CATÓLICA LISBON
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UNIVERSIDADE CATÓLICA PORTUGUESA

Equity Valuation Research

Nestlé S.A.

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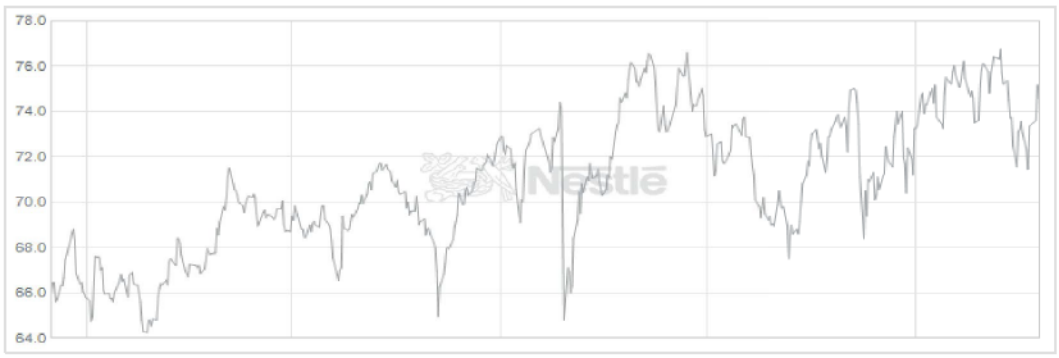
NESTLÉ: USING NBE TO OVERCOME A "NEW REALITY"

Nestlé S.A. is the biggest food company in the world. Operating in 7 different segments, with more than 2000 brands, the company covers almost every food and beverage category. In addition, Nestlé's main ambition is to become the leader in Nutrition, Health and Wellness, which might influence the way the company will invest on their different segments.

The world we all have been living in is characterized by an extreme uncertainty towards the economic future. It's a New Reality that every company had to learn how to deal with. Nestlé S.A., currently doing business in 197 countries, has been facing challenges such as the high levels of currency volatility or the slow growth in developed markets. However, as the company intends to continue its trend of sustainable growth, it needed to find a way to overcome these challenges and, also, take advantage of potential opportunities.

Recently, the company has stated its motivation to become more cost efficient in order to increase profitability, this way freeing up resources to support growth. A division named Nestlé Business Excellence (NBE), which has the aim to use the company's size to optimize the cost structure, reinforces this intention. It is assumed that, starting in 2016, this effort is going to result in a gradual increase in Nestlé's profitability, a factor that the market underestimates and that constitute the main reason to expect that Nestlé will overcome the aforementioned challenges and show a strong and sustainable growth.

Price Performance from 01/2014 to 12/2015



RECOMMENDATION

BUY

TARGET PRICE

CHF 97.64

CURRENT COMPANY INFO

Price @ 02/12/2015: CHF 76.75

Shares O/S (Million): 3,168

VALUATION TARGET

EV (CHF M): 339,078

Equity Value (CHF M): 311,760

Target Price (CHF): 97,64

Shares O/S (Million): 3,168

Date of Price: 02/12/2015

J.P. MORGAN VALUATION TARGET

Target Price (CHF): 78.00

52-week range (CHF): 77.00-64,15

Price @ 14/09/2015: CHF 71.80

Shares O/S (Million): 3,200

Date of Price: 14/09/2015

CREDIT RATING

Standard & Poor's: AA

Abstract

This dissertation focuses on the Equity Valuation of Nestlé S.A., the world's biggest food company. In a period of economic unpredictability, Nestlé has been able to continue its trend of sustainable growth, even facing challenges such as the currency volatility, which is particularly relevant to a multinational Swiss company that reports in its national currency, the Swiss Franc. The main objective is to provide an investment recommendation, based on the estimated equity value of the company. Throughout the dissertation, all the essential topics to come up with an accurate valuation are addressed, namely: 1) different valuation approaches, based on state of the art articles; 2) company overview; 3) external environment overview; 4) forecast assumptions; 5) comparison between this dissertation analysis and the one of the J.P. Morgan analysts. A FCFF valuation approach was chosen, along with the relative valuation approach, this one to complement and test the accuracy of the first approach. Finally, a Buy recommendation is given, as the company is valued in CHF 97.64 per share.

Esta tese é focada na avaliação financeira da Nestlé S.A., a maior empresa do mercado alimentar no mundo. Num período de imprevisibilidade económica, a Nestlé tem sido capaz de continuar a sua tendência de crescimento sustentável, mesmo tendo de enfrentar desafios como a volatilidade das diferentes moedas, um factor particularmente relevante numa multinacional suíça que reporta na sua moeda nacional, o Franco Suíço. O principal objectivo é dar uma recomendação de investimento, baseada no valor estimado da empresa. Ao longo desta tese, todos os tópicos considerados essenciais para se chegar a um resultado sólido e fiável são abordados, nomeadamente: 1) diferentes métodos de avaliação; 2) análise da empresa; 3) analise do contexto externo; 4) assunções feitas na avaliação; 5) comparação entre a análise realizada nesta tese e a realizada por especialistas da J.P.Morgan. A avaliação foi realizada através do método FCFF, com uma avaliação por múltiplos a ser feita para complementar e testar a fiabilidade do primeiro método. Finalmente, é dada uma recomendação para se investir nesta empresa, uma vez que a Nestlé é avaliada em CHF 97.64 por ação.

Acknowledgements

A major stage of my life is now coming to an end. During this time, especially in the last couple of years, I got to grow as a professional but, mainly, as a human being. They say there's no learning without challenges and they could not be more right. One of the main challenges I had to overcome was this one where this acknowledgement is being written on. And I would not succeed without the help of the people to whom I am about to thank.

To my parents and my lovely sister, I would like to thank for all the support and understanding mainly during the last few months, but also during my whole life. Moreover, I would like to thank my best friends, Bernardo, Bruna, Catarina, Francisca, Gonçalo, João, Madalenas, Margarida, Maria Inês, Miguel, Manel, Silvia and, especially, Mafalda, for being there every time I need, with love, friendship, advices and support, during the hardest and best years of my life so far. Without you, I could not have done it. New stages will arise, with new challenges to overcome and experiences to avail, and I am sure I can count on every single one of you.

Last but not least, I would like to thank my advisor, Professor Tudela Maritns, for all the help and support, which were a great surplus to this dissertation.

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1. Literature review

1.1 An introduction to valuation

Damodaran (2006) states that "valuation lies at the heart of much of what we do in finance", as it plays a key but different role in various areas of finance: In portfolio management, "we expend resources trying to find firms that trade at less than their true value, and then hope to generate profits as prices converge on value"; in corporate finance, "we consider how best to increase firm value by changing its investment, financing and dividend decisions"; and, finally, in market efficiency analysis, "we analyze whether market prices deviate from value, and if so, how quickly they revert back".

According to Luehrman (1997), "valuation is the financial analytical skill that general managers want to learn and master more than any other", given the importance of valuation in the decision-making process of a company. In author's consideration, "how a company estimates value is a critical determinant of how it allocates resources" and "the allocation of resources, in turn, is a key driver of a company's overall performance". In addition, Damodaran (2006) states that "understanding what determines the value of a firm and how to estimate that value seems to be a prerequisite for making sensible decisions". In conclusion, both authors emphasize in their works the importance of valuation in managers' attempt to achieve their main goal: shareholders' value maximization.

In general terms, there are four approaches to valuation (Damodaran, 2006): The Asset-Based valuation, the Discounted Cash Flow, the Relative valuation and the Contingent Claim valuation.

The **Asset-Based valuation** approach, according to the author, consists in "valuing the existing assets of a firm, with accounting estimates of value, or book value, often used as a starting point". This approach is not going to be further addressed in this dissertation.

The **Discounted Cash Flow** "relates the value of an asset to the present value of expected future cash flows on that asset". According to Luehrman (1997), the DCF

approach "emerged in 1970's as the best practice for valuing corporate assets". It is divided in several versions, being the WACC-based model the standard version and the most consensual among the managers.

The **Relative valuation,** according to Damodaran (2006), "estimates the value of an asset by looking at the pricing of *comparable* assets relative to a common variable like earnings, cash flows, book value or sales".

The **Contingent Claim valuation** "uses option pricing models to measure the value of assets that share option characteristics".

A manager has to face three types of valuation problem, presented by the resource-allocation process (Luehrman, 1997): Operations, Opportunities and Ownership claims. Although the common practice, nowadays, is to "apply the same basic valuation tool to all problems", in author's opinion, each type of problem has different features that result in specific "analytical challenges". To overcome these challenges, the author suggests the use of different approaches for each type of problem, APV (Adjusted Present Value), Option pricing and Equity Cash Flows, respectively, which "will outperform the single tool (WACC-based DCF) that most companies now use as their workhorse valuation methodology".

