset utilizations continue to be performed.

The survivorship and recovery plan of COVID-19 was directly related to innovations in all the segments of Colgate. For example, during the 2020-year, Colgate relaunched the entire line of Protex bar soaps with an antibacterial formula that eliminates 99.9% of bacteria. Also, Colgate joined an internationalization strategy by launching home care’ innovative program in Europe and China.

As the digital era is even more present and COVID-19 pandemic accelerated it, the company followed its expansion in faster-growing markets by focusing hostilely on eCommerce. As a result, ECommerce’ sales grew 46% facing 2019.

Moreover, CP announced in 2020 the 2025 Sustainable and Social impact strategy that aims to ensure the integration of sustainability in the company. The three drivers of its strategy are “promoting well-being and inclusivity”, “helping people develop healthy habits” and “preserving and improving the environment”.

3.4 Historical Performance

3.4.1 Net Sales

Since 2016, Colgate’s revenue has been growing continuously, having recorded in the 3rd quarter of 2021 an increase of 7% compared to the 3rd quarter of 2020, driven by volume growth

of 1,5%, net selling price increases of 3% and positive foreign exchange of 2,5%. It was observed that the segment that contributes the most for the net sales of the company is the Oral Care segment. Moreover, the net sales of the Hill's Pet Nutrition segment have been increasing since 2019, as consequence of intense investment in the two brands and price increase.

The Organic sales (net sales excluding the impact of foreign exchange, acquisitions and divestments) followed the same growing trend as the net sales, having recorded in 3rd quarter of 2021 an increase of 4,5% compared to the 3rd quarter of 2020, driven by volume growth of 1,5% and net selling price increases of 3%.

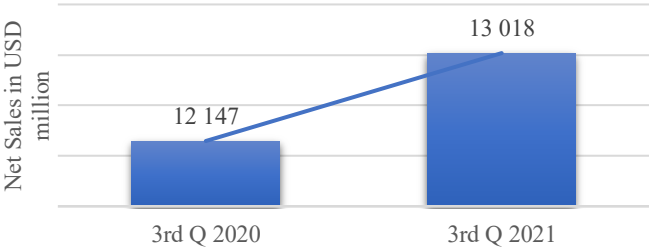


Figure 4 - 3rd Quarter Net Sales. Source: Colgate's

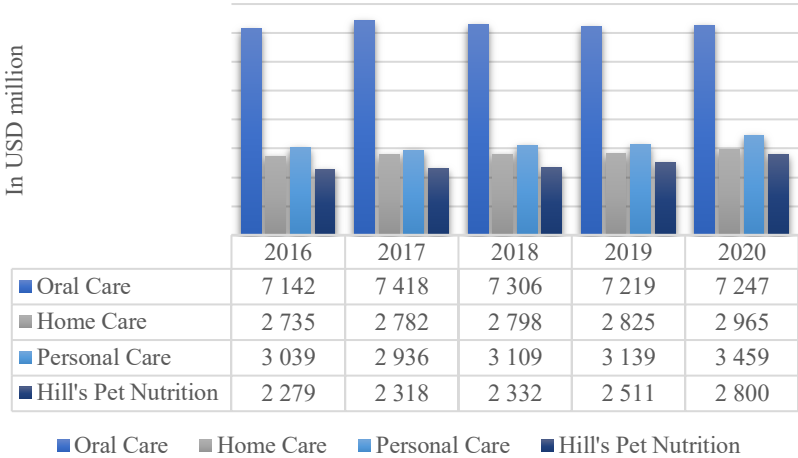


Figure 5 - Total Net Sales. Source: Colgate's

3.4.2 Net Sales by region

Once the company divides its segments in two (“Oral, Personal and Home care” and “Pet Nutrition”) and divides the first again by geographic area, revenues by region were also analyzed.

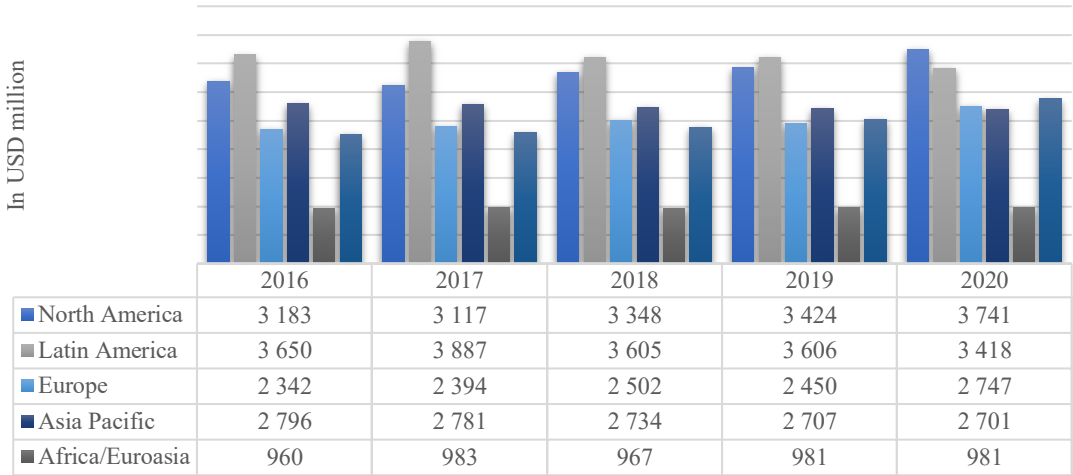


Figure 6 - Total Net Sales. Source: Colgate’s

■ North America ■ Latin America ■ Europe ■ Asia Pacific ■ Africa/Euroasia ■ Pet Nutrition

From the graph, it can be observed that net sales in North America and Europe have been increasing in the last 5 years. In this last year 2020, the net sales in North America surpass net sales in Latin America due to the company’s acquisition of Hello Products LLC, an oral care business, in January 2020. Also, net sales in Europe increased 12% in 2020 compared to 2019 due to the company’s acquisition of the Filorga Cosmétiques S.A., a skin health business, in September 2019. The Net sales of Pet Nutrition segment has been increasing in the last 5 years, mainly led by the United States and Europe.

3.4.3 COGS and Gross Profit

Cost of sales has been increasing over the last five years, following the same growth trend as Net sales. As a percentage of sales, the cost of sales represents between 36% and 37% of the company’s revenues over the last five years. Also, the gross profit increased significantly in 2020 due to the rise of the sales price, and the gross profit margin has been increasing since 2019 due to cost savings from the company’s initiatives to reduce costs through indirect expenses, marketing materials, logistics, among others, in order to support the growth of the business.

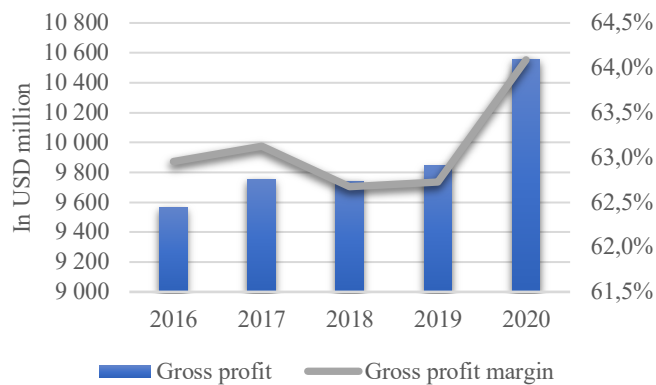


Figure 7 - Gross Profit and Gross Profit Margin. Source: Colgate's

3.4.4 EBIT, EBT and Net income

The value of EBIT and EBT has been very similar in the last five years since Colgate does not own vast amounts of debt, being the interest expenses residual. As far as it concerns the Net Income, because Colgate Palmolive operates worldwide, it is subject to several income taxes, which makes this value smaller than the others.

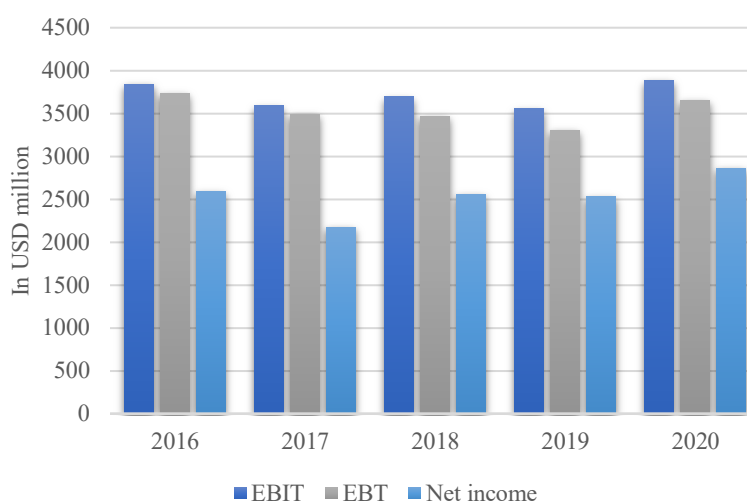


Figure 8 - EBIT, EBT and Net Income. Source: Colgate's

3.4.5 CAPEX and depreciation

Capital expenditures have been decreasing in the last six years, excluding the 2020-year that have reported a slight increase of 22% compared to 2019. This behavior is primarily due to lower investment in manufacturing facilities. In contrast, during the 2020 year, the company invested in sustainable projects and manufacturing facilities.

As far as Depreciation and Amortization are concerned, these values have remained reasonably constant as a consequence of divestment in land, buildings and machinery mitigated by the remarkable increase of intangible assets and goodwill resulting from the acquisitions of Filorga and Hello business and amortization expense.

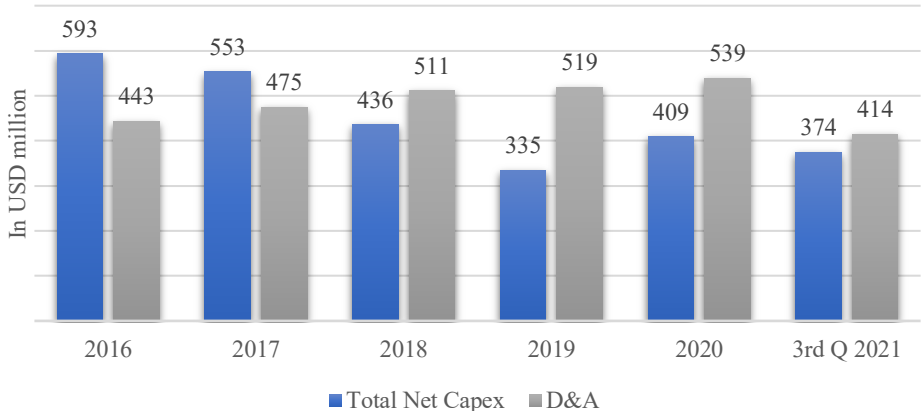


Figure 91 - CAPEX and D&A. Source: Colgate's

In the graph, it is possible to observe that, as of 2018, depreciation and amortization exceeded the value of capital expenditures due to divestments in PPE.

3.4.6 Changes in Working Capital

Colgate has been reporting negative working capital since 2016, accounting for USD -724 million in 2020, representing a decrease of 201% compared to 2019. This is primarily due to an increase of accrued liabilities, accounts payable and accrued income taxes. The significant increase of accrued liabilities results mainly from accrued advertising and accrued payroll.

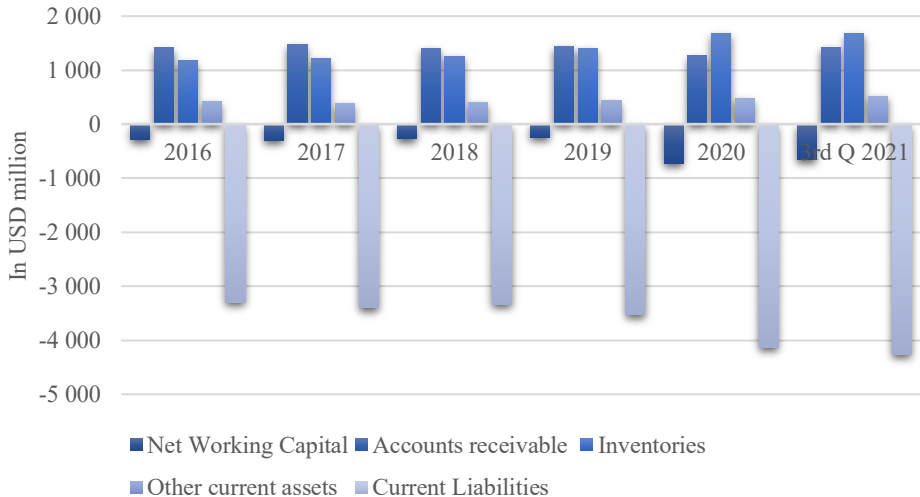


Figure 10 - Net Working Capital. Source: Colgate's

3.4.7 Total Debt and Net Debt

Total Debt of Colgate-Palmolive includes short-term debt (Notes and Loans payable and Current portion of long-term debt), long-term debt (Notes, Commercial paper and Finance Lease Obligations) and other liabilities (Derivative contracts and long-term lease liabilities). As of October 2021, the company's debt structure consisted of 2 revolving credit lines, issued in November 2018 and August 2021, in the amount of USD 5.650 million and 41 bonds, in the amount of USD 7.052 million.

According to the graph, it is observed that the amount of issued debt suffered a raise of 19% in 2019 compared to 2018, as consequence of the acquisition of Filorga business which was financed with a combination of debt and cash. Similarly, the values of 2020 remained relatively constant compared to 2019 because of Hello business's acquisition, as well financed with a combination of debt and cash.