Another topic that is worth mentioning is the subjectivity of valuation. Quoting Fernández (2004), "a valuation has little to do with science. A valuation is always an opinion". The same is to say that valuation has a little to do with computation and a lot to do with assumptions. A solid valuation is dependent on the reliability and the consistency of those assumptions. This is why same valuation approaches can result in very different conclusions.

In this chapter, the aforementioned approaches will be explained in order to find out the most suited ones to perform a Nestlé's Equity Valuation, with the main conclusions presented at the end.

1.2 The Discounted Cash Flow

"Put simply, assets with high and predictable cash flows should have higher values than assets with low and volatile cash flows". (Damodaran, 2006)

The Discounted Cash Flow (DCF) valuation approach values an asset based on the cash flows it is expected to provide the company with, in the future, discounted to the present at a rate that reflects the riskiness of the asset. Based on this definition, two different components of this approach arise as crucial to an accurate valuation, the expected cash flows and the discount rate. To compute them, one needs to make a set of assumptions. The extent to which these assumptions are close to the reality, will dictate the accuracy of the valuation.

According to Luehrman (1997), when using DCF, "the analyst's task is, first, to forecast expected future cash flows, period by period, and second to account them to present value at the opportunity cost of funds". The opportunity cost, quoting the same author, is "the return a company could expect to earn on an alternative investment entailing the same risk". Addressing the opportunity cost concept as a discount rate, Luehrman (1997) argues, "the opportunity cost consists partly of a time value" represented by the risk-free rate, "the return you earn for being patient without bearing any risk" and of a risk premium, "the extra return you can expect commensurate with the risk you are willing to bear". The author is referring to two components of the cost equity, which is going to be addressed in detail, later on.

One can approach DCF valuations either by value the entire business, enterprise (firm) valuation, or just value the equity stake in the business, equity valuation (Damodaran, 2006). For each approach, managers have a set of models at their disposal. The most commonly used are the Free Cash Flow to the Firm (FCFF) to the first approach and the Free Cash Flow to the Equity (FCFE) to the latter one. In this section, will also be addressed alternative models such as the Adjusted Present Value (APV) and the Dividend Discount Model (DDM).

When addressing the DCF approach, one cannot forget to consider the excess returns-based models, such as the Dynamic ROE or the Economic Value Added (EVA), which according to Young, Sullivan, Nokhasteh and Holt (1999) "focus on the capital stock and the spread between the return and the cost of capital".

1.2.1 Firm Valuation

1.2.1.1 Free Cash Flow to the Firm

In terms of firm valuation, the Free Cash Flow to the Firm (FCFF), or WACC-based method, "appears to be reigning favorite among practitioners" (Inselbag and Kaufold, 1997). The same authors refer to this model as a "method in which a firm's value is determined by its unlevered cash flows discounted by WACC (Weighted Average Cost of Capital)".

$$EV = \sum_{i=1}^{n} \frac{FCFF_i}{(1+WACC)^i} + \frac{TV}{(1+WACC)^n}$$

Assuming unlevered (or pre-debt) cash flows means that FCFF are computed assuming that the firm has no debt and no tax savings from interest expenses. In essence, FCFF are the cash flows obtained from assets before debt payments and after the firm reinvested to create growth assets. However, this model "requires information about the debt ratios and interest rates to compute the WACC" (Damodaran, 2006).

In conclusion, the formula for FCFF is given by:

FCFF= EBIT (1-Tax rate) + Depreciation - Capex - Changes in Working Capital

1.2.1.1.1 WACC

After estimating the expected free cash flow values and the terminal value, the next step, according to the FCFF model definition, is to discount them back using WACC. In turn, "WACC is a weighted average of two different magnitudes: a cost, the cost of debt, and a required return, the required return to equity" (Fernandez, 2010). As we can see, looking at the formula, both the required return and the cost of debt are reflected by the cost of equity **(Re)** and the after-tax cost of debt **(Rd*(1-T))**, respectively.

$$WACC = \frac{E}{V} \times R_e + \frac{D}{V} \times R_d \times (1 - T_c)$$

The **cost of equity** is usually defined, as the minimum return shareholders require from their investments in the company. The most common way to calculate its value is through CAPM (Capital Asset Pricing Model), a model that relates two concepts

previously mentioned, and addressed by Luehrman (1997): the time value of money and risk. According to CAPM, the cost of equity formula is given by:

Cost of equity = Risk-free rate + Beta x Market Risk Premium

As referred before, the **risk-free rate** reflects the time value of money. Its best proxy, to European companies, is the German 10-year Bond because of its high liquidity and low risk. One should use "long-term government bonds, using bonds of similar duration to that of the expected cash flows" (Fernández, 2003).

The **market risk premium,** or equity risk premium, is the difference between the expected market return and the risk-free rate. According to Damodaran (2008), "the most widely used approach to estimating equity risk premiums is the historical premium approach, where the actual returns earned on stocks over a long time period is estimated, and compared to the actual returns earned on a default-free (usually government security)".

As for **Beta,** it is a measure of the systematic risk (volatility) of a security or a portfolio when compared with the market. The higher the beta, the higher is the sensibility of a company's stock to the market fluctuations. The most common ways of reaching the value of beta are either using the historical industry beta or using the betas of similar companies, computing the average. Furthermore, one common error in valuation, related to beta, is "assuming that the beta calculated from historical data captures the country risk" (Fernández, 2003). In the author's opinion, there are many ways of including country risk in the CAPM formula but "the most common is to use the spread between the long-term dollar treasury bonds of the country in which the company operates and long-term U.S Treasury bonds".

According to Damodaran (2012), "the **cost of debt** is a function of the firm's **default risk**", meaning that, if the company borrows more, the cost of debt will increase because so does the default risk. Koller et al (2005) consider that besides the default risk, there are two more variables that determine the cost of debt, **risk-free rate** and **tax shields**.

To approximate the after-tax cost of debt, Koller et al (2005) suggest using "the company's after-tax yield to maturity (YTM) on its long-term debt". The authors add that the YTM is "only a proxy for expected return, because the yield is actually a promised rate of return on a company's debt". However, YTM is a suitable proxy for companies with investment-grade debt (debt rated at BBB or better) as the probability of default is significantly low. For companies with publicly traded debt, one should "calculate YTM directly from the bond's price and promised cash flows". For companies "whose debt trades infrequently, use the company's debt rating to estimate the YTM". The after-tax cost of debt should be computed using marginal tax rate (Koller et al, 2005).

Finally, the last component of the WACC formula is the **weight of debt and equity** in the capital structure. According to Damodaran (2012), when calculating the values of debt and equity, one should use market values instead of book values, as it reflects better the true value of the company. Koller et al. (2005) argues that "if debt and equity are publicly traded, (one should) simply multiply the quantity of each security by its most recent price".

Although the **market value of equity** is easily computed (number of shares outstanding times its current stock price), when it comes to the **market value of debt**, the process is not so simple since it's very unlikely that companies "have all their debt in the form of bonds outstanding trading in the market" (Damodaran, 2012). Most of the companies have, for instance, bank debt which is presented in book value term but not in market value terms. To convert the book value of debt into market value and overcome this difficult process, the author suggests to "treat the entire debt on the books as one coupon bond, with a coupon set equal to the interest expenses on all the debt, and the maturity set equal to the face-value weighted average maturity of the debt, then to value this coupon bond at the current cost of debt for the company”.

Another aspect that should be considered when computing the weights of debt and equity in the capital structure is if one should use current weights or target weights. Koller et al (2005) point out that "the cost of capital should rely on target weights, rather than current weights, because at any point, a company’s current capital structure may not reflect the level expected to prevail over the life of the business". In

authors' perspective, the use of current weights might cause one to "overestimate (or underestimate) the value of tax shields for companies whose leverage is expected to drop (or rise)". For simpler scenarios, where the capital structure is not expected to change significantly, using "target weights and a constant WACC for future years will lead to a reasonable valuation". However, for companies with expected "extreme changes in capital structure", Koller et al. (2005) consider that "using a constant WACC can lead to a significant error" and recommend to "value the company with adjusted present value (APV)".

1.2.1.2 Adjusted Present Value

The APV model is another DCF version, also designed to value operations. According to Inselbag and Kaufold (1997), APV "values the firm as an all-equity entity plus any incremental worth created by leverage". Damodaran (2006) argues that, in contrast to the Free Cash Flow to the Firm model "where the effects of debt financing are captured in the discount rate, the APV approach attempts to estimate the expected dollar value of debt benefits and costs separately from the value of the operating assets". When using APV, we estimate the value of the firm in three steps (Damodaran, 2006): First, we estimate the value of the firm with no leverage.

$$\text{Value of Unlevered Firm} = \frac{FCFF_0(1+g)}{\rho_u - g}$$

Then, we compute "the present value of the interest tax savings generated by borrowing a given amount of money".

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

Finally, "we evaluate the effect of borrowing the amount on the probability that the firm will go bankrupt, and the expected cost of bankruptcy".

$$\begin{aligned}\text{PV of Expected Bankruptcy cost} &= (\text{Probability of Bankruptcy})(\text{PV of Bankruptcy Cost}) \\ &= \pi_a BC\end{aligned}$$

Concluding, the value of the firm using APV is given by:

Value of the firm = Value of Unlevered Firm + Value of Tax Benefits - PV of Expected Bankruptcy cost

Authors of corporate finance papers usually differ on the opinion of which one of the DCF versions performs the best. As it was previously pointed out, the influence of the capital structure on the valuation model choosing is the main aspect of disagreement. "Proponents of WACC argue that, although there are problems with this approach when the firm's capital structure is changing over time, it is easier to use because the expected equity returns in this approach can be directly observed" whereas "those who favor APV counter that the WACC method is correct only under restrictive assumptions about the firm's cash flows and financing mix" (Inselbag and Kaufold, 1997).

Also on this subject, as referred on the first section, Luehrman (1997) stipulated three valuation problems that could be solved by three different models other than the WACC-based one. The first one, the **Operations valuation** problem, is related to the need that managers eventually have of "estimate the value of an ongoing business, or of some part of one". To solve this problem, the author believes the APV is the better approach, as the WACC-based approach is "suitable only for the simplest and most static of capital structures". APV approach, in its turn, consists on "a DCF relationship to each of a business's various kinds of cash flow and then add up the present value" and is more suited to "most real situations", or, in other words, dynamic capital structures, as it takes into consideration the "side effects related to the financing program (tax shields, subsidized financing, issue costs and hedges)".

In conclusion, APV is considered more suited to value companies with dynamic capital structures, meaning companies that are expected to have significant changes on their capital structures. However, assumptions on bankruptcy cost are not easy to make and even harder to explain. Therefore, many authors consider the WACC-based approach, the best option for stable capital structures, since, in this scenario, the differences between the two models don't have much influence on the valuation.

1.2.2 Equity Valuation

1.2.2.1 Free Cash Flow to the Equity

According to Damodaran (2006), "in equity valuation models, we focus our attention of the equity investors in a business and value their stake by discounting the expected cash flows to these investors at a rate of return that is appropriate for the equity risk in the company". FCFE is a model that "represents a measure that captures the cash flow left over after all the reinvestment needs and debt payments". So, the FCFE formula is given by (Damodaran, 2006):

FCFE = Net Income + Depreciation - Capex - Changes in Working Capital - (Debt repayments - New Debt Issued)

In this model, the discount rate at which we discount back the expected FCFE is the cost of equity (ke), determined by the CAPM model.

$$Equity\ value = \sum_{t=1}^{T} \frac{FCFE_t}{(1+k_E)^t} + \frac{V_T}{(1+k_E)^T}$$

Luehrman (1997) considered FCFE model (or Equity Cash Flows) a solution for the **Ownership claims valuation** problem. These ownership claims are defined by the author as claims companies issue against the value of their operations and opportunities". This problem happens when a company participates in joint ventures or partnerships and "managers need to understand not simply the value of the (joint) venture as a whole but also the value of their company's interest in it". Luehrman (1997) gives the example of ventures with positive NPV that don't create value to one of the investors, or ventures with negative NPV that do (because the government subsidizes, for example). In author's perspective, FCFE model is the best one to value ownership claims as "the business cash flows must be adjusted for fixed financial claims (for example, interest and principal payments) and the discount rate must be adjusted for the risk associated holding a financially leveraged claim".

An alternative and simpler way of getting the equity value of a company from its firm value is by "subtracting out the market value of outstanding debt" (Damodaran, 2006). It is simpler because, in author's perspective, "the advantage of using the firm valuation approach is that cash flows relating to debt do not have to be considered explicitly, since the FCFF is a pre-debt cash flow, while they have to be taken into

account in estimating FCFE".

Equity value = Firm value - Net debt

Net debt = Market value of outstanding debt - (Excess cash + Marketable securities)

1.2.2.2 Dividend Discount Model

The dividend discount model (DDM) is the oldest discounted cash flow model in practice. Damodaran (2006) considers that although many analysts tend to disregard this model on the premise that it's too conservative, "many of the fundamental principles that come through with dividend discount models apply when we look at other discounted cash flow models".

According to Damodaran (2006), investors generally get two types of cash flows, when they purchase stocks in publicly traded companies: dividends, during the holding period, and the expected price, which is determined by future dividends, at the end of the holding period. Therefore, "the value of a stock is the present value of dividends through infinity".

$$P_0 = \sum_{t=1}^{t=n} \frac{E(DPS_t)}{(1 + \text{Cost of Equity})^t} + \frac{P_n}{(1 + \text{Cost of Equity})^n}$$

As we can conclude from the formula, DDM is a very simple and intuitive model. As Damodaran (2006) argues, not only dividends are "the only cash flow from the firm that is tangible to investors", but also there is only one underlying assumption to make in order to get to forecasted dividends: the growth rate in dividends. The cost of equity is computed by CAPM.

However, this model is dependent on the dividend policy of the company, which can generate underestimations when companies choose to hold back cash that they can pay out as dividends to stockholders (in these cases, FCFE value exceed dividends), and overestimations when companies pay more in dividends than they have available in cash flows (in these cases we are assuming that companies can continue to pay this amount of dividends in perpetuity).

"Notwithstanding its limitations, the dividend discount models can be useful in three scenarios" (Damodaran, 2006): it establishes a baseline for firms that have FCFE higher than dividends; provides a realistic value per share estimation of companies that pay out their FCFE as dividends; and it can be the most accurate model when cash flow estimation is difficult, as dividends can still be estimated with precision in those situations.

Equity value of the firm = Value per share (Po) * Number of shares outstanding

1.2.3 Terminal Value

"The terminal value incorporates the value of all the company's cash flow following the final discrete projection period, into perpetuity" (Rotkowski and Clough, 2013).

The importance of the terminal value in any DCF model is addressed by Young et al. (1999) who were able to establish a relationship between the influence of the terminal value in a valuation and the number of annual forecasts assumed on the projection period. According to the authors, the terminal value is on average 94% of the total value if we make three annual forecasts, 90% of the value if we assume five annual forecasts and 79% if we assume ten annual forecasts". It was also established that the smaller the discount rate (WACC or cost of equity), the higher the influence of terminal value in the valuation. Therefore, we easily conclude that the terminal value, represented on the formulas above as *TV*, *Vt* or *Pn*, plays a crucial role in any DCF version.

Damodaran (2012) enumerates three ways to estimate the terminal value: liquidation value approach, the multiples approach and the stable growth model approach. The last one, also called Gordon Growth Model, is the most common approach and the one that is going to be further described in this section, and used in my valuation. The formula to get the terminal value, according to the stable growth approach, and taking the WACC-based model as an example, is given by:

$$TV = \frac{FCFF_{n+1}}{(WACC - g)}$$

As we can conclude from observing the formula above, assumptions related to the long-term growth rate (g) have a significant impact on a DCF valuation as it affects both the nominator and the denominator of the terminal value equation. A steady long-term rate that reflects the industry and macroeconomic expectations is crucial to estimate an accurate firm (or equity) value. According to Damodaran (2006), the model has two conditions related to the growth rate: it "has to be less or equal to the growth rate in the economy" and consistent to the reinvestment rate used to estimate the free cash flows.

Furthermore, there is another condition related to capex and depreciation. In steady state, it makes sense to assume the company will only invest to replace its assets, hence, in long-term, the value of capex and depreciation must be equal. Damodaran (2006) considers that the stable growth model is very sensitive to assumptions about these two figures and "if the inputs for reinvestment are not a function of the expected growth, the free cash flow can be inflated (deflated) by reducing (increasing) capital expenditures relative to depreciation".

1.3 Relative Valuation

Goedheart et al. (2005) consider that although DCF models are seen as the most accurate among managers, "any analysis (...) is only as accurate as the forecasts it relies on". According to the same authors, forecasts related to assumptions on "key ingredients of corporate value" such as company's Return on Invested Capital (ROIC) or its growth rate, if mistakenly done, may lead to strategic errors. However, "comparing company's multiples with those of other companies can be useful in making such forecasts". Quoting Damodaran (2006), "in relative valuation, we value an asset based upon how similar assets are priced in the market". These similar assets are taken out of comparable firms, which are defined, by the same author, as firms "with cash flows, growth potential, and risk similar to the firm being valued".

However, multiples can be misunderstood or misapplied. As an example, Goedheart et.al (2005) found evidence that the use of industry average multiples might overlook that companies in the same industry have different expected growth rates or ROIC. In addition, different multiples can lead to different conclusions and be relevant in

different contexts. Corporate managers usually think of growth as the only driver for multiples approach. However, taking the PER multiple as an example, "growth increases PER only when combined with healthy returns on invested capital"(Goedheart et.al, 2005). To help managers overcome these problems and apply the different multiples correctly, the authors established four principles:

1. Use a peer group with similar growth projections and ROIC: Finding an appropriate peer group is a hard but crucial task to use this approach successfully. After having an initial list of *comparables*, one must examine the companies on that list, their strategic advantages, operations and financial specifics, in order to get explanations about their growth projections and ROIC (as already mentioned, the two drivers of multiple valuation). "Not until you have that expertise will a company's multiple appear in the appropriate context with other companies".