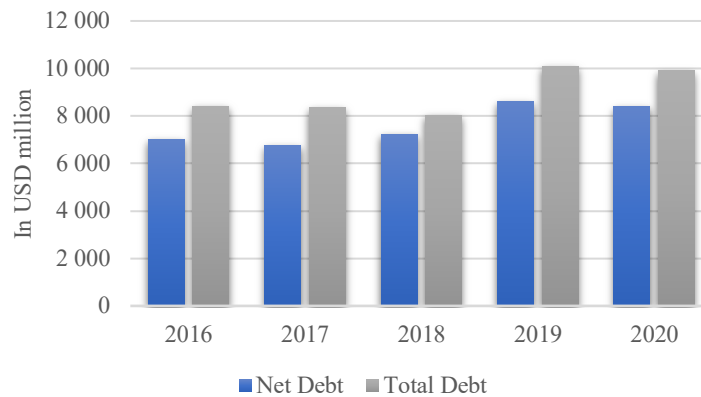


Figure 11 - Net Debt and Total Debt. Source: Colgate's

3.4.8 Dividends

The company is widely known for investors for paying its dividends and increasing its value over time. The 2020 year is the 58th consecutive year of dividend increases and 125th the consecutive year paying a dividend.

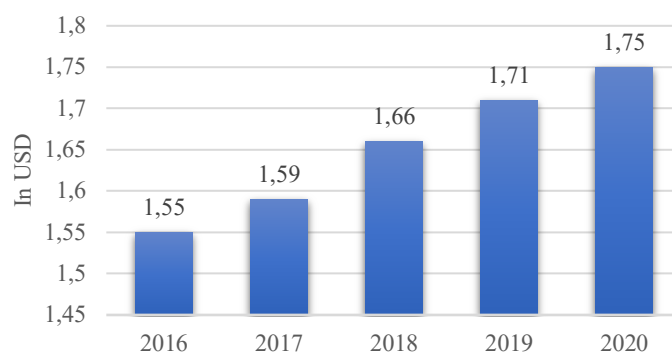


Figure 12 - Dividend Per Share. Source: Colgate's

3.4.9 Share Price

The company share price has been relatively constant in the last five years. The closing price of Colgate as of October 31st, 2021 is between USD 75 and USD 76. Because the company stock belongs to the S&P500 index, the index was used as benchmarked to evaluate the stock's price sensibility of Colgate-Palmolive to market fluctuations. From the graph, we observe that the company's share price follows the trend of S&P500 index.

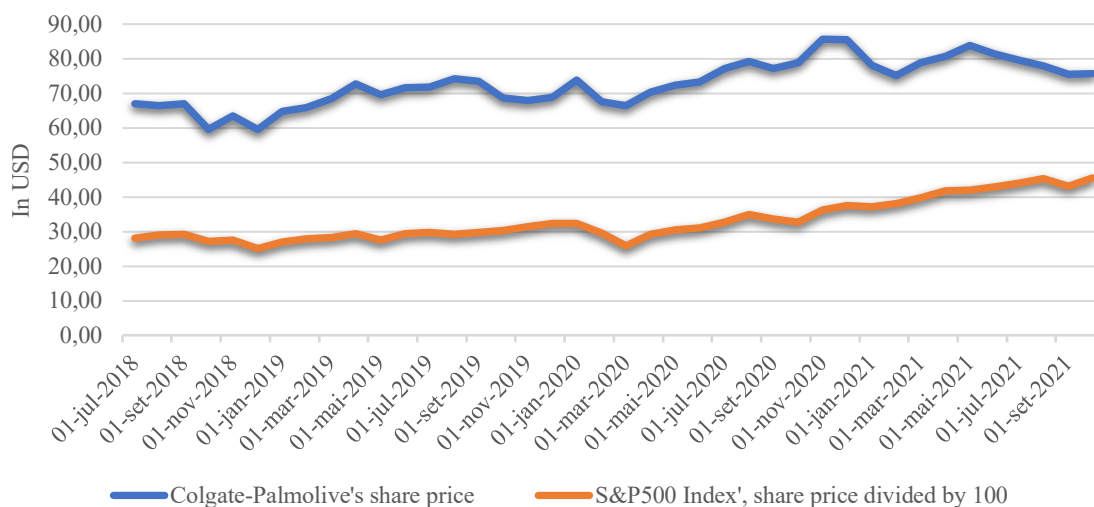


Figure 13 - Colgate-Palmolive's Historical Share Price. Source: Thomson Reuters

4. Weighted Average Cost of Capital

The cost of capital is used in enterprise valuations to adjust future cash-flows for time and risk. It reflects the expected premium that investors require for investing in Colgate's equity and debt. Considering the WACC formula, the cost of capital is equal to **5,13%**.

4.1 Cost of Debt

The cost of debt for high investment-grade companies is usually considered to be the yield to maturity on long-term risk-free bonds plus a credit spread. In the case of Colgate, it is possible to compute its cost of debt through its outstanding bonds.

Considering this valuation is being performed as of December 31st, 2021, according to Thomson Reuters Eikon, Colgate had outstanding 20 bonds, 3 of which Eurobonds, and 2 loans. The Eurobond' yields were converted to U.S. dollars by adding the delta between U.S treasury bond yield and Germany government bond yield for each corresponding maturity.

	Maturity		
	Rf 7-years	Rf 15-years	Rf 20-years
U.S. Treasury bond yield	1,32%	1,67%	1,87%
Germany Gov. bond yield	-0,48%	-0,15%	-0,22%
Delta	1,80%	1,81%	2,08%

Figure 14 - Eurobond' yields conversion. Source: Bloomberg and Own calculations

Description	Maturity Date	Currency	Issue Date	Instrument Type	Yield (EUR)	Yield (USD)	Last Price (USD)
CL 0.500 06-Mar-2026 '26	06/03/2026	Euro	06/03/2019	Note	-0,04%	1,75%	118,49
CL 1.375 06-Mar-2034 '33 MTN	06/03/2034	Euro	06/03/2019	Note	0,59%	2,41%	126,48
CL 0.875 12-Nov-2039 '39 MTN	12/11/2039	Euro	12/11/2019	Note	0,73%	2,81%	118,65

Figure 15 - Total Eurobonds. Source: Thomson Reuters and Own calculations

Description	Maturity Date	Issue Date	Amount Outstanding	Coupon	Coupon Class	Yield (USD)	Last Price	Market Value	Weights
CL 2.250 15-Nov-2022 MTN	15/11/2022	02/11/2017	400 000 000	2,25	Fixed Coupon	0,31%	101,96	407 844 000	5,20%
CL 1.950 01-Feb-2023 MTN	01/02/2023	01/08/2012	500 000 000	1,95	Fixed Coupon	0,43%	101,86	509 293 500	6,50%
CL 2.100 01-May-2023 MTN	01/05/2023	02/05/2013	400 000 000	2,10	Fixed Coupon	0,54%	102,29	409 160 000	5,22%
CL 3.250 15-Mar-2024 MTN	15/03/2024	03/03/2014	500 000 000	3,25	Fixed Coupon	0,75%	105,80	529 019 500	6,75%
CL 7.600 19-May-2025 MTN	19/05/2025	18/05/1995	130 000 000	7,60	Fixed Coupon	1,35%	121,44	157 874 470	2,01%
CL 0.500 06-Mar-2026 '26	06/03/2026	06/03/2019	579 300 000	0,50	Fixed Coupon	1,75%	118,49	686 429 430	8,76%
CL 6.450 16-Jun-2028 MTN	16/06/2028	16/06/1998	102 000 000	6,45	Fixed Coupon	1,86%	128,38	130 947 498	1,67%
CL 1.375 06-Mar-2034 '33 MTN	06/03/2034	06/03/2019	579 300 000	1,38	Fixed Coupon	2,41%	126,48	732 671 134	9,35%
CL 0.875 12-Nov-2039 '39 MTN	12/11/2039	12/11/2019	579 300 000	0,88	Fixed Coupon	2,81%	118,65	687 314 695	8,77%
CL 27-Sep-2041 '31 MTN	27/09/2041	27/09/2001	15 990 000	0,00	Floating Coupon	0,50%	99,07	15 841 741	0,20%

CL 21-Dec-2041					Floating					
'31 MTN	21/12/2041	16/11/2001	46 455 658	0,00	Coupon	0,46%	99,04	46 010 613	0,59%	
CL 22-Aug-2042					Floating					
'32 MTN	22/08/2042	23/08/2002	153 368 000	0,00	Coupon	1,00%	99,22	152 178 018	1,94%	
CL 04-Apr-2045					Floating					
'35 MTN	04/04/2045	04/04/2005	33 203 000	0,00	Coupon	0,98%	99,61	33 072 944	0,42%	
CL 4.000 15-Aug-2045 MTN	15/08/2045	07/08/2015	600 000 000	4,00	Fixed Coupon	2,45%	127,88	767 271 000	9,79%	
CL 04-Dec-2046					Floating					
'36 MTN	04/12/2046	04/12/2006	82 825 000	0,00	Coupon	0,45%	99,08	82 066 157	1,05%	
CL 3.700 01-Aug-2047 '47 MTN	01/08/2047	28/07/2017	500 000 000	3,70	Fixed Coupon	2,44%	123,86	619 288 000	7,90%	
CL 15-May-2048					Floating					
'38 MTN	15/05/2048	14/05/2008	75 436 000	0,00	Coupon	0,60%	99,10	74 759 339	0,95%	
CL 06-Nov-2053					Floating					
'43 MTN	06/11/2053	06/11/2013	76 049 000	0,00	Coupon	0,46%	98,55	74 947 430	0,96%	
CL 30-Oct-2054 '44 MTN	30/10/2054	30/10/2014	134 347 000	0,00	Coupon	0,48%	98,54	132 386 743	1,69%	
CL 03-Nov-2078					Floating					
'28 MTN	03/11/2078	04/11/1998	29 162 000	0,00	Coupon	0,48%	99,06	28 887 965	0,37%	
									6 277 264 177	100,00%

Figure 26 - Total bonds as of December 31st, 2021. Source: Thomson Reuters and Own calculations

The market value of the bonds was calculated by multiplying the amount outstanding with the last price of the bond. Finally, the cost of debt of the bonds was reached using a SUMPRODUCT() function on excel between the yields of each bond and the corresponded weight, arriving a value of **1,61%**.

According to Thomson Reuters, Colgate had outstanding two loans (issued on 02/11/2018 and 20/08/2021). However, the 2020's annual report disclosed that the nature of the loan was unused domestic and foreign lines of credit. Because the company did not use the 2018's credit line (USD 2.650 million revolving credit facility), it is assumed that it will not need to use the 2021's credit line (USD 3.000 million revolving credit facility).

Therefore, the cost of debt of Colgate-Palmolive corresponds to the cost of debt of the loans which is **1,61%**.

The after-tax cost of debt was reached by considering the forecasted statutory tax rate of 2021 in the United States of 28%. The tax rate reduces the cost of debt to **1,16%** ($1,61\% \times (1 - 28\%)$).

4.2 Cost of Equity

The cost of equity represents the expected return that an investor is willing to earn when investing in Colgate’s equity. To address the market risk of the investment, the CAPM model was used, obtaining a cost of equity of **5,43%**.

4.2.1 Risk-free rate

The risk-free rate applied in this valuation is the 10-year U.S. Treasury Bond yield. However, it is important to notice that this rate is continuously diminishing, as seen in the historical graph below, so a sensitivity analysis was performed to address the possible impact of this negative trend on the final price.

As of November 9th, 2021, the riskless securities valued **1,55%**.

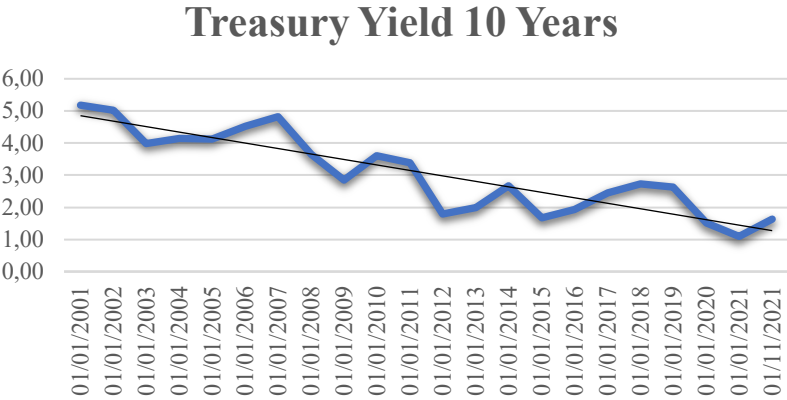


Figure 173 - 10-year U.S. Treasury Yields. Source: Yahoo Finance data base

4.2.2 Systematic Risk

To address the sensitivity of Colgate’s stock to market fluctuations, it was used the five-year monthly returns beta presented by Thomson Reuters of **0,59**. Nevertheless, to evaluate the precision of the previous value, it was also computed a peer group beta. To do that, the beta of equity was computed through a SLOPE() function on Excel between the five year monthly returns of the market index S&P500 against the five year monthly returns of Colgate’s peer group, Estee Lauder Companies Inc., Kimberly-Clark Corporation and Clorox Company. Then, the unlevered equity beta of each comparable was computed by multiplying the beta of equity by the proportion of equity. Finally, Colgate’s unlevered equity beta is the sum of the product

of the comparable' s equity beta to their corresponded market capitalization, which results in a beta of 0,69.

Company name	Market Cap (in USD million)	Debt (in USD million)	E/(E+D)	D/(E+D)	Beta of Equity	Unlevered Equity Beta
Colgate-Palmolive Co.	65 607 342 107	5 007 662 080	93%	7%	0,61	0,56
Estee Lauder Companies Inc.	125 801 614 203	611 000 000	100%	0%	0,86	0,86
Kimberly-Clark Corp	44 530 050 764	8 089 000 000	85%	15%	0,55	0,47
Clorox Co	20 058 575 177	2 485 000 000	89%	11%	0,21	0,18
Average						0,69

Figure 18 - Peer Group Beta. Source: Yahoo Finance data and Own calculations

Since Colgate's stock is regularly traded on the stock market and in the last five years no extraordinary events could influence the Beta presented by financial markets platforms, it is more reliable to use the 0,59-beta presented by Thomson Reuters, than the weighted average of the peers.