2. **"Use forward-looking multiples":** Multiples should be based on forecasts rather than historical performance. "If no reliable forecasts are available and you must rely on historical data, make sure to use the latest data available".

3. **"Use enterprise-value multiples":** The most commonly used multiple is an earnings multiple, the **Price Earnings Ratio** (PER). It consists in a ratio for company's valuation purposes that measures a company's share price relative to its earnings per share (EPS). However, the authors consider that the PER can lead to misleading valuations for two reasons: it is "systematically affected by capital structure"; and it is based on earnings, which may include *nonoperating* items, that are often "one-time events". An alternative to PER, according to the authors, is the enterprise value-to-EBITA ratio (**EV/EBITDA**) which is "less susceptible to manipulation by changes in capital structure", since "enterprise value includes debt and equity and EBITDA is the profit available to investors".

- **Price Earnings Ratio = Market Value per Share / Earnings per Share**
- **EV/EBITDA = Enterprise Value / EBITDA**
- **EV/EBIT = Enterprise Value / EBIT**

4. "Adjust the enterprise-value-to-EBITDA multiple for *nonoperating* items": EBITDA and enterprise value must be adjusted for *nonoperating* items, such as excess cash and operating lease*s*, to state the more common, hidden within both of them, in order not to generate misleading results.

1.4 Main conclusions

If markets were completely efficient and assets were correctly priced, DCF valuation and relative valuation would lead to similar results. However, "in real world", given the market inefficiency, such assumptions are, usually, not correct. In addition, many authors consider multiples approach a good complement to the DCF valuation models, as it is a good method to make reliable assumptions that lead to accurate valuations.

Therefore, in this valuation, these two methods will be used. Firstly, the FCFF method seems the most appropriate one, as Nestlé has been presenting a stable capital structure, which it's not expected to change significantly in the future. Afterwards, a multiple valuation is important to complement the previous method and test the accuracy of the valuation.

2. Nestlé S.A

This section is intended to briefly introduce the company addressed in this dissertation, using information from its own website and annual reports.

2.1 Company's presentation

The company was founded in 1866 under the name Anglo-Swiss Condensed Milk Company. In 1905, it merged with Nestlé, which was created by Henri Nestlé in 1867, to form the Nestlé and Anglo-Swiss Condensed Milk Company**.** Nowadays, under the name Nestlé S.A, it is the largest food company in the world with a portfolio of over 2000 brands "that covers almost every food and beverage category"[1]. Headquartered in Vevey, Switzerland, Nestlé operates in 197 countries around the world, with sales of 91.6 billion CHF in 2014, benefiting from its decentralized structure which allows key decisions to be made as close as possible to the costumers.

Figure 1: Nestlé's Brand portfolio (2014)

Baby foods	Cerelac, Gerber, Gerber Graduates, NaturNes, Nestum
Bottled water	Nestlé Pure Life, Perrier, Poland Spring, S.Pellegrino
Cereals	Chocapic, Cini Minis, Cookie Crisp, Estrelitas, Fitness, Nesquik Cereal
Chocolate & confectionery	Aero,Butterfinger, Cailler, Crunch, KitKat, Orion, Smarties, Wonka
Coffee	Nescafé, Nescafé 3 in 1, Nescafé Cappuccino, Nescafé Classic, Nescafé Decaff, Nescafé Dolce Gusto, Nescafé Gold, Nespresso
Culinary, chilled and frozen food	Buitoni, Herta, Hot Pockets, Lean Cuisine, Maggi, Stouffer's, Thomy
Dairy	Carnation, Coffee-Mate, La Laitière, Nido
Drinks	Milo, Nesquik, Nestea
Food service	Chef, Chef-Mate, Maggi, Milo, Minor's, Nescafé, Nestea, Sjora, Lean Cuisine, Stouffer's
Healthcare nutrition	Boost, Nutren Junior, Peptamen, Resource
Ice cream	Dreyer's, Extrême, Häagen-Dazs, Mövenpick, Nestlé Ice Cream
Petcare	Alpo, Bakers Complete, Beneful, Cat Chow, Chef Michael's Canine Creations, Dog Chow, Fancy Feast, Felix, Friskies, Gourmet, Purina, Purina ONE, Pro Plan

Source: Nestlé's webpage

As we can observe on the previous picture, Nestlé S.A is engaged mostly in the development and production of food and beverage. However, the company's tagline,

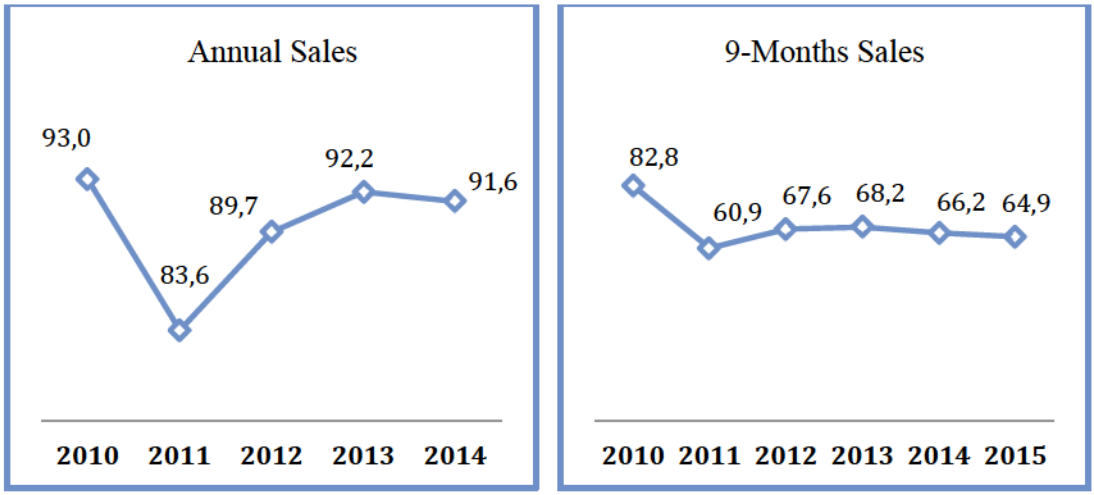
[1] Source: http://www.nestle.com/aboutus/ourbrands

Good Food, Good Life, illustrates Nestlé's attempt to promote health and nutrition through its products. In fact, their subsidiaries Nestlé Health Science and, the more recent, Nestlé Skin Health, demonstrate its commitment to shorten the gap between pharmaceuticals and food. The foundation of this latter Nestlé subsidiary was formed from the acquisition of 50% stake of Galderma (bringing the ownership to 100%) and further strengthened by the acquisition of the full rights to commercialize several key aesthetic dermatology products in the United States and Canada.[2]

2.2 Recent performance

The recent performance of Nestlé S.A has been influenced by the "New Reality"[2] (as the company calls it) that institutions had to face over the last years. This New Reality brought new challenges to overcome but also new opportunities that managers needed to perceive and take advantage of, in order for Nestlé to continue its path of sustainable growth.

Figure 2: Annual and 9-Months Sales (in CHF billion)