The unlevered debt beta was computed by applying the CAPM formula to the cost of debt in function to beta ($\text{Cost of debt} - R_f \text{ rate} / \text{Market Risk Premium}$) and considering the weight of debt, arriving to an insignificant value of 0,0007. The relevered Beta was calculated by adding the unlevered debt beta to the unlevered equity beta and then applying the D/E ratio, valuing Beta to **0,64**.

4.2.3 Market Risk Premium

The market risk premium measures the expected return that rewards the risk for investing in a company that operates in the same market as Colgate. This parameter tends to change in matters of time and the risk-free asset. Updated on January 8th, 2021, Damodaran (2014) table of Total equity risk premium for different countries was used to estimate the market risk premium of Colgate. Then, a weighted average of the Equity Risk Premium was computed per region by weighting each country for its GDP as of October 2021. It was obtained a Market Risk Premium of **6,11%** by using a SUMPRODUCT() function on excel between the later weighted average and the percentage of sales of Colgate in 2020 per region (see **Appendix III**).

4.3 Capital Structure

The final step in estimating the WACC rate is to determine Colgate's target capital structure. According to literature review, the cost of equity and debt must be weighted at its market values. For the Market Value of Equity, Damodaran (2012) states that a reasonably proxy would be the

product of the shares outstanding and the share price. As of November 9th, 2021, Colgate had 842.848.691 share's outstanding amount and a share price of USD 78,05, which account for an equity value of **USD 65.784.340.333**.

As far as it concerns the Market Value of Debt, Damodaran (2012) affirms that the Net Value of Debt should be use in the calculations of the weighted return if firms do not have publicly traded debt. The Net Debt represents the remained debt if all the liquid assets of the company were used to pay off its debt obligation. For Colgate's Total Debt, it was considered the market value of the loans previously computed in chapter **4.1 Cost of Debt** of USD 6.277 million and the book value of lease contracts and derivative contracts (USD 486 million). For the company's liquid assets, it was considered cash and cash equivalents (USD 1.121 million), marketable securities (\$39 million) and other assets that include operating leases, equity method investments and derivative contracts (\$596 million). The result of these computations is a Net Debt value of **USD 5.007.662.080**.

5. Forecasting

To determine future cash-flow, it is necessary to create a comprehensive set of forecasts over the financial statements of Colgate. The first step of this exercise lies in determining the explicit forecast period. According to literature review, the forecast's length must be broad enough for Colgate to establish a steady state. Colgate is well known for its historically stable results and for increasing its dividends for 58 consecutive years. In addition, since the company maintained its net sales share by segment relatively constant in the last five years, it is believed that Colgate is almost a mature company. For that reason, it was set a five-year length of explicit forecast period.

The values for 2021's 4th Quarter of Colgate's Profit & Loss (Net Sales, Cost of Sales and Operating Expenses) were projected by averaging the values of the first three Quarters, since there was no available information regarding that period. Therefore, it is important to clarify that for the year 2021, the value that is considered in the basis of the assumptions for the forecast period is, in fact, a value that arises from an estimation.

5.1 Net Sales

The first set of forecasts lies with the profit and loss statements' first item of Colgate, the Net Sales. As stated in the historical performance chapter, Colgate's revenues have constantly been increasing due to of volume growth, net selling prices increase and foreign exchange variation.

Even though the foreign exchange rate might have a positive or negative impact on the company's net selling prices, its behavior is highly volatile and, for that reason, unreasonable to produce a realistic estimate. Therefore, it is assumed that the positive effects on this rate will offset the negative effects in the long-term and end up with a null value. Nevertheless, a sensitivity analysis was performed to address the possible impact that this rate may have on the final price.

	2017	2018	2019	2020	3rd quarter 2021
Foreign exchange impact	0,50%	-1,00%	-3,50%	-3,50%	2,00%

Figure 19 – Foreign exchange impact. Source: Colgate's

As for the acquisitions and divestments impact on volume growth, in the last five years, this component contributed on average 0,60% to volume. Therefore, Acquisitions and divestments will not be considered in this valuation, because it is assumed that, in the forecasted period, acquisitions that Colgate might enter will offset possible divestments. In the long run, Colgate will stabilize its operations and will reach the steady state, which means that it will not enter on new acquisition and divestment processes.

	2017	2018	2019	2020	3rd quarter 2021
Acquisitions and divestures	0,00%	1,00%	0,50%	1,50%	0,00%

Figure 20 – Acquisitions and divestments. Source: Colgate's

The company breaks down its revenues by segment and by region. For this valuation, it will be forecasted the net sales by segment since the underlying assumptions are primarily based on forecasted data by market. As previously mentioned, 2021's net sales were estimated by considering the average of the first three quarters as the 4th quarter result and summing the values of all quarters. Because the quarter reports of 2021 do not specify the weight of each segment on total sales, it was assumed that in 2021, the Oral Care segment will lose two percentual points on total revenues for the Personal Care segment and Pet Nutrition segment. This assumption is based on the historical performance regarding these two segments, mainly during the 2020-year, which have shown a substantial increase in sales. Also, it was disclosed by the company that intense investment is being made to pursue high growth on the Pet

Nutrition segment and innovative initiatives regarding the Personal Care segment which has yet to give its rewards. The historical performance of the four segments can be seen in the table below.

	2017	% on sales	2018	% on sales	2019	% on sales	2020	% on sales	2021	% on sales
Net Sales	15 454	100,00%	15 544	100,00%	15 693	100,00%	16 471	100,00%	17 357	100,00%
<i>Growth (%)</i>	1,70%		0,58%		0,96%		4,96%		5,38%	
Oral Care	7 418	48,00%	7 306	47,00%	7 219	46,00%	7 247	44,00%	7 290	42,00%
<i>Growth (%)</i>	3,87%		-1,51%		-1,19%		0,39%		0,59%	
Home Care	2 782	18,00%	2 798	18,00%	2 825	18,00%	2 965	18,00%	3 124	18,00%
<i>Growth (%)</i>	1,70%		0,58%		0,96%		4,96%		5,38%	
Personal Care	2 936	19,00%	3 109	20,00%	3 139	20,00%	3 459	21,00%	3 819	22,00%
<i>Growth (%)</i>	-		5,88%		0,96%		10,21%		10,40%	
Hill's Pet Nutrition	2 318	15,00%	2 332	15,00%	2 511	16,00%	2 800	17,00%	3 124	18,00%
<i>Growth (%)</i>	1,70%		0,58%		7,69%		11,52%		11,58%	

Figure 21 – Historical growth by segment. Source: Colgate's

5.1.1 Oral Care Segment

The Oral Care segment is the highest contributor to Colgate's net sales. Over the last five years, Oral care's sales performance has been volatile, recording a decrease in 2018 and 2019 and a slow increase in 2020 and 2021. Even though Colgate owns the #1 market share in toothpaste and manual toothbrush, the forecasted growth rate will not follow the expected average CAGR for the market of 3,10% since the historical growth rates of this segment are far below the historical values of the market. In 2022, it is assumed that sales will grow at the five-year average growth of 0,43%, a slight deceleration compared to the 2021 growth rate (0,59%), followed by a gradual increase until reaching the expected stable growth rate, which is assumed to be in line with the projected global inflation rate of 2,41%. Because Oral Care is Colgate's segment that most contributes to total sales, it is believed that it will keep up with future global inflation. Therefore, it is assumed that the five-year projected average growth rate is higher than the five-year historical average growth rate (1,22% - 0,43%), to follow the accelerating trend on this segment because of Colgate's high-growth initiatives on pursuing adjacent categories and brands.

5.1.2 Home Care Segment

The Home Care' sales growth slowly increased until 2019 and faster increased in 2020 and 2021's year. It is believed that the last two years were driven by the hygiene habits impact on the consumers encouraged by the COVID-19 pandemic.

The Home and Laundry Care market is expected to grow at an average CAGR of 1,5% given the growing demand on emerging markets and sustainability strength that is becoming more valuable to consumers, bringing new competitors to the market. The segment's five-year historical sales presented an average growth of 2,72%. Considering that Colgate acts as key player in hand dishwashing and fabric conditioners products and strives to enter in sustainable and social impact initiatives, it is believed that the company will move towards market expectations. Therefore, during the forecasted period, it is assumed that sales will grow on average at the expected CAGR for the market of 1,50%, assuming the five-year average growth of 2,72% for the 2022's sales growth and decelerating then, making up the CAGR for the market as average. This gradual deceleration is based on new competitors will enter the market and Colgate is already a key player.

5.1.3 Personal Care Segment

Personal Care is the second largest segment contributing most to Colgate's net sales. Over the last six years, Personal Care's sales decreased in 2016 and 2017 followed by slow growth until 2019 and a substantial acceleration in 2020 and 2021's sales growth.

By 2020, Colgate has been expanding its portfolio in premium skin health and has relaunched the entire brand of Protex on bar soaps. It is believed that the remarkable increase during 2020 and 2021's year is related to COVID-19 effects, since its main driver was organic sales in the liquid hand soap and bar soap categories, which are the products considered as the first line of defense against the COVID-19 pandemic

Because Colgate is global leader in liquid hand soap and it is moving towards market expectations, it is assumed that, during the forecasted period, sales will grow on average at the expected CAGR for the market of 4,35%, starting with the five-year historical average growth of 4,81% in 2022 and gradually slowing down. Therefore, it is assumed that the five-year projected average growth rate will be slightly smaller than the last five-year average growth, since it is believed that 2020 and 2021 year were slightly skewed by the COVID-19 pandemic.

Nevertheless, its recovery measures have encouraged Colgate’s consumer presence in this segment.

5.1.4 Pet Nutrition Segment

The Pet Nutrition segment has constantly been growing over the last five years, with a 6,61% average growth rate, the highest growth of all the segments. This growth is mainly due to Colgate’s investment to drive growth in different retailers. Also, as volume growth has been increasing, it was observed that the company has been increasing net selling prices and advertising investments and donations of Pet Nutrition products within Colgate’s sustainability strategy. Therefore, it is assumed that Pet Nutrition will continue to grow slower than the previous years, starting with the 5-year historical average growth of 6,61% in 2022 and slowing down its growth until it reaches the expected CAGR for the market in 2026, of 4,1%. This deceleration on growth was assumed under the expectation that Colgate will continue to invest in this segment but not as much as in the past since the segment will reach its maturity and will move towards market expectations.

Once growth rates of each business unit are applied, it can be observed that the net sales have been decelerating its growth since 2022, which is in line with the expectations because, in the steady state, it is expected that sales will continue to grow at the same pace as the forecasted global inflation rate of 2,41%.

	2022	% on sales	2023	% on sales	2024	% on sales	2025	% on sales	2026	% on sales
Net Sales	17 864		18 375		18 886		19 392		19 891	
<i>Growth (%)</i>	2,92%		2,86%		2,78%		2,68%		2,57%	
Oral Care	7 321	40,98%	7 382	40,17%	7 472	39,57%	7 593	39,16%	7 746	38,94%
<i>Growth (%)</i>	0,43%		0,83%		1,22%		1,62%		2,02%	
Home Care	3 209	17,96%	3 277	17,83%	3 326	17,61%	3 356	17,30%	3 365	16,92%
<i>Growth (%)</i>	2,72%		2,11%		1,50%		0,89%		0,28%	
Personal Care	4 002	22,40%	4 186	22,78%	4 368	23,13%	4 548	23,45%	4 725	23,75%
<i>Growth (%)</i>	4,81%		4,58%		4,35%		4,12%		3,89%	
Hill's Pet Nutrition	3 331	18,65%	3 530	19,21%	3 720	19,70%	3 895	20,09%	4 055	20,39%
<i>Growth (%)</i>	6,61%		5,99%		5,36%		4,73%		4,10%	

Figure 22 – Forecasted growth by segment. Source: Own Calculations

Therefore, the Oral Care segment is expected to continue to be the business unit that more contributes to global net sales, even though it is expected to lose share on total sales because of

Personal Care and Pet Nutrition segment’s improvement. The Pet Nutrition segment surpasses the Home Care segment due to slow growth that the Home Care segment presented in the last five years and is expected to continue to present for following years, according to market data. For a more detailed descriptions of the calculations, see **Appendix IV**.

5.2. COGS and Operating expenses

Regarding COGS and Operating Expenses of Colgate, to achieve a more realistic forecast and a better understanding of its behavior, these expenses were divided in five types: Cost of Sold Goods; Selling, General and Administrative expenses; Shipping and Handling costs; Research and Development; Advertising and Publicity; and Other Income (Expenses).

The above-mentioned operating items were computed for Colgate’s business as a whole since there was no desegregated data available regarding each segment.

The forecasted operating expenses were based on the expectation that Colgate will increase its operating income. However, it will continue to decrease its operating margin due to marketing initiatives and higher overhead expenses. Operating margin will not decrease at the same pace as in the previous years as it is expected an effort by Colgate to meet the “funding-the-growth” measures, which are designed to reduce costs and increase effective asset utilization. As shown below, Operating margin decreases from **25,7%** in 2022 to **24,8%** in 2026 (see **Appendix V**).

	2022	2023	2024	2025	2026
COGS	6 579	6 729	6 877	7 021	7 161
<i>% of Sales</i>	36,83%	36,62%	36,41%	36,21%	36,00%
Selling, general and administrative expenses	2 671	2 747	2 824	2 899	2 974
<i>% of Sales</i>	14,95%	14,95%	14,95%	14,95%	14,95%
Shipping and handling costs	1 510	1 553	1 596	1 639	1 681
<i>% of Sales</i>	8,45%	8,45%	8,45%	8,45%	8,45%
Research and development	319	328	338	347	356
<i>% of Sales</i>	1,79%	1,79%	1,79%	1,79%	1,79%
Advertising and Publicity	2 182	2 326	2 475	2 628	2 785
<i>% of Sales</i>	12,21%	12,66%	13,11%	13,55%	14,00%
Other expense	0	0	0	0	0
<i>% of Sales</i>	0,00%	0,00%	0,00%	0,00%	0,00%
Operating Margin	25,77%	25,53%	25,29%	25,05%	24,81%

Figure 23 – Forecasted COGS and Operating Expenses. Source: Own Calculations

5.3 Operating Taxes

The U.S. Federal Corporate Tax rate increased the maximum corporate tax rate to 35% in 1993 until 2017. As of 2018, the Tax Cuts and Job Acts of 2017 was approved to reduce the corporate tax rate to 21%, including many tax cut provisions that will expire in 2025. As consequence, it is expected that, before that happens, the corporate tax rate will start to increase.

In 2021, President Joe Biden proposed an increase of the corporate tax 2022 to 28%, to raise additional income for new investments and to reduce the current deficit. Therefore, these reviews on the U.S. Statutory Tax rate were considered in this valuation, which amounted an effective tax rate of **30,18%** (see Appendix IV).

5.4 FCFF Inputs

Regarding the FCFF inputs, the first variables to be computed are the **Capital Expenditures** and **Depreciation and Amortization**. According to the 2020’s annual report, the Capital Expenditures are expected to be between 3%-3,5% of sales in 2021. As stated above, the 4th Quarter Results of Colgate were estimated since there was no available information regarding that period. Thus, it was assumed that the value of 2021 corresponds to **3%** of sales and **3,5%** of sales thereafter, as consequence of capacity expansion on manufacturing facilities and Colgate’s goal of focusing its capital expenditures on projects expected to yield high after-tax returns.

	2017	2018	2019	2020	2021E	2022F	2023F	2024F	2025F	2026F
Total Net Capex	553	436	335	409	521	625	643	661	679	696
<i>% of Sales</i>	3,58%	2,80%	2,13%	2,48%	3,00%	3,50%	3,50%	3,50%	3,50%	3,50%

Figure 24 – Historical and Forecasted CAPEX. Source: Colgate’s Own Calculations

The forecasted Depreciation and Amortization of Colgate was computed by summing the five-year historical average of D&A as a percentage of Gross PP&E and Intangible assets, arriving to a value of **11,78%** and **2,71%**, respectively. (see Appendix VII).

	2022	2023	2024	2025	2026
Depreciation PP&E	451	462	472	482	492
<i>% Gross PP&E</i>	11,78%	11,78%	11,78%	11,78%	11,78%
Amortization Intangible Assets	67	69	71	73	75
<i>% Gross Intangible Assets</i>	2,71%	2,71%	2,71%	2,71%	2,71%

Total D&A	519	531	543	555	567
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Figure 25 – Forecasted Depreciation and Amortization. Source: Own Calculations

The **Net Working Capital (NWC)** represents the company’s operational efficiency in meeting its current obligations. To calculate it, one must consider the difference between current assets and current liabilities, excluding financial items. Historically, Colgate has been reporting a negative Working Capital and has been becoming even more negative (USD -307 million in 2017 and USD -728 million in 2021). The damage of this ratio results from the significant increase of accrued liabilities which consists mainly of accrued advertising and accrued payroll. In the forecasted period, the percentage of sales is considered as forecast driver and it is assumed that Colgate will continue to present negative values. The forecasted variables were computed considering 2021’s percentage of sales (see **Appendix VII**).

	2022	2023	2024	2025	2026
Accounts receivable	1 371	1 410	1 449	1 488	1 526
<i>Days of sales outstanding</i>	28,01	28,01	28,01	28,01	28,01
Inventories	1 776	1 817	1 857	1 896	1 933
<i>Days of inventory held</i>	98,54	98,54	98,54	98,54	98,54
Other current assets (excluding Marketable securities)	516	531	546	560	575
<i>% of Sales</i>	2,89%	2,89%	2,89%	2,89%	2,89%
Accounts payable	-1 511	-1 554	-1 597	-1 640	-1 682
<i>Days of payable outstanding</i>	-30,87	-30,87	-30,87	-30,87	-30,87
Accrued income taxes	-433	-441	-449	-457	-464
<i>% of EBITDA</i>	-9,40%	-9,40%	-9,40%	-9,40%	-9,40%
Other accruals	-2 514	-2 562	-2 608	-2 653	-2 695
<i>% of EBITDA</i>	-54,62%	-54,62%	-54,62%	-54,62%	-54,62%
Net Working Capital	-794	-799	-803	-806	-807
Change Working Capital	-66	-5	-4	-3	-1

Figure 26 – Forecasted Net Working Capital. Source: Own Calculations

6. Valuation

6.1 Discounted Cash-Flow Valuation

6.1.1 Terminal growth rate

The remaining piece of the Discounted Cash-Flow valuation is the Terminal Value’s growth rate. After the terminal year, it is assumed that cash-flows are reinvested, and Colgate will grow at a stable rate into perpetuity. Therefore, it is assumed that Colgate will grow in line with the forecasted global inflation rate of **2,41%** in perpetuity (see **Appendix VIII**).

6.1.2 Enterprise Value

Applying the Free Cash-Flow formula, the sum of the discounted cash-flows and the present value of the Terminal Value is **USD 97.449.854.862**. To come up with the Total Enterprise Value, one must include today’s Non-operating Value which was estimated to be **USD - 1.868.794.345** (see **Appendix IX**). Therefore, the Enterprise Value sums to **USD 95.581.060.516**.

6.1.3 Equity Value

From the Enterprise Value, one must deduct today’s Financial Debt Value, which was previously computed on chapter 4.3, of **USD 5.007.662.079**, arriving to an Equity Value of **USD 90.573.398.437**. Dividing the total outstanding shares as of today to the Equity Value, it is finally obtained Colgate’s share price of **USD 107,46**.

6.1.4 Sensitivity Analysis

As previously mentioned in Literature Review, the Discounted Cash Flow approach is extremely dependent on assumption and, thus, subject to uncertainty. There are specific inputs on the model that the share price is highly sensitive to and might drastically vary if the forecasts do not hold, which is the case of the forecasted global inflation used as perpetual growth rate and the WACC rate. Therefore, a sensitive analysis was performed accounting for positive and negative impacts in these two parameters.

g / WACC	4,93%	5,03%	5,13%	5,23%	5,33%
1,41%	83,84	81,30	78,90	76,62	74,46
1,91%	97,51	94,13	90,96	87,98	85,18

2,41%	116,61	111,86	107,46	103,37	99,57
2,91%	145,16	137,95	131,39	125,39	119,89
3,41%	192,48	180,13	169,22	159,51	150,80

Figure 27 – Sensitivity analysis. Source: Own Calculations

This valuation does not account for the impact of foreign exchange variations in share price given its unpredictable behavior, which may positively or negatively impact the final price. Therefore, an optimistic and a pessimistic scenario were performed to account for future variations on foreign exchange rates, along with variations in the risk-free rate and COGS.

Optimistic Scenario		Share Price \$
FX Impact on Sales	-2,00%	109,79
COGS % of sales	35,00%	114,26
Risk-free rate	1,40%	113,19

Pessimistic Scenario		Share Price \$
FX Impact on Sales	2,00%	105,13
COGS % of sales	37,00%	100,66
Risk-free rate	1,70%	102,25

Figure 28 – Optimistic and Pessimistic scenarios. Source: Own Calculations

Therefore, considering the above scenarios and sensitivity analysis, Colgate’s share price might vary between **USD 87,98** and **USD 137,95**, assuming the remaining assumptions will hold.

As of November 9th, 2021, Colgate’s stock traded at a price of USD 78,05 per share, representing a significant discount to the computed value. As expected, the present value of the terminal value accounts for 90% of the total Enterprise value, assuming Colgate will fight future global inflation. Consequently, according to the DCF model, Colgate’s stock represents a BUY recommendation, as it is expected that the market price will reach the target price, concluding that the market undervalues the company.

6.2 Relative Valuation

Even though the DCF analysis is the most reliable approach to value a company, the literature suggests that complementing it with a multiple analysis makes the valuation more accurate in the financial forecasts. The next two sections will explain the selection of Colgate’s peer group, as well as the multiples used.

6.2.1 Peer Group

It is hard to find an appropriate peer group, since an intense examination of the operating and financial items of the comparable must be performed to assess the suitability of its metrics to conclude about the value of Colgate.

Colgate's Peer Group was selected based on several variables: the size, capital structure and the EBITDA margin. Literature review states that ROIC and growth rate are the two key drivers that must be considered in selecting the peers to understand how comparables generate profit and how they grow. Therefore, along with the previously mentioned variables, ROIC and revenue growth rate will also be considered in the selection on the peers.

Company	Market Cap	D/E	EBITDA MARGIN	ROIC	Revenue % (LTM)	Yr./Yr
Johnson & Johnson	448 304 937 851,01	2,25%	35,40%	11,30%	13,10%	
Procter & Gamble Co	382 956 742 356,75	5,67%	27,60%	16,60%	6,44%	
L'Oreal SA	261 967 738 073,71	-1,80%	24,60%	10,90%	7,01%	
Unilever PLC	136 392 108 238,58	18,33%	22,40%	13,80%	-1,49%	
Estee Lauder Companies Inc	128 414 832 283,44	0,48%	22,70%	20,30%	22,09%	
GlaxoSmithKline PLC	107 150 119 677,30	26,52%	32,90%	12,70%	-2,72%	
Colgate-Palmolive Co	65 784 340 333,55	9,64%	26,90%	26,30%	7,30%	
Reckitt Benckiser Group PLC	58 487 251 262,39	21,15%	26,40%	4,90%	1,21%	
Kimberly-Clark Corp	46 503 476 593,83	17,39%	23,40%	23,80%	2,24%	
Henkel AG & Co KGaA	33 706 321 727,89	5,16%	17,20%	6,40%	0,93%	
Beiersdorf AG	25 649 908 818,70	-7,69%	17,70%	7,90%	2,55%	
Church & Dwight Co Inc	23 904 566 515,06	8,29%	24,80%	13,60%	7,84%	
Clorox Co	21 214 713 805,22	11,71%	19,50%	16,20%	1,40%	

Figure 29 – Peer group selection. Source: Thomson Reuters

The companies above were selected based on the peer group suggested by Thomson Reuters and other companies that operates in the same market as Colgate. The green values are considered identical to the target company ones, the black values are neutral and the red ones are considered very different. According to the literature review, enterprise value multiples make the valuation less sensitive to changes in capital structure because it includes the profit available to all investors. Therefore, even though there are four companies that present similar D/E values to those of Colgate, the D/E variable will not be considered. Regarding ROIC and revenue growth, it will not be considered any company as comparable that was assessed as a red value, excluding Estee Lauder Companies Inc. The reason to not exclude the first is that it is considered very similar to Colgate in all other variables and because it operates in only one of Colgate's market, Personal Care, which is projected to be Colgate's fastest growing segment.

Thus, Colgate’s peer group comprises three companies, Kimberly-Clark Corp., Clorox Co. and Estee Lauder Companies Inc., since all their variables, excluding the D/E ratio, are considered comparable to Colgate’s ones.

6.2.2 Multiples

As previously mentioned, the multiples used to the relative valuation are based on the enterprise value since they are less susceptible to manipulation on capital structure. Therefore, EV/EBITDA and EV/EBIT multiples of the comparable firms are as follows:

Identifier (RIC)	Company Name	Company Multiples	
		EV/ EBITDA	EV/EBIT
CL	Colgate-Palmolive Co	15,7x	17,7x
EL.N	Estee Lauder Companies Inc	35,0x	42,6x
KMB.N	Kimberly-Clark Corp	12,2x	14,8x
CLX	Clorox Co	16,5x	19,5x

Figure 30 – Peer group Multiple. Source: Thomson Reuters and Own calculations

	EV/ EBITDA	EV/EBIT
Lower-Bound	68,77	73,32
Median	80,47	84,40
Upper-Bound	179,64	194,34

Figure 31 – Implied Colgate’s share price. Source: Thomson Reuters and Own calculations

Thomson Reuters provided the multiples data. In the interest of accounting for deviations, a lower and upper bound of the peer group multiples was computed to observe a broader range of Colgate’s share price.

After adjusting the enterprise value of each bound to non-operating items and net debt, it is concluded that the share price is between **USD 80,47** and **USD 84,40**.

According to relative valuation, it values the share price slightly ahead today’s market price of USD 78,05. Even though the obtained share price is significantly lower than the one performed through the DCF model, it is believed that the market underestimates the company’s capability to grow, continuing to constitute a BUY recommendation to an investor’s portfolio.

7. Research Report Comparison

In this section, it will be performed a comparison between the target price achieved in this dissertation with the one reached by TheStreet Rantings, a proprietary stock rating service. Even

though it was not possible to access an investment banking report, it is believed that TheStreet Rating Stock Report has sufficient inputs to compare with this dissertation.

The report was performed as of September 26th, 2021 and concluded with the outperformance of Colgate's stock, valuing it in USD 89,6. This price is undoubtedly below the target price computed in this dissertation. Therefore, it is important to understand the discrepancy, as well as the main drivers.

The most apparent difference between the stock report and this valuation is that the first uses a six-factor model that projects the stock's total return potential over a 12-month period and compares the expected performance against a peer group based on major Chemical Manufacturing companies. One can argue that a one-year forecast stock return may be appropriate given the company's strong figures. However, Colgate appears to continue to grow in a larger span.