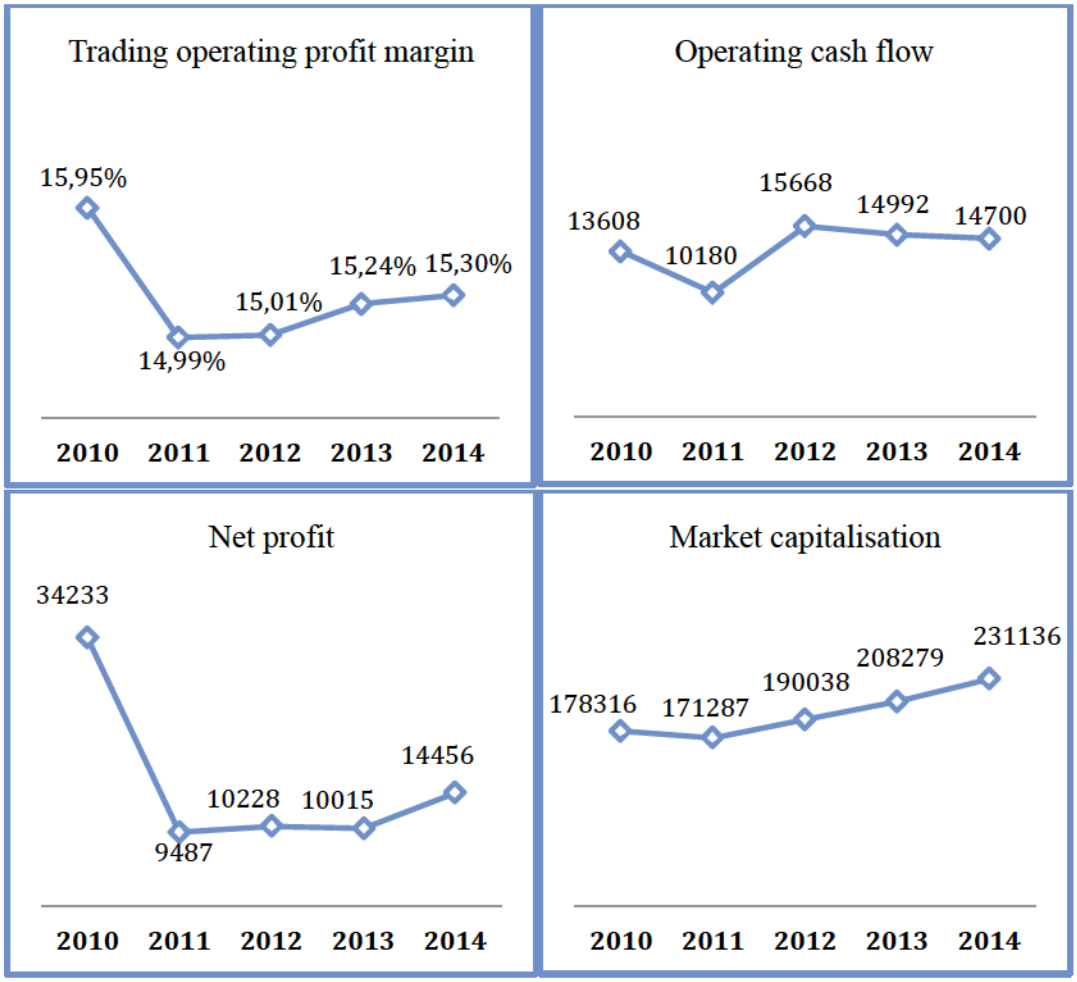


Source: Nestlé S.A

Nestlé's sales results were negatively affected by the economic uncertainty, slow growth in developed markets and, mainly, by the high levels of volatility in currency and stock markets that characterize the New Reality.

[2] http://www.nestle.com/asset-library/documents/library/documents/annual_reports/2014-annual-report-en.pdf (Letter to our shareholders)

Figure 3: Nestlé Key figures



Source: Nestlé S.A

Aligning sales data with the key figures presented above, one can note that in spite of the negative influence of the uncertain and fast-changing business environment, the increase in every figures represented from 2011 to 2012 reflect that the company has taken advantage of the new opportunities that arose, such as the dynamic growth in emerging markets, the developments in technology and digital communication, and in the ways of reaching consumers, among others. The decreases verified on sales and operating cash flow figures on the last couple of years, affected mainly by the strength of the Swiss Franc in a challenging foreign exchange environment, were balanced by the increase achieved on trading operating profit (as % of sales). This increase was in great part due to the **Nestlé Business Excellence (see appendix VIII)**, a strategy that, the company expects, will allow them to decrease structural costs and operational expenses, freeing up resources to support growth. Furthermore, the CHF 4.4 billion increase in Net profit verified last year is, also, explained by the profit realized on the

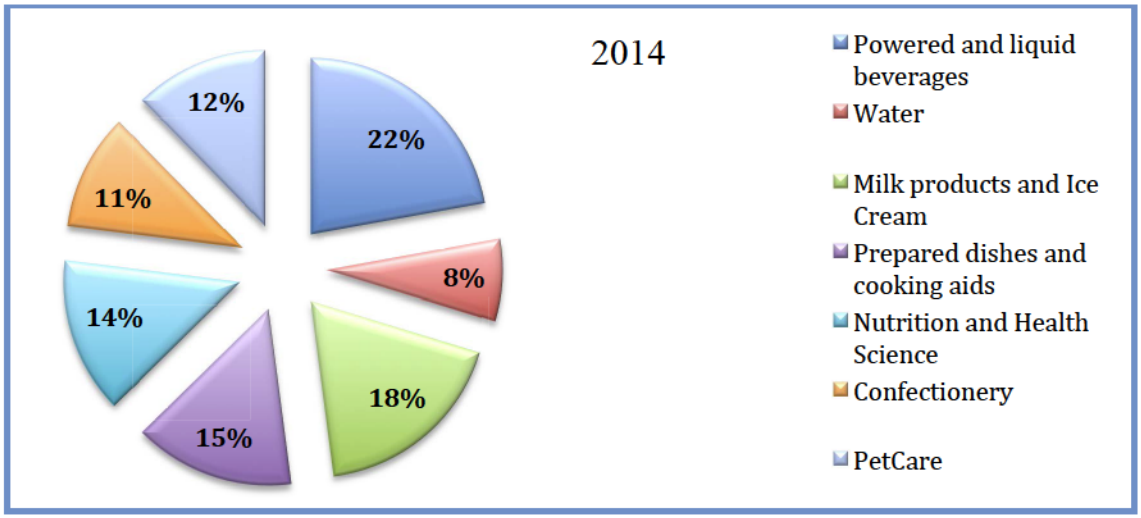
disposal of part of the stake the company holds in L'Oreal and by the already mentioned revaluation gain of the 50% of Galderama. Finally, the Nestlé's sustainable growth is reflected on the market capitalization figure, which has been increasing since 2011.

In the first half of 2015, Nestlé S.A had an organic growth of 4.5%, which, according to the company, allows them to confirm its outlook for the full year: around 5% of organic growth. Moreover, the company has also informed its shareholders of a strong improvement in trading operating profit margin in the first semester of this year, confirming the tendency verified in previous years, which allows them to increase the investment behind their brands.

2.3 Business Segmentation

As previously mentioned, Nestlé S.A. has a portfolio constituted by more than 2000 brands, which are divided into 7 segments. Therefore, it is relevant to analyze their historical performance and assess the importance of each segment in the company's results.

Figure 3: Segments' weight (as % of sales)

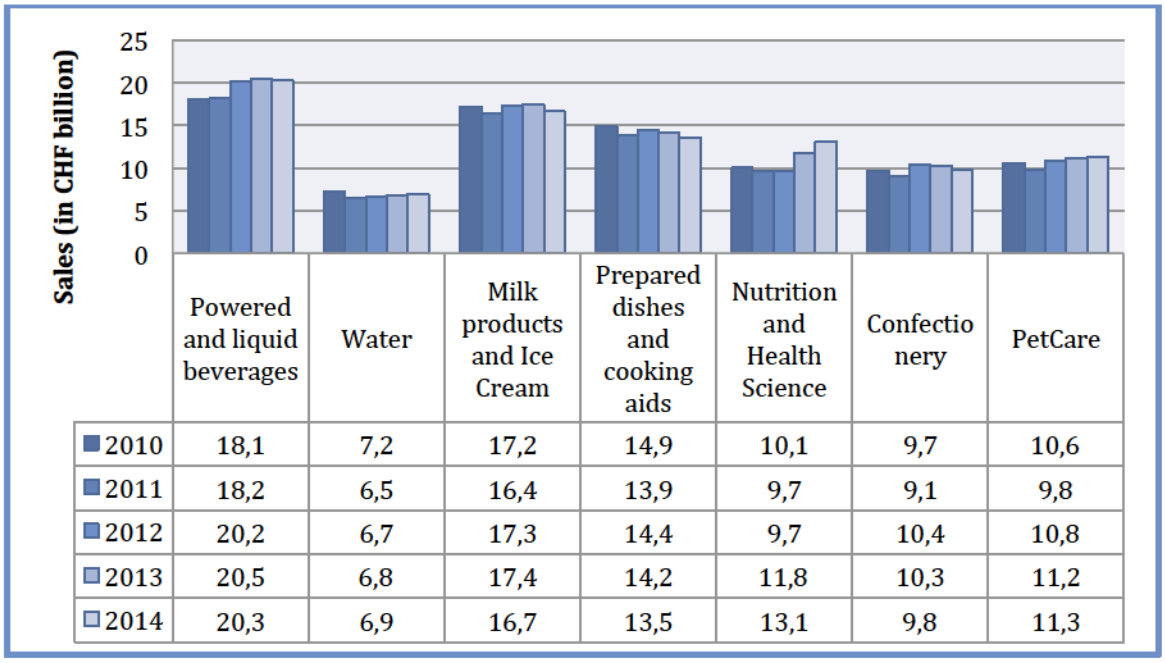


Source: Nestlé S.A and own calculations

According to the chart above, in 2014, the most important segment of Nestlé S.A. (or the segment with the highest contribution to the CHF 91.612 billion of sales) was the Powered and liquid beverages segment, which includes brands such as Nespresso, Nescafé or Nestea, accounting for 22% of Nestlé's total sales. Aggregating the

aforementioned segment with the Milk products and Ice Cream segment, that includes brands such as Haagen-Dazs, or Carnation, they are responsible for roughly 40% of the company's total sales last year.