From the Peer Valuation, one uses a company group set by North America Industry Classification System (NAIC) and only considers P/E multiples. It does not make sense to perform a relative valuation and not examine the operating and financial items of the companies to appraise for their comparability. Most of the companies used in the report's peer group reported variables much lower than the target company, consequently making the target price lower. This dissertation accounted for several variables to select the peer group, being the size one of the key drivers, which was not considered in the report.

Ticker	Company Name	Recent Price (USD)	Market Cap (USD millions)	P/E	Net Sales TTM (USD millions)	Net Income TTM (USD millions)
CL	Colgate-palmolive Co.	76,67	64 672	24,03	17 081,00	2 729,00
REYN	Reynolds Consumer Product	27,83	5 838	15,46	3 340,00	379,00
KMB	Kimberly-Clark Corp	133,58	44 985	22,76	18 984,00	1 999,00
SPB	Spectrum Brand Holdings Inc.	94,13	4 003	21,34	4 628,10	184,80
PG	Procter & Gamble Co.	144,19	350 139	26,26	76 118,00	14 306,00
WDFC	WD-40 Co.	225,61	3 093	38,24	484,52	81,49
ENR	Energyzer Holdings Inc.	38,65	2 826	143,15	3 018,50	26,20
CENTA	Central Garden & Pet Co.	42,78	2 372	14,07	3 240,53	168,34
CENT	Central Garden & Pet Co.	47,99	2 372	15,79	3 240,53	168,34
CHD	Church & Dwight Inc.	83,27	20 446	26,10	5 046,30	805,40
CLX	Clorox CO/DE	162,39	19 944	29,31	7 341,00	710,00

Figure 31 – TheStreet Rating's peer group. Source: TheStreet Rating Stock Report

As for the use of multiples, the report concludes that Colgate is trading on par with its peers, excluding the Price-to-Book ratio and PEG ratio that is trading at a premium with its peers and earnings growth lower than its peers.

Therefore, it is evident that the inputs and methodology used by the report are very distinct from the ones used in this dissertation. Furthermore, the report's target price might be undervalued regarding the selection of the peer group and the use of P/E multiples which are highly sensitive to capital structure variations. Nevertheless, both valuations agree on a BUY recommendation of Colgate's stock.

8. Conclusion

Many consider valuation to be the heart of finance, as it plays a decisive role in several subjects in the world of finance. However, to perform an accurate valuation, that will depend on the right choice of the valuation model. The literature review allowed me to obtain a more comprehensive opinion on the main decisions and variables to be considered in a valuation process, through the perspective of several authors. Even though opinions differ in many matters, all agree that the right choice of valuation model depends on the specific characteristics of the company and the information available.

The models chosen were the DCF approach and the Relative approach. The first approach relies on assumptions, making it highly subjective for depending on the analyst's view. This view must be based on internal and external factors to the company. Internal factors would be the information disclosed by the company that can be found in its annual reports and the stock market, if it is public. As for the external factors, it is important to understand the company's environment since there are factors that the company will not control, such as global inflation, foreign exchange fluctuations and the current health crisis.

Colgate is already a mature and stable company, as it maintains the same sales levels among segments and a stable capital structure. That is why the FCFF approach was chosen with a five-year explicit period. Nevertheless, like in all models, this one has its limitations. As stated before, information is key to address a proper valuation, which was based on the information disclosed in the annual and quarter reports and public information in the trading platform, Thomson Reuters Eikon, as it was denied access to not reported information by the company.

In addition, because Colgate-Palmolive operates in four markets through its four segments, it was impossible to disaggregate the financial figures by segment due to lack of information. This limitation might cause implications in the assumptions of the gross profit margin and operating margin, which are different among segments considering the segment's different maturities. Another limitation that might impact the valuation results is the foreign exchange impact that it was not considered given its extremely volatile behavior and unpredictability. To attenuate all limitations that directly influence the results of this dissertation, the sensitivity analysis and building scenarios provide a range where the estimated share price can fluctuate in the event of a pessimistic or optimistic scenario.

To complement the DCF approach, a relative valuation was also performed to obtain more accurate financial forecasts. The obtained value by this approach suggests that Colgate is undoubtedly undervalued compared to the DCF approach. Nevertheless, both valuations constitute a BUY recommendation of Colgate's stock and agree that the market underestimates its capability to improve its margin and become more cost efficient.

APPENDIX I: Literature review

1. Valuation in Emerging Markets

As Colgate-Palmolive Co. operates in more than 200 countries, it matters to check if some of them are economies with higher risk. According to the latest annual report, 44% of Colgate's net sales from 2020 concerned emerging markets. Because a large amount of the company's revenue comes from emerging markets, authors suggest a need to adjust a valuation for the specific risks that these markets arise.

Koller and James (2000) suggest that valuation in emerging markets are more challenging because of investor's extra risks by holding a security in a precarious environment. Those risks are characterized by macroeconomic volatility, high levels of inflation, deregulation of the industry, political changes, civil war, among others. The authors suggest that there are two ways to address the additional risks of developing markets: incorporate it in the cash-flows by performing a probability-weighted scenario; or in the discount rate, through an extra risk

premium. The authors recommend the first option because the discount rate should only reflect the non-diversifiable risk. Also, by including an extra risk premium based on country risk, it does not consider the risks that an industry face.

APPENDIX II: Industry Overview

1. Oral care market

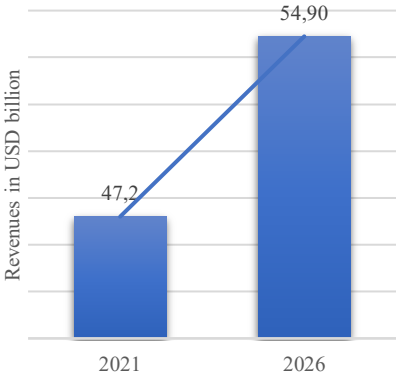


Figure 1 - Oral Care Market forecasted growth. Source: MarketAndMarkets

According to *MarketsAndMarkets's* market data, the Oral Care market is expected to grow at a CAGR of 3.1% from 2021 to 2026. The main growth driver of this estimate relates to the growing awareness that oral care products are becoming more and more critical. Nevertheless, and for that reason, this market has been experiencing price pressures from its competitors, namely, from local players in developing markets such as China, India and Brazil that increasingly established a position in this sector and sold products at a discounted

price compared to the global players. As a result, in the last five years, Oral Care market grew 2,16% and experienced a decrease during 2020-year.

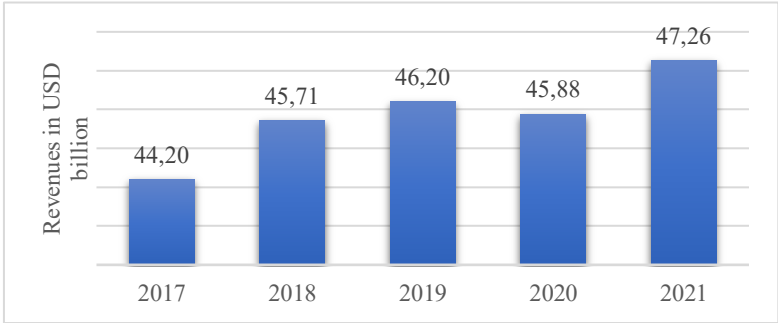


Figure 2 - Oral Care Market historical growth. Source: MarketsAndMarkets

It has been noticing a gradual shift of sales from retail stores to online stores. On the one hand, that might be an opportunity to expand the business through e-commerce. However, on the other hand, it may be seen as a challenge because retail stores are the primary clients for manufacturers and have high bargaining strength.

This market's best-selling products are the toothbrush with a market share of approximately 25%, followed by the toothpaste with approximately 24%, mouthwash/rinse, denture products

and dental accessories. According to Colgate’s 3rd quarter report of 2021, the company’s leadership in toothpaste and manual toothbrush has a global market share of 39,5% and 31%, respectively.

It is important to mention that the Asia Pacific region, during the forecast period 2021-2026, is predicted to have the fastest growth rate of all regions mainly due to the abundance of the elderly population in these countries and predominance for oral diseases which might cause a higher demand of healthcare products.

According to Mordor Intelligence’s market data, there are five prominent players operating in the oral care market, which are: Procter & Gamble Company, Unilever Plc, Colgate-Palmolive Company, GSK Plc and Church & Dwight.

2. Home care industry

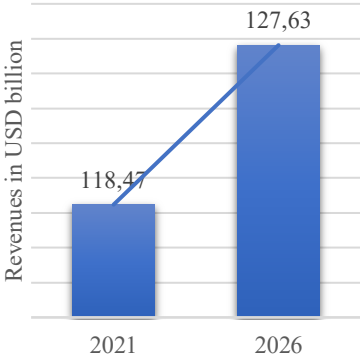


Figure 3 -Home Care market forecasted growth. Source: Expert Market Research

According to the latest *Expert Market Research* market report on the Homecare market, the global business is expected to grow from 2021 to 2026 at a CAGR of 1,5 %, reaching a USD 127.6 billion market volume by then.

The main drivers for the above-mentioned growth-rate are the hygiene habits impact on the consumer due to the COVID-19 pandemic, increasing their spending on Homecare products. The demand for these products has been suffering a shift to the preference for sustainable packaging and recycled materials.

North America holds the largest market share of approximately 43% in 2020, as consequence of health awareness among consumers and the significant number of housing units, followed by Europe with a revenue share of approximately 29% in 2020. The Asia Pacific is expected to be the fastest-growing market due to undeveloped healthcare facilities and high-cost hospital infrastructures, that require home care products and services.

The leading players operating in this market are Procter & Gamble, Henkel AG, Unilever, Church and Dwight and Reckitt Benckiser Group. Colgate-Palmolive acts as well as key player in the dishwashing care segment and fabric conditioners.

3. Personal care industry

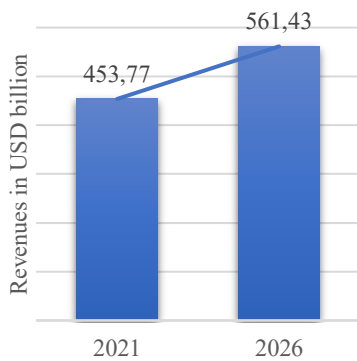


Figure 4 - Personal Care Market forecasted growth. Source: Mordor Intelligence

The personal care market was valued at USD 434.85 billion in 2020 and it is expected to value USD 561.43 billion by 2026, growing at a CAGR of 4.35% from 2021. According to *Mordor Intelligence's* market data, the personal care market has approximately 6% of e-commerce sales.

The growth of this market is directly associated with the increasing purchase power in developing countries and the growing awareness that skin care products and hygiene are becoming more and more important. China, India, Brazil and Mexico are the most promising markets to watch this lifestyle change.

Technologic innovations and consumer's preferences for higher quality products have been a decisive variable for growth in the personal care market. Moreover, the demand for biological ingredients has been an opportunity for new entrants in this business, mainly in Europe and North America.

The personal care market overlaps with many other markets such as skin care, oral care, hair care, beauty, among others. Some of the key products within this market are Soap, Bath and shower products and deodorants.

The largest market share of personal care in 2020 belongs to North America and the Asia Pacific. Also, the Middle East and the Asia Pacific are expected to be the fastest growing markets during the forecast period.

According to Mordor Intelligence's market data, the key players within the Personal care market are Procter & Gamble, L'Oreal S.A, Unilever, Colgate-Palmolive Co. and Beiersdorf AG.

4. Pet nutrition industry

The Pet Nutrition market is expected to reach USD 118.77 billion in 2027, growing at a CAGR of 4,1% from 2021.

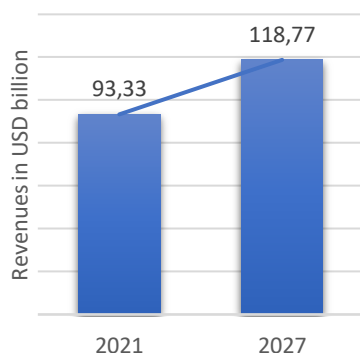


Figure 5 - Pet Nutrition Market forecasted growth. Source: Brandessence Market Research

E-commerce sales have been more significant in this market, due to the lifestyle change in consumers' preferences mainly caused by the lockdown period during the COVID-19 pandemic. Nevertheless, in general terms, the pet nutrition market's performance didn't seem to be hardly affected by the economic slowdown.

The largest market share of the pet nutrition business in 2020 belongs to North America that accounted for 37.6% of global revenues. Also, the United Kingdom, France, Brazil, Russia, Germany and Japan hold a significant stake in the world's pet nutrition market. Moreover, Asia Pacific is expected to be the fastest growing market over the forecast period, followed by Latin America.

The key drivers of this market are expected to be the same as before, which are the seek for premium products and the parenting pet humanization trend.

The main products offered in this market are Dry Pet Foods, Wet Pet Foods, Veterinary Diets and Treats and Snacks. The dogs own the largest share of the market with 58,34% of global revenues, against cats and other animals.

The major competitors operating in the Pet Nutrition market are: Mars, Inc., The J.M. Smucker Company, Colgate-Palmolive Company, Nestle Purina Petcare Company, Blue Buffalo Pet Products, Inc.

APPENDIX III: Market Risk Premium

Colgate's MRP was computed using Damodaran (2014) table of Total equity risk premium for different countries, updated on January 8th, 2021. The countries were divided into region groups (North America, Latin America, Asia Pacific, Europe and Eurasia/Africa) and the Equity Risk Premium was weighted by the country's GDP as of October 2021, to account for the size of each economy. Then, the later weighted EQR was again weighted by Colgate's percentage of sales of 2020. It is important to mention that Colgate discloses its net sales in two segments – "Oral, Personal and Home care segment" and "Pet Nutrition segment" – and desegregates the

first by region. Therefore, the percentage of sales by region do not include sales from Pet Nutrition segment. In order to include the sales of every segment, it was assumed that Pet Nutrition’s sales represent 40% of the North American market, 40% of the European market, 10% of the Latin American market and 10% of the Asia Pacific market. This assignment was selected because Pet Nutrition has its major manufacturing and warehousing facilities in the United States, Czech Republic and the Netherlands. Also, its 2020’s organic sales growth were led by the United States and Europe. Asia Pacific and Latin America have been growing markets for Colgate’s pet nutrition products, especially in the Asia Pacific. No information was found for Eurasia / Africa region behavior regarding Pet Nutrition segment.

	ERP weighted by GDP	% Sales 2020
North America	4,72%	29,71%
Europe	5,68%	23,68%
Euroasia/Africa	8,06%	5,96%
Asia Pacific	5,68%	18,15%
Latin America	8,24%	22,50%
Market Risk Premium Colgate		6,11%

Figure 6 – Market Risk Premium. Source: Own Calculations

APPENDIX IV: Sales by segment Forecast

1. Oral Care segment

The forecasted values of the Oral Care segment were computed using the average of the past five years in 2022, representing a deceleration compared to 2021. This assumption is based on the fact that 2021’s year is skewed due to the positive foreign exchange impact reported in the 3rd quarter of 2021 of +2% and it is expected to go higher until the end of the year. Because Oral Care segment is Colgate’s segment that most contributes to total sales, it is believed that will keep up with future global inflation, which was estimated to be around 2,41%. Thus, it was computed the growth variable that allows sales to rise from the slow growth rate reported in 2022 to the long-term steady growth rate, from 2026 onwards. The variable reached was **0,40%**.

2. Home Care segment

The Home Care segment’ sales are assumed to grow on average at the expected CAGR of the market of 1,5%, starting with the five-year average growth sales of 2,72% and slowing down after. Because Home care’s historical growth is quite low, excluding 2020 and 2021, and

Colgate seems to be line with market demands and expectations, it is believed that the expected CAGR for the market is suitable. The reason to not “consider” the 2020 and 2021 years is because it is believed that those years may be biased by the demand that COVID-19 brought in hygiene products associated with the Home Care market. That is why a gradual slow down on growing sales is expected from 2022. In order to make up the CAGR for the market as the average of the forecasted period from the 2,72% growth rate in 2022, a growth variable was computed by putting the expected CAGR in the middle of the forecasted period (2024). The value reached was **-0,61%**.

3. Personal Care segment

The rationale for the Personal care’s sales growth was the same as the previous segment. In 2022, the 5-year historical growth rate of 4,81%, which represents a slow own compared to the previous year, and gradually decelerating until making up the expected average CAGR of the forecasted period, 4,35%. The deceleration in 2022 when compared to 2021 and 2020 is justified by the fact that the latter two years were unusual years that have promoted high demand in the products within this segment. Nevertheless, a conservative assumption is not being used in this segment as it is believed that Personal Care segment has the potential to grow substantially in the next years considering Colgate’s high-growth measures and the awareness that consumers have gained in relation to the products in this market. Therefore, the growth variable considered to making up the expected average CAGR from the 5-year historical growth rate in 2022, was **-0,23%**.

4. Pet Nutrition segment

As far as it concerns Pet Nutrition, it was assumed that sales will grow at the 5-year historical growth rate of 6,61% and slowing down by then until reaching the expected CAGR for the market of 4,10%. Because Colgate focused a lot of resources on the growth of this sector, it is expected that it will outpace its market. Nevertheless, and as it reaches maturity, Pet nutrition segment will follow its market growth gradually. To forecast the value of this segment, a growth variable that goes from the 5-year historical average to the expected CAGR for the market was computed, which is **-0,63%**.

	2017	2018	2019	2020	2021	Average	Forecast Driver
Oral Care	7 418	7 306	7 219	7 247	7 290		
<i>Growth (%)</i>	3,87%	-1,51%	-1,19%	0,39%	0,59%	0,43%	0,43% (+0,40%)
Home Care	2 782	2 798	2 825	2 965	3 124		
<i>Growth (%)</i>	1,70%	0,58%	0,96%	4,96%	5,38%	2,72%	2,72% (-0,61%)
Personal Care	2 936	3 109	3 139	3 459	3 819		
<i>Growth (%)</i>	-3,38%	5,88%	0,96%	10,21%	10,40%	4,81%	4,81 (-0,23%)
Hill's Pet Nutrition	2 318	2 332	2 511	2 800	3 124		
<i>Growth (%)</i>	1,70%	0,58%	7,69%	11,52%	11,58%	6,61%	6,61% (-0,63%)

Figure 7 – Historical Net Sales. Source: Colgate's

APPENDIX V: COGS and Operating Expenses Forecast

1. Cost of Sales

Over the last five years, Colgate has been spending on average 37% of its sales, with a decreasing behaviour as consequence of its ongoing funding-the-growth initiatives, which are designed to reduce costs and increase effective asset utilization. For the next five years, it is assumed that Colgate will take advantage of its size to become more efficient and will enjoy cost savings from its “funding-the-growth” goal through automated production and the use of advanced data analytics, as it has come to comply. Therefore, for the forecasted period, Colgate's cost of sales will gradually increase until reaching a percentage of sales of **36%** in 2026, minus 1% of the last 5-year average percentage of sales, in the expectation that it will move towards its goal.

2. Selling, general and administrative expenses

SGA expenses account for payroll expenses, fixed costs of the company and other general expenses. Over the last 5 years, SGA expenses has been constantly increasing, excluding 2018's year as result of the benefits from the Global Growth and Efficiency program. As percentage of sales, this item presented a deviant relation, not showing any trend of Colgate's behavior in relation to this cost. Given Colgate's size and historical performance, it is not expected cuts in personnel or other administrative expenses, but to be in line with what was spent before. Therefore, it is assumed that in the next five years, SGA expenses will maintain its five-year average percentage of sales of **14,95%**.

3. Shipping and Handling Costs

The shipping and handling costs of Colgate account for distribution and contract fulfillment costs. Over the last five years, the company has been constantly increasing this cost as well as its percentage of sales. It is expected that Colgate, in the future, will be able to take advantage on new and more economical techniques that allow the company to save costs, assuming that the growing trend as percentage of sales will stabilize. Therefore, in the next five years, it is assumed that shipping and handling costs as a percentage of sales will remain stable equal to the prior year percentage, **8,45%**.

4. Research and Development

Research and Development expenses are directly related to the company's ability to enter in innovative projects. In the last five years, R&D costs decreased in 2017 and 2018 and has been increasing until then. It is part of Colgate's strategy to join innovative growth projects and to invest in resources that lead to them. Therefore, it will not be assumed a cost reduction in this item, even though, over the last five years, its tendency on sales is to decrease. The average of the last five year's R&D expenses of **1,79%** was considered the average of its next five years, therefore assuming that Colgate will maintain the same proportion of R&D' investment as in the past.

5. Advertising and Publicity

Advertising and Publicity expenses are related to the marketing strategy of Colgate. Over the last five years, these costs have been constantly increasing as consequence of marketing campaigns within the segments of the company. These expenses are not expected to decrease in the future given the continuous investment observed in the last years as well as new competition arising in the company's market. Therefore, it is assumed that Advertising and Publicity expenses will continue to grow at a slower pace than the previous periods average (5,98% - 7,53%), until reaching a percentage of sales of 14%, averaging a 5-year forecasted percentage of sales of **13,11%**.

6. Other Income (Expense)

As for the Other Operating Income (Expense), this item includes small expenses related to unusual costs such as expenses of the Global Growth and Efficiency Program of Colgate, acquisition related costs when applicable, among others. This item also includes the

Amortization of Intangible Assets, which was previously disregarded to account in a different item. Because this item accounts for sporadic expenses, it is quite hard to predict its behavior once it does not follow any trend. For the purpose of this valuation, this expense will not be considered given its unpredictability and its residual value compared to the other items of the forecasting. Also, regarding 2021-year, the value of this item was considered null because the 3rd quarter report of 2021 does not break down this item and therefore it is assumed that it only concerns to amortization of intangible assets.

	2017	2018	2019	2020	2021	Average	Forecast Driver
COGS	5 734	5 861	5 911	6 003	6 428		
<i>% of Sales</i>	37,10%	37,71%	37,67%	36,45%	37,04%	37,19%	36% (target)
Selling, general and administrative expenses	2 456	2 267	2 325	2 389	2 597		
<i>% of Sales</i>	15,89%	14,58%	14,82%	14,50%	14,96%	14,95%	14,95%
Shipping and handling costs	1 183	1 255	1 275	1 392	1 467		
<i>% of Sales</i>	7,65%	8,07%	8,12%	8,45%	8,45%	8,15%	8,45%
Research and development	285	277	281	290	306		
<i>% of Sales</i>	1,84%	1,78%	1,79%	1,76%	1,76%	1,79%	1,79%
Advertising and Publicity	1 573	1 590	1 694	1 948	2 043		
<i>% of Sales</i>	10,18%	10,23%	10,79%	11,83%	11,77%	10,96%	14% (target)
Other expense	159	89	134	25	0		
<i>% of Sales</i>	1,03%	0,57%	0,85%	0,15%	0,00%	0,52%	0,00%
Operating Margin	26,30%	27,05%	25,95%	26,86%	26,02%	26,44%	decrease

Figure 8 – Historical COGS and Operating Expenses. Source: Colgate's

APPENDIX VI: Operating Taxes

The Operating Taxes of Colgate on the historical period 2016-2021 were computed by deducting the tax shield effect arise from interest expense and the non-operating taxes arise from non-operating income before taxes, from the reported taxes in the income statement. The tax shield and the non-operating taxes were computed through the statutory rate in force at the time (35% until 2017 and 21% until 2021). For the forecast period, it was assumed a statutory rate of 28% as a result of the latest proposal from President Joe Biden of raising the corporate tax rate in 2022 to raise additional income for new investments and to reduce the current deficit. Considering these reviews on U.S. statutory rate, the effective tax rate for the forecasted period was calculated by adding the historical average delta between the statutory rate and the effective tax rate (operating) to the U.S. statutory rate of 28%. The Operating taxes were calculated by multiplying the above-calculated effective tax rate to the Earnings before taxes. The forecasted values are illustrated below.

	2017	2018	2019	2020	2021E	2022F	2023F	2024F	2025F	2026F
Statutory Rate	35,00%	21,00%	21,00%	21,00%	21,00%	28,00%	28,00%	28,00%	28,00%	28,00%
Effective Tax Rate (from Operating items)	37,54%	25,77%	23,24%	21,54%	21,80%	30,18%	30,18%	30,18%	30,18%	30,18%
Average ST-EF	-2,54%	-4,77%	-2,24%	-0,54%	-0,80%	-2,18%				

Figure 9 – Statutory vs Effective tax rate. Source: Colgate's and Own Calculations

APPENDIX VII – FCFF Inputs

1. Gross PP&E and Gross Intangible Assets

The PP&E has been decreasing since 2017 until 2020 as result of divestments on lands, buildings, machinery, and equipment. Considering the projections on CAPEX, it is assumed that Colgate will commit to its goal on investing in high yield projects, however these assets will represent a smaller stake of Net Sales, since Colgate is getting more efficient and it will not need to increase its PP&E at the same pace as it is increasing its revenues. The 2021's year is assumed to decrease 1% in terms of PP&E as a percentage of sales when compared to 2020's year, but still register an increase compared to the previous year. As a result, it was assumed that the target of PP&E as a percentage of sales (21,00%) for 2026 will be slightly lower than the 5- year historical average percentage of sales (23,87%).

Regarding Other Intangibles Assets, this item has been increasing in the last 5 years and recorded a remarkable improvement during the 2019 and 2020's year due to two major acquisitions by then. Therefore, for the 2021's year, it is assumed that the value of 2021 of Intangible assets is the same as its 3rd Quarters, representing a slight decrease compared to the previous year. For the next 5 years, the projected values of intangible assets will be based on 5- year historical average percentage of sales of **13,89%**.

	2017	2018	2019	2020	2021E	Average	Forecast Driver
Property plant and equipment net	4 072	3 881	3 750	3 716	3 742		
% sales	26,35%	24,97%	23,90%	22,56%	21,56%	23,87%	21% (target)
Other Intangible assets	1 341	1 637	2 667	2 894	2 719		
% sales	8,68%	10,53%	16,99%	17,57%	15,66%	13,89%	13,89%

Figure 10 – Historical PP&E and Other Intangible assets. Source: Colgate's

2. Depreciation and Amortization

The total depreciation and amortization were computed as a percentage of Gross PP&E and Intangible Assets. Depreciations of PP&E and Amortizations of Intangible Assets has been constantly increasing, excluding 2021 in the latter. In the next five years, it is assumed that both variables will maintain the same level as its 5-year historical average.

For 2021-year, it was assumed that Depreciations of PP&E will record the same percentage of Gross PP&E as the previous year. The Amortization of Intangible Assets was assumed to be the total value amounted in the Other Income (Expenses) item, once from the 3rd quarter report it is not possible to desegregate this item and because it registers unusual expenses, apart from the Amortizations of Intangible Assets, which are considered null in this valuation given its unpredictability and low value (see Appendix III).

	2017	2018	2019	2020	2021E	Average	Forecast Driver
Depreciation PP&E	440	452	457	451	454		
<i>% Gross PP&E</i>	10,81%	11,65%	12,19%	12,14%	12,14%	11,78%	11,78%
Amortization Intangible Assets	35	59	62	88	53		
<i>% Gross Intangible Assets</i>	2,61%	3,60%	2,32%	3,04%	1,96%	2,71%	2,71%
Total D&A	475	511	519	539	508		

Figure 11 – Historical Depreciation and Amortization. Source: Colgate's

3. Net Working Capital

According to the literature, the components required to compute the NWC are those listed in the table below.