Figure 4: Sales per segment reported from 2010 to 2014



	Powered and liquid beverages	Water	Milk products and Ice Cream	Prepared dishes and cooking aids	Nutrition and Health Science	Confectionery	PetCare
2010	18,1	7,2	17,2	14,9	10,1	9,7	10,6
2011	18,2	6,5	16,4	13,9	9,7	9,1	9,8
2012	20,2	6,7	17,3	14,4	9,7	10,4	10,8
2013	20,5	6,8	17,4	14,2	11,8	10,3	11,2
2014	20,3	6,9	16,7	13,5	13,1	9,8	11,3

Source: Nestlé S.A

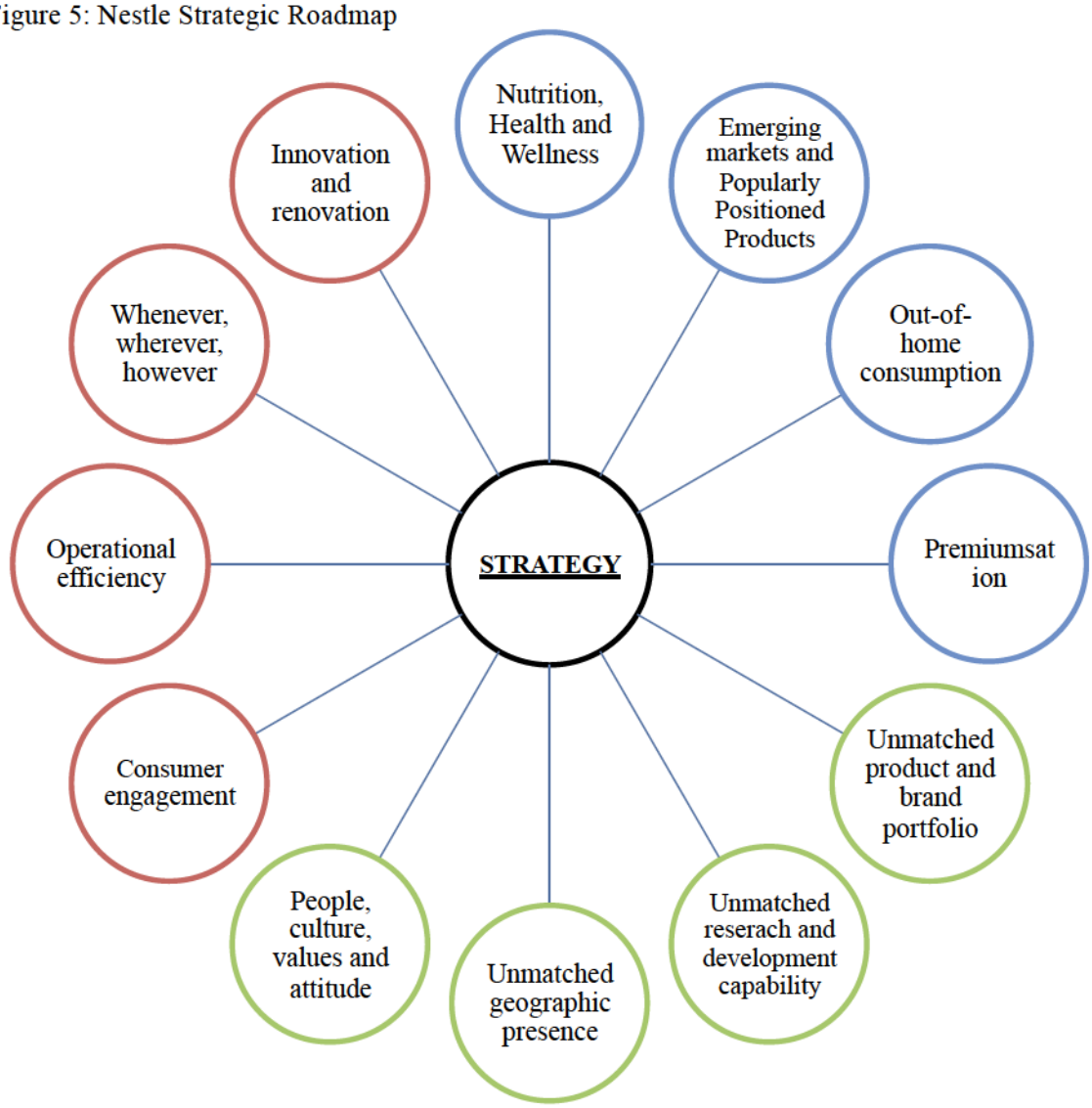
First of all it's important to have in mind that the data here analyzed is negatively affected by the exchange rates impact, which worsens segments' performance. As such, from the table above one can only make conclusions about the reported information, not about the real performance.

Regarding the reported segments' evolution for the last five years, the Nutrition and Health Science (previously called Nutrition and Health Care, renamed in 2014 after the acquisition of the remaining 50% of Galderama) was the one with the most significant growth, 29.7% between 2010 and 2014, while the Powered and liquid beverages segment grew 12.2% in the same period. In opposition, the Prepared dishes and cooking aids segment was the one with the worst performance, decreasing roughly 9.4% over the last five years. The remaining segments have not showed significant changes during this period.

2.4. Strategy and ambition

The Nestlé's core ambition is "to be the leader in Nutrition, Health and Wellness, and the industry reference for financial performance, trusted by all stakeholders"[3]. The graph below shows the set of priorities the company has established in order to be one step closer of achieving its main ambition, while dealing with a challenging environment. The priorities in blue are Nestlé's Growth drivers, the ones in green are Nestlé's Competitive advantages and in red are Nestlé's Operational challenges.

Figure 5: Nestle Strategic Roadmap



Source: Nestlé S.A

[3] http://www.nestle.com/aboutus/strategy

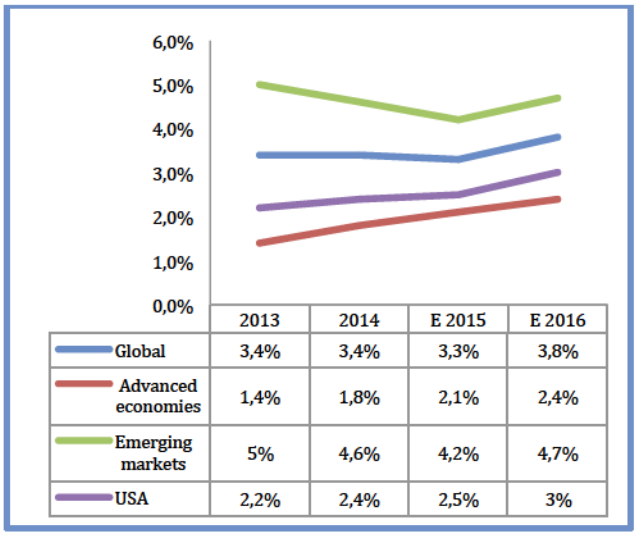
3. General overview

To perform a good valuation of any company, it is important to analyze the environment in which the company is operating, taking into account not only the industry but also the macroeconomic conditions.

3.1 Macroeconomic conditions

According to IMF, in 2015 the global growth is projected to be slightly lower than last year, with a gradual increase in advanced economies and a decrease in emerging markets. In 2016, it is expected to strengthen to 3.8%. The last years have been characterized by the repercussions of the 2008 economic crisis. The business environment has been marked by great uncertainty and volatility, which affect negatively the economies' strength, and, by consequence, the consumers' purchase power.

Figure 6: IMF World Economic Outlook

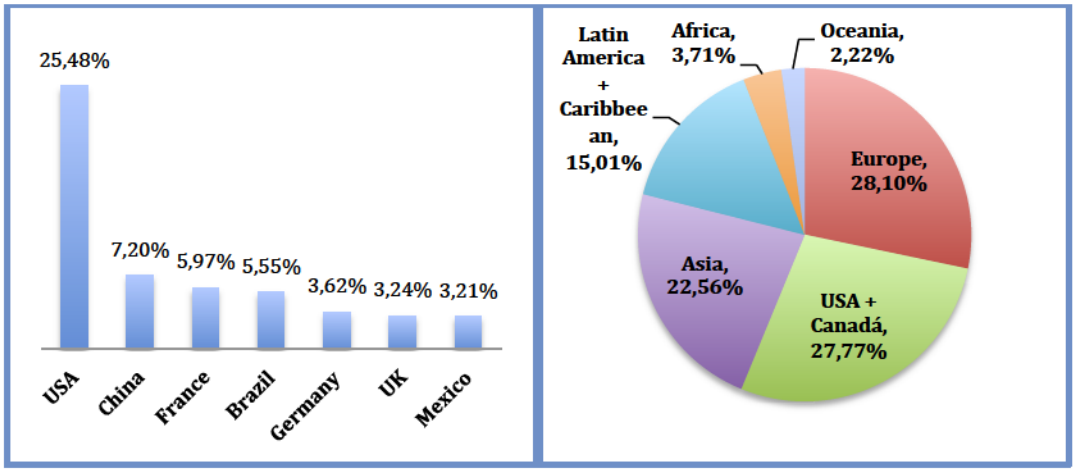


	2013	2014	E 2015	E 2016
Global	3,4%	3,4%	3,3%	3,8%
Advanced economies	1,4%	1,8%	2,1%	2,4%
Emerging markets	5%	4,6%	4,2%	4,7%
USA	2,2%	2,4%	2,5%	3%

Source: IMF

The emerging markets, one of the Nestlé's growth drivers, have slowed their growth, reflecting, mainly, geopolitical factors, lower commodity prices and weaker currencies. However, according to IMF, due to a rebound in activity in several of these emerging markets, their growth is expected to pickup in 2016.