	2017	2018	2019	2020	2021E	Forecast Driver
Accounts receivable	1 480	1 400	1 440	1 264	1 332	
<i>Days of sales outstanding</i>	34,96	32,87	33,49	28,01	28,01	28,01
Inventories	1 221	1 250	1 400	1 673	1 798	
<i>Days of inventory held</i>	76,13	76,94	81,82	93,42	98,54	98,54
Other current assets (excluding Marketable securities)	389	407	433	476	502	
<i>% of Sales</i>	2,52%	2,62%	2,76%	2,89%	2,89%	2,89%
Accounts payable	-1 212	-1 222	-1 237	-1 393	-1 468	
<i>Days of payable outstanding</i>	-28,63	-28,69	-28,77	-30,87	-30,87	-30,87
Accrued income taxes	-354	-411	-370	-403	-425	
<i>% of EBITDA</i>	-8,71%	-9,77%	-9,08%	-9,11%	-9,40%	-9,40%
Other accruals	-1 831	-1 696	-1 917	-2 341	-2 467	
<i>% of EBITDA</i>	-45,05%	-40,33%	-47,07%	-52,92%	-54,62%	-54,62%
Net Working Capital	-307	-272	-251	-724	-728	
Change Working Capital	-15	35	21	-473	-4	

Figure 12 – Historical Net Working Capital. Source: Colgate's

To forecast the variables, the value of 2021's percentage of Sales, except for inventories that relates to cost of sales and accruals that relates to EBITDA, was utilized.

The 2021's current assets were calculated by the weight on Sales of the previous year, except for inventories which was based on the weight on cost of Sales. The 2021's current liabilities were based on the weight on Sales of the previous year. In addition, because the 2021's quarterly report does not dissociate this item, the weight of each liability in the total current liabilities for 2020 was considered. Therefore, it is assumed that all these items depend on Sales and its operating costs and it is foreseen these weights will remain constant.

APPENDIX VIII – Terminal Growth Rate

The terminal growth rate is the growth rate that is expected the firm's free cash flow will grow indefinitely. From this valuation, it was noticeable that Colgate does not show difficulties in maintaining its business, nor that it is in an early-stage expansion. For that reason, it was set a 5-year explicit period which is the time it is believed that Colgate will reach a mature stage. At that time, Colgate is expected to grow higher than the global inflation rate and lower than the GDP growth rate.

1. Forecasted Inflation

The data used to get an estimated value of future global inflation was extracted from the International Monetary Fund. Even though Colgate operates in more than 200 countries, there are regions that present higher and lower inflation rates and for that the reason, it was not considered the estimated world inflation rate from the IMF data. Instead, the estimated inflation rate by region was consider in order to account for sales weight.

The rational was the same used for the computation of the Market Risk Premium: it was considered the countries presented in Damodaran table of total equity risk premium. For each country, it was used the forecasted inflation rate for 2026 estimated by IMF. In order to account for the size of each economy, the latter rate was weighted by the corresponding GDP for October 2021, also provided by the IMF.

<i>Country</i>	<i>Forecasted inflation rate for 2026</i>	<i>GDP as of October 2021 in billion US dollars</i>	<i>% of total GDP 2021</i>	<i>Own Code</i>
Australia	2,40%	1 610,56	4,77%	Asia Pacific
Bangladesh	5,40%	355,69	1,05%	Asia Pacific
Cambodia	3,00%	26,08	0,08%	Asia Pacific
China	2,00%	16 862,98	49,91%	Asia Pacific
Fiji	2,20%	4,64	0,01%	Asia Pacific
Hong Kong	2,50%	369,72	1,09%	Asia Pacific
India	4,00%	2 946,06	8,72%	Asia Pacific

Indonesia	3,00%	1 150,25	3,40%	Asia Pacific
Japan	1,00%	5 103,11	15,10%	Asia Pacific
Korea	2,00%	1 823,85	5,40%	Asia Pacific
Laos	3,10%	19,38	0,06%	Asia Pacific
Macao	2,50%	29,22	0,09%	Asia Pacific
Malaysia	2,00%	371,11	1,10%	Asia Pacific
Maldives	2,00%	4,57	0,01%	Asia Pacific
Mauritius	3,30%	11,00	0,03%	Asia Pacific
New Zealand	2,00%	247,64	0,73%	Asia Pacific
Pakistan	6,50%	280,00	0,83%	Asia Pacific
Papua New Guinea	3,60%	26,46	0,08%	Asia Pacific
Philippines	3,00%	385,74	1,14%	Asia Pacific
Singapore	1,50%	378,65	1,12%	Asia Pacific
Solomon Islands	2,00%	1,65	0,00%	Asia Pacific
Sri Lanka	5,20%	80,79	0,24%	Asia Pacific
Taiwan	1,40%	785,59	2,32%	Asia Pacific
Thailand	1,90%	546,22	1,62%	Asia Pacific
Vietnam	4,00%	368,00	1,09%	Asia Pacific
TOTAL Asia Pacific		33 788,95	100,00%	
Angola	6,80%	70,34	1,48%	Eurasia/Africa
Armenia	4,00%	13,61	0,29%	Eurasia/Africa
Azerbaijan	3,20%	52,65	1,11%	Eurasia/Africa
Bahrain	2,40%	39,10	0,82%	Eurasia/Africa
Belarus	5,00%	65,75	1,38%	Eurasia/Africa
Benin	2,00%	18,07	0,38%	Eurasia/Africa
Botswana	4,30%	17,61	0,37%	Eurasia/Africa
Burkina Faso	2,50%	19,93	0,42%	Eurasia/Africa
Cameroon	2,00%	44,81	0,94%	Eurasia/Africa
Cape Verde	2,00%	1,89	0,04%	Eurasia/Africa
Congo (Democratic Republic of)	6,30%	54,83	1,15%	Eurasia/Africa
Congo (Republic of)	3,00%	12,74	0,27%	Eurasia/Africa
Côte d'Ivoire	2,00%	68,85	1,45%	Eurasia/Africa
Egypt	7,10%	396,33	8,34%	Eurasia/Africa
Ethiopia	no data		0,00%	Eurasia/Africa
Gabon	2,00%	18,29	0,39%	Eurasia/Africa
Georgia	3,00%	17,85	0,38%	Eurasia/Africa
Ghana	6,00%	75,49	1,59%	Eurasia/Africa
Iraq	2,00%	201,47	4,24%	Eurasia/Africa
Israel	1,60%	467,53	9,84%	Eurasia/Africa
Jordan	2,50%	45,34	0,95%	Eurasia/Africa
Kazakhstan	4,00%	194,02	4,08%	Eurasia/Africa
Kenya	5,00%	109,49	2,31%	Eurasia/Africa
Kuwait	3,00%	132,27	2,78%	Eurasia/Africa
Kyrgyzstan	no data		0,00%	Eurasia/Africa
Lebanon	no data		0,00%	Eurasia/Africa
Mali	2,00%	19,56	0,41%	Eurasia/Africa
Moldova	5,00%	12,40	0,26%	Eurasia/Africa

Mongolia	6,00%	14,28	0,30%	Eurasia/Africa
Morocco	2,00%	126,04	2,65%	Eurasia/Africa
Mozambique	5,50%	15,83	0,33%	Eurasia/Africa
Namibia	4,50%	12,21	0,26%	Eurasia/Africa
Niger	2,00%	15,64	0,33%	Eurasia/Africa
Nigeria	no data		0,00%	Eurasia/Africa
Oman	2,50%	80,61	1,70%	Eurasia/Africa
Qatar	2,50%	169,18	3,56%	Eurasia/Africa
Rwanda	5,00%	10,40	0,22%	Eurasia/Africa
Saudi Arabia	2,00%	842,59	17,74%	Eurasia/Africa
Senegal	1,50%	27,58	0,58%	Eurasia/Africa
South Africa	4,50%	415,32	8,74%	Eurasia/Africa
Swaziland	no data		0,00%	Eurasia/Africa
Tajikistan	6,50%	8,10	0,17%	Eurasia/Africa
Tanzania	3,50%	69,24	1,46%	Eurasia/Africa
Togo	1,00%	8,49	0,18%	Eurasia/Africa
Tunisia	5,00%	42,73	0,90%	Eurasia/Africa
Uganda	5,00%	43,24	0,91%	Eurasia/Africa
Ukraine	5,00%	181,04	3,81%	Eurasia/Africa
United Arab Emirates	2,00%	410,16	8,63%	Eurasia/Africa
Uzbekistan	5,10%	65,50	1,38%	Eurasia/Africa
Zambia	7,00%	21,70	0,46%	Eurasia/Africa
TOTAL Euroasia / Africa		4 750,09	100,00%	
Albania	3,00%	16,77	0,07%	Europe
Andorra (Principality of)	1,70%	3,21	0,01%	Europe
Austria	2,00%	481,21	2,07%	Europe
Belgium	1,80%	581,85	2,51%	Europe
Bosnia and Herzegovina	2,10%	21,69	0,09%	Europe
Bulgaria	2,00%	77,91	0,34%	Europe
Croatia	2,00%	63,40	0,27%	Europe
Cyprus	1,90%	26,55	0,11%	Europe
Czech Republic	2,00%	276,91	1,19%	Europe
Denmark	2,00%	396,67	1,71%	Europe
Estonia	2,10%	36,04	0,16%	Europe
Finland	1,90%	296,02	1,27%	Europe
France	1,30%	2 940,43	12,66%	Europe
Germany	2,00%	4 230,17	18,21%	Europe
Greece	1,90%	211,65	0,91%	Europe
Hungary	3,00%	180,96	0,78%	Europe
Iceland	2,50%	25,48	0,11%	Europe
Ireland	2,00%	516,25	2,22%	Europe
Italy	1,40%	2 120,23	9,13%	Europe
Latvia	2,10%	37,20	0,16%	Europe
Lithuania	2,20%	62,64	0,27%	Europe
Luxembourg	1,90%	83,77	0,36%	Europe
Malta	2,00%	16,70	0,07%	Europe
Montenegro	1,70%	5,49	0,02%	Europe

Netherlands	1,90%	1 007,56	4,34%	Europe
Norway	2,00%	445,51	1,92%	Europe
Poland	2,50%	655,33	2,82%	Europe
Portugal	1,40%	251,71	1,08%	Europe
Romania	2,50%	287,28	1,24%	Europe
Russia	4,00%	1 647,57	7,09%	Europe
Serbia	2,80%	60,67	0,26%	Europe
Slovakia	2,00%	116,75	0,50%	Europe
Slovenia	2,20%	60,89	0,26%	Europe
Spain	1,70%	1 439,96	6,20%	Europe
Sweden	1,90%	622,37	2,68%	Europe
Switzerland	1,00%	810,83	3,49%	Europe
Turkey	no data		0,00%	Europe
United Kingdom	2,00%	3 108,42	13,38%	Europe
TOTAL Euroasia / Africa		23 224,01	100,00%	
Argentina	no data		0,00%	Latin America
Aruba	1,30%	2,87	0,06%	Latin America
Bahamas	2,50%	10,68	0,24%	Latin America
Barbados	2,30%	4,65	0,10%	Latin America
Belize	2,00%	1,91	0,04%	Latin America
Bolivia	3,50%	38,55	0,87%	Latin America
Brazil	3,10%	1 645,84	36,97%	Latin America
Chile	3,00%	331,25	7,44%	Latin America
Colombia	3,00%	300,79	6,76%	Latin America
Costa Rica	2,90%	61,46	1,38%	Latin America
Cuba	no data		0,00%	Latin America
Dominican Republic	4,00%	89,50	2,01%	Latin America
Ecuador	1,00%	104,48	2,35%	Latin America
El Salvador	1,40%	27,67	0,62%	Latin America
Guatemala	4,30%	83,31	1,87%	Latin America
Honduras	4,00%	26,33	0,59%	Latin America
Jamaica	5,00%	14,86	0,33%	Latin America
Mexico	3,00%	1 285,52	28,88%	Latin America
Nicaragua	3,50%	13,40	0,30%	Latin America
Panama	2,00%	60,12	1,35%	Latin America
Paraguay	4,00%	36,97	0,83%	Latin America
Peru	2,00%	225,86	5,07%	Latin America
St. Vincent & the Grenadines	2,00%	0,77	0,02%	Latin America
Suriname	12,80%	2,82	0,06%	Latin America
Trinidad and Tobago	1,40%	21,60	0,49%	Latin America
Uruguay	4,50%	60,11	1,35%	Latin America
Venezuela	no data		0,00%	Latin America
TOTAL Latin America		4 451,29	100,00%	
Canada	2,00%	2 015,98	8,08%	North America
United States	2,30%	22 939,58	91,92%	North America

TOTAL	North			
America			24 955,56	100,00%

Figure 13 – Forecasted Inflation rate for 2026 and GDP, constant prices as of October 2021. Source: International Monetary Fund

The values that state “no data” is because that was no available forecasts for those countries and, for that reason, the corresponding GDP was removed as well. Nevertheless, it was observed from its GDP that those countries had a small weight on each region, therefore, it is believed that this lack of data is not detrimental to inflation estimate.

The weighted values of each region were after weighted by the net sales of 2020, arriving to a forecasted global inflation of **2,41%**.

	Inflation rate weighted by GDP	% Sales 2020
North America	2,28%	29,71%
Europe	1,96%	23,68%
Euroasia/Africa	3,38%	5,96%
Asia Pacific	2,18%	18,15%
Latin America	3,00%	22,50%
Forecasted Global Inflation		2,41%

Figure 14 – Forecasted Global Inflation. Source: Own Calculations

2. Forecasted GDP growth

For the GDP growth rate, it was extracted from OECD data the long-term baseline projections (up to 2060) of GDP in real terms. The same logic as the forecasted global inflation is applied to forecast global GDP growth: it was not considered the forecasted world real GDP from OECD data, because there are regions that present higher and lower GDP values. Instead, the forecasted real GDP of North America, Latin America, Europe, Asia Pacific and Eurasia/Africa was considered in order to account for sales weight. Because it is desirable to account for price changes, the Real GDP was adjusted for inflation to get the Nominal GDP. The GDP growth of each region is then weighted by the corresponding net sales, arriving to a forecasted global GDP growth of **4,47%**.

	Forecasted Real GDP growth	Forecasted Inflation	Forecasted Nominal growth	Forecasted GDP	% of Sales 2020	Forecasted Global growth	Forecasted GDP
North America	1,93%	2,28%	4,25%		29,71%	4,47%	
Latin America	1,98%	3,00%	5,04%		22,50%		
Europe	1,81%	1,96%	3,80%		23,68%		
Asia Pacific	2,66%	2,18%	4,90%		18,15%		
Euroasia/Africa	1,33%	3,38%	4,75%		5,96%		
World	1,80%	3,10%	4,96%				

Figure 15 – Forecasted Global GDP growth. Source: Own Calculations

3. Terminal growth rate

Having the inflation and the GDP growth calculated, it is possible to define an interval to set the stable growth rate: not lower than the global inflation rate and not greater than the global GDP growth (2,41% - 4,47%). Since it is using a conservative approach, it is assumed that Colgate will increase its future cash-flow at the same pace as global inflation rate of **2,41%**.

Appendix IX: Historical and Forecasted Income Statement and Balance Sheet

1. Historical Income Statement

	2017	2018	2019	2020	2021
Operating					
Revenues					
Oral Care	7 418	7 306	7 219	7 247	7 290
Home Care	2 782	2 798	2 825	2 965	3 124
Personal Care	2 936	3 109	3 139	3 459	3 819
Hill's Pet Nutrition	2 318	2 332	2 511	2 800	3 124
Total Operating Revenues	15 454	15 544	15 693	16 471	17 357
Cost of Goods Sales	5 734	5 861	5 911	6 003	6 428
Gross Profit	9 720	9 683	9 782	10 468	10 929
Gross Profit margin	62,90%	62,29%	62,33%	63,55%	62,96%
Selling, General and Administrative Expenses					
Expenses	5 497	5 389	5 575	6 019	6 412
Depreciation and Amortization	475	511	519	539	508
Other income (expenses)	159	89	134	25	0
EBIT	3 589	3 694	3 554	3 885	4 009
Interest income	-51	-50	-47	-19	-41
EBT	3 640	3 744	3 601	3 904	4 050
Operating taxes	-1 367	-965	-837	-841	-883
Net Operating income	2 273	2 779	2 764	3 063	3 167
Non Operating					
Non-service related postretirement costs	0	87	108	74	69
Non Operating income before taxes	0	87	108	74	69
Non Operating taxes	0	18	23	16	15
OCI	342	-189	-87	-66	-46
Non controlling interests	167	139	158	171	176
Net Non Operating income	-175	397	330	295	276
Financial					
Interest Expense	153	193	192	183	244
Tax Shield	54	41	40	38	51
Net Financial Profit	99	152	152	145	192
Comprehensive result	2 349	2 230	2 282	2 623	2 698

2. Forecasted Income Statement

	2022	2023	2024	2025	2026
Operating					
Revenues					
Oral Care	7 321	7 382	7 472	7 593	7 746
Home Care	3 209	3 277	3 326	3 356	3 365
Personal Care	4 002	4 186	4 368	4 548	4 725
Hill's Pet Nutrition	3 331	3 530	3 720	3 895	4 055
Total Operating Revenues	17 864	18 375	18 886	19 392	19 891
Cost of Goods Sales	6 579	6 729	6 877	7 021	7 161
Gross Profit	11 285	11 646	12 008	12 371	12 730
Gross Profit margin	63,17%	63,38%	63,59%	63,79%	64,00%
Selling, General and Administrative Expenses					
Expenses	6 682	6 955	7 233	7 513	7 795
Depreciation and Amortization	519	531	543	555	567
Other income (expenses)	0	0	0	0	0
EBIT	4 084	4 160	4 232	4 302	4 368
Interest income	-42	-43	-44	-46	-47
EBT	4 126	4 203	4 277	4 348	4 415
Operating taxes	-1 245	-1 268	-1 291	-1 312	-1 332
Net Operating income	2 881	2 934	2 986	3 036	3 082
Non Operating					
Non-service related postretirement costs	71	73	75	77	79
Non Operating income before taxes	71	73	75	77	79
Non Operating taxes	20	21	21	22	22
OCI	-30	-44	-58	-46	-45
Non controlling interests	181	186	192	197	203
Net Non Operating income	263	283	304	299	305
Financial					
Interest Expense	208	196	195	194	191
Tax Shield	58	55	55	54	53
Net Financial Profit	150	141	141	139	137
Comprehensive result	2 469	2 510	2 542	2 597	2 640

3. Historical Balance Sheet

	2017	2018	2019	2020	2021
Operating					
Current Assets					
Receivables	1 480	1 400	1 440	1 264	1 332
Inventories	1 221	1 250	1 400	1 673	1 798
Other Current Assets (excluding marketeable securities)	389	407	433	476	502
Non-Current Assets					
Property, Plant and Equipment, net	4 072	3 881	3 750	3 716	3 742
Goodwill	2 218	2 530	3 508	3 824	3 683
Other intangible assets, net	1 341	1 637	2 667	2 894	2 719
Deferred Income Taxes	188	152	177	291	291
Total Operating Assets	10 909	11 257	13 375	14 138	14 067
Current Liabilities					
Accounts Payable	1 212	1 222	1 237	1 393	1 468
Accrued Liabilities	1 831	1 696	1 917	2 341	2 467
Accrued Income Taxes	354	411	370	403	425
Non-Current Liabilities					
Deferred Income Taxes	204	235	507	426	442
Total Operating Liabilities	3 601	3 564	4 031	4 563	4 802
Total Operating Invested Capital	7 308	7 693	9 344	9 575	9 265
Non-Operating					
Non-Current Assets					
Other assets	176	122	197	261	394
Total Non Operating Assets	176	122	197	261	394
Non-Current Liabilities					
Other liabilities	2 202	1 980	2 092	2 169	2 263
Total Non Operating Liabilities	2 202	1 980	2 092	2 169	2 263
Total Non Operating Invested Capital	-2 026	-1 858	-1 895	-1 908	-1 869
Financial					
Financial Assets					
Cash and cash equivalents	1 535	726	883	888	1 121
Marketeable Securities	14	10	23	37	39
Other assets	42	46	556	596	596
Total Financial Assets	1 591	782	1 462	1 521	1 756
Financial Liabilities					
Notes and Loans Payable	11	12	260	258	258
Current Portion of Long-term Debt	0	0	254	9	0
Long-term Debt	6 566	6 354	7 333	7 334	7 268
Other liabilities	53	54	506	486	486,00
Total Financial Liabilities	6 630	6 420	8 353	8 087	8 012
Net Debt	-5 039	-5 638	-6 891	-6 566	-6 257
Equity					
Common Stock	1 466	1 466	1 466	1 466	1 466
Additional Paid-in Capital	1 984	2 204	2 488	2 969	3 010
Retained Earnings	20 531	21 615	22 501	23 699	24 706
Accumulated Other Comprehensive Income (Loss)	-3 855	-4 188	-4 273	-4 345	-4 391
Unearned Compensation	-5	-3	-2	-1	-1
Treasury Stock, at cost	-20 181	-21 196	-22 063	-23 045	-24 027
Common Stockholder's Equity	-60	-102	117	743	763
Noncontrolling interests	303	299	441	358	377
Stockholders Equity	243	197	558	1 101	1 140

4. Forecasted Balance Sheet

	2022	2023	2024	2025	2026
Operating					
Current Assets					
Receivables	1 371	1 410	1 449	1 488	1 526
Inventories	1 776	1 817	1 857	1 896	1 933
Other Current Assets (excluding marketable securities)	516	531	546	560	575
Non-Current Assets					
Property, Plant and Equipment, net	3 832	3 921	4 008	4 094	4 177
Goodwill	3 790	3 899	4 007	4 114	4 220
Other intangible assets, net	2 481	2 552	2 623	2 693	2 762
Deferred Income Taxes	296	302	307	312	317
Total Operating Assets	14 062	14 431	14 797	15 158	15 511
Current Liabilities					
Accounts Payable	1 511	1 554	1 597	1 640	1 682
Accrued Liabilities	2 514	2 562	2 608	2 653	2 695
Accrued Income Taxes	433	441	449	457	464
Non-Current Liabilities					
Deferred Income Taxes	450	459	467	474	482
Total Operating Liabilities	4 908	5 015	5 121	5 224	5 323
Total Operating Invested Capital	9 155	9 415	9 676	9 934	10 188
Non-Operating					
Non-Current Assets					
Other assets	405	417	429	440	451
Total Non Operating Assets	405	417	429	440	451
Non-Current Liabilities					
Other liabilities	2 329	2 395	2 462	2 528	2 593
Total Non Operating Liabilities	2 329	2 395	2 462	2 528	2 593
Total Non Operating Invested Capital	-1 923	-1 978	-2 033	-2 088	-2 142
Financial					
Financial Assets					
Cash and cash equivalents	1 121	1 121	1 121	1 121	1 121
Marketable Securities	40	41	42	44	45
Other assets	596	596	596	596	596
Total Financial Assets	1 757	1 758	1 759	1 760	1 761
Financial Liabilities					
Notes and Loans Payable	258	258	258	258	258
Current Portion of Long-term Debt	0	0	0	0	0
Long-term Debt	6 844	6 802	6 740	6 635	6 561
Other liabilities	486,00	486,00	486,00	486,00	486,00
Total Financial Liabilities	7 588	7 546	7 484	7 379	7 305
Net Debt	-5 831	-5 788	-5 725	-5 619	-5 543
Equity					
Common Stock	1 466	1 466	1 466	1 466	1 466
Additional Paid-in Capital	3 383	3 769	4 202	4 672	5 119
Retained Earnings	25 605	26 494	27 368	28 236	29 092
Accumulated Other Comprehensive Income (Loss)	-4 421	-4 465	-4 522	-4 569	-4 613
Unearned Compensation	-1	-1	-1	-1	-1
Treasury Stock, at cost	-25 009	-25 991	-26 973	-27 955	-28 937
Common Stockholder's Equity	1 023	1 272	1 540	1 850	2 126
Noncontrolling interests	377	377	377	377	377
Stockholders Equity	1 400	1 649	1 917	2 227	2 503

Appendix X: References

1. Academic articles

Berk, J. And DeMarzo, P., (2017), “Corporate Finance”, 4th Global Edition

Cooper, I. and Nyborg, K., (2006), “The Value of Tax Shields IS Equal to the Present Value of the Tax Shields”, Journal of Financial Economics

Damodaran, A., (2006), “Security Analysis for Investment and Corporate Finance”, 2nd Edition. New York: John Wiley & Sons, Inc.

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

Damodaran, A., (2012), “Investment Valuation: Tools and Techniques for Determining the Value of any Asset”, 3rd Edition. Ed. New York: John Wiley & Sons, Inc.

Demirakos, E., Strong, N. And Walker, M., (2004), “What Valuation Models Do Analysts Uses?”, Accounting Horizons

Fernández, P., (2004), “80 common errors in company valuation”, IESE Business School

Fernández, P., (2011), “WACC: Definition, Misconceptions and Errors”, IESE Business School

Goedhart, M., Koller, T. and Wessels, D., (2005), “The right role for multiples in valuation”, The McKinsey Quarterly

Kaplan, S. And Ruback, R., (1994), “The Valuation of Cash Flow Forecasts: An Empirical Analysis”, National Bureau Of Economic Research

Koller, T. and James, M., (2000), “Valuation in emerging markets”, The McKinsey Quarterly

Koller, T., Goedhart, M. and Wessels, D., (2015), “Valuation: Measuring and Managing the Value of Companies” 6th Edition. McKinsey & Company. John Wiley & Sons, Inc.

Luehrman, T., (1997), “What’s it Worth? A General Manager’s Guide to Valuation”, Harvard Business Review

Luehrman, T., (1997), “Using APV: a better tool for valuing operations”, Harvard Business Review

Plenborg, T. and Petersen, C., (2012), “Financial Statement Analysis”, Harlow. Pearson

Schill, M., (2013), “Business Valuation: Standard Approaches and Applications”, Darden Business Publishing. University of Virginia

Young, M., Sullivan, P. And Holt, W., (1999), “All roads lead to Rome: an integrated approach to valuation models”, Goldman Sachs investment research

Zenner, M., Hill, S., Clark, J. and Mago N., (2008), “The Most Important Number in Finance”, J.P. Morgan

2. Online Databases

- Thomson Reuters

<https://eikon.refinitiv.com/index.html>

- Bloomberg

<https://www.bloomberg.com>

- Yahoo Finance

<https://finance.yahoo.com>

- IMF

<https://www.imf.org>

- OECD

<https://www.oecd.org>

- Damodaran Online

https://pages.stern.nyu.edu/~adamodar/New_Home_Page/

3. Reports

- Colgate's Annual Report, 2016-2020

<https://investor.colgatepalmolive.com/>

- Colgate's 3rd Quarter, 2021 Results

<https://investor.colgatepalmolive.com/>

- TheStreet's Colgate-Palmolive Report

<https://www.thestreet.com/report/>

- Oral Care Market Report

<https://www.marketsandmarkets.com/>

- Home Care Market Report

<https://www.expertmarketresearch.com/>

- Personal Care Market Report

<https://www.mordorintelligence.com/>

- Pet Nutrition Market Report

<https://brandessenceresearch.com/>