Figure 7: Nestlé's principal markets (as % of total sales) by country and by continent in 2014



Source: Nestlé S.A

From the graphs above, one can conclude that USA is, by far, the most important market to Nestlé, accounting, last year, for one quarter of company's total sales alone. In fact, Nestlé concentrates in seven countries, roughly 54% of its total sales. According to IMF forecasts, USA is expected to accelerate its growth in the next two years.

Regarding the most important markets by continent, Europe and North America account together for more than 50% of Nestlé's total sales. IMF expects Euro Area to grow 1.5% in 2015 and 1.7% in 2016 due to a recover in domestic demand and the inflation beginning to increase. Furthermore, according to the same institution, France is expected to grow 1.5% this year and 1.7% in 2016, after a 0.2% growth in 2014. Germany, in turn, is expected to have the same growth rate in 2015 than last year, 1.6%, slightly increasing in 2016, 1.7%. In Europe but out of the Euro Area, UK is expected to gradually slowdown, with a 2.4% growth rate in 2015 and 2.2% in 2016, after growing 2.9% last year.

3.2 Fast Moving Consumer Goods industry

The Fast Moving Consumer Goods (FMCG) industry, also known as Consumer Packaged Goods industry, is a mature one, so high growth rates in sales are not expected. However, it is very resilient to recession, with the majority of the companies in the sector being able to overcome the financial crisis. Furthermore, this industry is highly competitive due to high market saturation and low consumer switching costs.

It's difficult to name for sure the specific category in which Nestlé S.A operates, given its vast and diverse portfolio. Ever since Mr. Brabeck-Lemanthe became CEO, in 1998, Nestlé made it clear that it considered itself a Nutrition, Health and Wellness company, and not a food and beverage one. However, 85% of its business is related to the latter category, which is probably why Reuters considers it Nestlé's category.

FMCG industry is divided into several categories such as food and beverage, clothing or tobacco, among others. Nestlé S.A is not only the biggest food company in the world, but it is also ranked as first largest consumer goods company worldwide (based on net sales), followed by Procter & gamble, PepsiCo and Unilever **(see Appendix III).** However**,** Nestlé's main competitors depend on the segment and on the country one wants to analyze. For example, the Nestlé's main competitor on the PetCare segment is not the same as the one on the Water segment.

4. Valuation

4.1 Free Cash Flow to the Firm

4.1.1 Sales growth

The assumptions made to forecast the sales growth of Nestlé S.A have to take into account the specificities of each one of the 7 segments in which Nestlé operates. Forecasting this growth rate considering exclusively the company as a whole, is a simplification that would not lead to a well supported valuation, for two main reasons: each segment has its own growth prospects, based on the different historical performances and different contexts; and each segment has a different weight in company's total sales every year, which means that a specific segment's sales growth has a relative and dynamic impact in company's sales growth.

In addition, one has also to consider the fact that Nestlé is a global player and, as such, is influenced by factors such as the currency volatility, the global inflation rate or the different growth projections for emerging and developed markets. In fact, this latter factor is extremely important. Although when we consider the sales verified last year, developed countries continue to be the most relevant market for Nestlé, accounting for 54% of the total sales, according to different projections, this tendency is expected to

change in the forthcoming years, as emerging markets, along with premiumsation, are the two most important growth drivers.

Additionally, although Nestlé S.A is a mature and stable company, different segments with different levels of maturity and stability compose its portfolio. For this reason, this valuation considers a forecasting period of 10 years. Stable segments are expected to reach the steady state on the fifth year, but the higher growth segments are expected to reach it only on the tenth. As an example of an unstable segment, the Nutrition and Health Science is a recent one with high growth historical performance, and given its importance for the company's mission, it's expected to keep growing at a higher pace than the other segments, becoming the most important segment in the long term.

Finally, it's also important to refer that the growth prospects of the company in terms of profitability are not so supported on sales growth as they are on cost efficiency.

4.1.1.1 The impact of foreign exchange rates

As already mentioned, Nestlé S.A operates in 197 countries, which makes the company highly vulnerable to the currency volatility. Using an example in absolute values, it is easily observable that if Nestlé reported its results in USD or EUR, it would have had a positive sales growth instead of a negative one.

Figure 8: Nestlé's total sales in million CHF, USD and EUR

	CHF	CHF	USD	USD	EUR	EUR
	2013	2014	2013	2014	2013	2014
Sales	92158	91612	99452	99961	74858	75431

Source: Nestlé S.A

The impact of foreign exchange rates in Nestlé's sales results is related to the strength of the Swiss Franc, when compared to the currency of the countries in which the company operates. Therefore, if an exchange rate such as EUR/CHF goes down, that would mean that the CHF appreciated against the EUR so the impact would be negative. The table below shows how negative has been the impact of the exchange rates on Nestlé's sales results. Assuming constant currencies, on average, the company's sales grew 5.66%, instead of the growth rate actually reported by the

company, 0.32% (in order to assess the real sales performance, in this table it is not considered the negative impact that the divesture on Alcon had on company's sales, 4.2%).

Figure 9: The effect of exchange rates (FX) on Nestlé's sales results

	2011	2012	2013	2014	2015	*average*
Effect of exchange rates on sales	-13,40%	1,70%	-3,70%	-5,50%	-5,80%	-5,34%
Sales growth	-5,8%	7,0%	3,0%	-0,60%	-2,0%	0,32%
Sales growth without currency influence	**7,60%**	**5,30%**	**6,70%**	**4,90%**	**3,80%**	5,66%

Source: Nestlé S.A and own calculations

Therefore, given the huge impact that exchange rates have on company's sales results, it is extremely important to estimate it. Although it is impossible to know for sure how an exchange rate is going to behave in the future, one can estimate its probable tendency in order to make assumptions about the degree of impact it is going to have on Nestlé's sales results. As it is directly related to the strength of the CHF, one can analyze the past behavior of the main exchange rates, the ones between the currencies of Nestlé's principal markets and CHF **(see appendix V)**, as well as the context of the CHF itself **(see appendix IV).**

Figure 10: The forecasted FX impact on Nestlé's sales results

2011	2012	2013	2014	2015	E2016	E2017	E2018	E2019	E2020	E2021	E2022	E2023	E2024	E2025
-13,4%	1,7%	-3,7%	-5,5%	-5,8%	-6,0%	-5,0%	-4,0%	-3,5%	-3,0%	-3,0%	-3,0%	-3,0%	-3,0%	-3,0%

Source: Own calculations

4.1.1.2 The impact of divestures and acquisitions

A divesture, or an acquisition, has an obvious impact on Nestlé's sales as it represents a subtraction, or an addition, of a source of sales. For instance, in 2011 when Nestlé S.A sold Alcon, a medical company specialized on eye-care products, that represented a significant income to the company, but had a negative impact on company's sales growth for that year. As Nestlé is constantly seeking to innovate and expand its portfolio, every year divestures and acquisitions are made and their impact need to be considered. In this valuation it is assumed that the forecasted impact will be equal to the average of the last five years, that way taking into account that a major divesture can be made (as Alcon), but also assuming that the normal scenario will be a positive

impact, as it happened over the last four years, meaning that it's more likely that Nestlé will acquire than divesture.

Figure 11: Average historical impact of divesures and acquisitions on Nestlé's sales results

2011	2012	2013	2014	2015	average
-4,20%	2,60%	1,80%	0,40%	2%	**0,5%**
(divesture of Alcon)				*(half year: 1%)*	

Source: Nestlé S.A

In addition, due to lack of information, the calculation of the impact of this factor in each different segment is impossible to make, as one doesn't have information regarding the specific segment of the companies acquired or divest. Therefore, this impact is not going to be considered on the calculations showed below. As we can see on the table above, for the projected growth rates, this impact is assumed to be of **0.5%.** The table below shows the aggregated impact of FX and acquisitions/divestures, on each segments' sales growth rate.

Figure 12: The aggregated impact of FX and divestures/acquisitions on Nestlé's sales results

2011	2012	2013	2014	2015	E2016	E2017	E2018	E2019	E2020	E2021	E2022	E2023	E2024	E2025
-13,4%	1,7%	-3,7%	-5,5%	-5,8%	-5,5%	-4,5%	-3,5%	-3,0%	-2,5%	-2,5%	-2,5%	-2,5%	-2,5%	-2,5%

Source: Own calculations

4.1.1.3 Sales of Segments

As already mentioned, the forecasted sales growth for the different segments is based on their historical performance and on the different contexts in which they are inserted. Therefore, in order to make a solid projection, one needs to understand how well the different segments performed for a specific period. As the sales amounts reported by the company are affected by the previous impacts (negatively or positively), which are different every year, one must subtract them in order to get the real growth performance for each segment. However, only the impact of the foreign exchange rates is assumed to affect each segment equally, as assuming that a divesture will affect equally every segment would not lead to a reasonable historical performance (e.g. the divesture of Alcon, a medical company, didn't affect the performance of the confectionary segment). On the table below, the real growth performances are showed in bold and the average growth for each segment corresponds to the average growth

rate without the impact of foreign exchange rates. The contextualization of the assumptions made to project the sales growth of the different segments can be read in **appendix VI**.

Figure 13: Historical performance considering and not considering the FX impact

Segments	2011		2012		2013		2014		2015		average
Powered and Liquid Beverages	0,5%	**14%**	10%	**8%**	2%	**6%**	-1%	**5%**	-8%	**-2%**	*6%*
Water	-10%	**4%**	3%	**2%**	0,4%	**4%**	2%	**7%**	2%	**8%**	*5%*
Milk products and Ice cream	-5%	**9%**	13%	**11%**	-7%	**-3%**	-4%	**2%**	-14%	**-8%**	*2%*
Nutrition and Health Science	-11%	**3%**	10%	**8%**	10%	**14%**	10%	**16%**	13%	**18%**	*12%*
Prepared dishes and cooking aids	-6%	**7%**	4%	**2%**	-2%	**2%**	-4%	**1%**	-10%	**-5%**	*1%*
Confectionery	-7%	**7%**	15%	**13%**	-1%	**2%**	-5%	**1%**	-20%	**-14%**	*2%*
PetCare	-8%	**5%**	11%	**9%**	4%	**8%**	1%	**6%**	-4%	**2%**	*6%*
									(half year x 2)		

Source: Nestlé S.A and own calculations

Figure 14: Projections not considering FX impact

Segments	2011	2012	2013	2014	2015	E2016	E2017	E2018	E2019	E2020	E2021	E2022	E2023	E2024	E2025
Powered and Liquid Beverages	14%	8%	6%	5%	-2%	1%	3%	4%	5%	5%	4%	4%	3%	3%	2,5%
Water	4%	2%	4%	7%	8%	8%	9%	9%	10%	10%	8%	6%	4%	3%	3%
Milk products and Ice cream	9%	11%	-3%	2%	-8%	1%	2%	2%	2%	2,5%	2,5%	2,5%	2,5%	2,5%	2,5%
Nutrition and Health Science	3%	8%	14%	16%	18%	15%	12%	12%	11%	10%	8%	8%	6%	4%	4%
Prepared dishes and cooking aids	7%	2%	1,9%	1%	-5%	1%	2%	2%	2%	2,5%	2,5%	2,5%	2,5%	2,5%	2,5%
Confectionery	32%	13%	2%	1%	-14%	1%	2%	2%	2%	2,5%	2,5%	2,5%	2,5%	2,5%	2,5%
PetCare	5%	9%	8%	6%	2%	2%	3%	4%	4%	3%	2,5%	2,5%	2,5%	2,5%	2,5%

Source: Own projections

Figure 15: Projections considering the FX impact

Segments	2011	2012	2013	2014	2015	E2016	E2017	E2018	E2019	E2020	E2021	E2022	E2023	E2024	E2025
Powered and Liquid Beverages	14%	8%	6%	5%	-2%	-5%	-2%	1%	2%	3%	2%	2%	1%	1%	0%
Water	4%	2%	4%	7%	8%	3%	5%	6%	7%	8%	6%	4%	2%	1%	1%
Milk products and Ice cream	9%	11%	-3%	2%	-8%	-5%	-3%	-2%	-1%	0%	0%	0%	0%	0%	0%
Nutrition and Health Science	3%	8%	14%	16%	18%	10%	8%	9%	8%	8%	6%	6%	4%	2%	2%
Prepared dishes and cooking aids	7%	2%	1,9%	1%	-5%	-5%	-3%	-2%	-1%	0%	0%	0%	0%	0%	0%
Confectionery	32%	13%	2%	1%	-14%	-5%	-3%	-2%	-1%	0%	0%	0%	0%	0%	0%
PetCare	5%	9%	8%	6%	2%	-4%	-2%	1%	1%	1%	0%	0%	0%	0%	0%

Source: Own projections

4.1.1.3.1 Powered and Liquid Beverages

As the highest contributor to the company's total revenue, Powered and Liquid Beverages is the most important segment. Over the last five years, its sales growth historical performance has been solid, with an average growth rate of 6%. However,

this growth rate has been gradually decreasing which it's mainly due to the fact that Nescafé, the main brand in this segment, responsible for 59% of this segment's revenue, is slowing its sales growth.

It's assumed a slow acceleration of the sales growth, with an expected growth rate of 1% in 2016, gradually increasing until 2020. As it's expected that the negative tendency will reverse slowly, the 5-year growth rate average for this period is assumed to be lower than the sales growth average from 2010 to 2015 (4% instead of 6%). After that, it is assumed that the sales growth rate will gradually decrease to the steady growth. To forecast the steady growth, it's assumed that the sales will grow at the same pace than the forecasted impact of the global inflation on the company **(see Appendix VII),** which means that, in real terms, this segment isn't expected to grow on perpetuity.

4.1.1.3.2 Water

Similarly to the previous segment, the Water segment has been presenting a solid performance over the past five years, with an average sales growth of 5% and consistent growth acceleration from 2012 to 2015.

For all the reasons stated in **appendix VI**, I believe it is reasonable to expect higher growth rates for this segment. Therefore, it is assumed that, until 2020, this segment will keep gradually increasing its growth, exceeding the expected average CAGR for the market, as it's expected that the company will take advantage of the shift in consumption that is going to be verified in its principal market, U.S, accelerating its growth above average. After that, it's assumed that the segment will gradually decrease its growth until it reaches a steady growth lower than the global GDP growth but higher than the impact of the global inflation, meaning that this segment isn't expected to follow the global economy's expansion, but it is expected to grow slightly.

4.1.1.3.3 Milk products and Ice cream

This is Nestlé's second most important segment. As its name indicates, two main markets constitute this segment, the dairy products market with its sales accounting for

75% of the segment's total sales, and the ice cream market with sales accounting for the other 25%.

This segment has been performing irregularly over the past five years, with an average sales growth of 2%. However, it showed negative growth in two of the previous three years, indicating a recent tendency to fall.

The sales of the **dairy products market** account, on average, for 75% (it's assumed to be 80% in the future) of this segment, so, the growth projections are much dependent on Nestlé's performance on this market. Given the forecasted market performance for the next seven years, it's assumed that Nestlé will slowly accelerate its growth on that period, but not as much as the market, as it's expected that the competition will increase and Nestlé is already one of the main players. After that, it's assumed that the growth will gradually decrease until it reaches a steady growth equal to the impact of the global inflation.

As for the **ice cream market**, Nestlé is clearly underperforming the market. Therefore, it's assumed that its sales growth will be slightly negative, decreasing gradually in the forthcoming five years, as a result of an expected continuous divesture in this market. After that, thanks to an expected solid performance of Nestlé's premium brands, it's assumed that the growth rate will accelerate towards the global inflation rate forecasted impact, as it's expected that, on the long term, and in real terms, the sales volume is not expected to grow.

Finally, it's assumed that, on average, the segment's performance will be slightly higher than the average performance of the last five years, as it's expected that the growth rates will be positive every year. This is mainly due to the assumption that Nestlé will be able to take advantage of consumers' healthier tastes on emerging markets. Furthermore, generally, this is a stable segment where Nestlé is already the main player. For this reason, unstable growth rates are not expected.

Figure 16: Expected annual growth rate for the Milk products and Ice cream segments

	E2016	E2017	E2018	E2019	E2020	E2021	E2022	E2023	E2024	E2025
Milk produts (75%-80%)	2%	3%	3%	3%	4%	4%	3%	3%	3%	2,5%
Ice cream (25%-20%)	-2%	-2%	-2%	-3%	-3%	-2%	0%	1%	2,5%	2,5%
Segment's growth rate	1%	2%	2%	2%	2,5%	2,5%	2,5%	2,5%	2,5%	2,5%
				(75%-25%)	(80%-20%)					

Source: Own projections

4.1.1.3.4 Nutrition and Health Science

This segment is, obviously, essential for the company to achieve its ambition of becoming the leader in Nutrition, Health and Wellness. Over the last few years, the sales growth of this segment has been consistently accelerating, with, by far, the highest average growth rate of all the segments, 12%.

It's assumed, then, that the segment will continue to deliver a double-digit growth until 2020, slowing down, over the years, as the Heath Science category is getting more mature. It's, also, assumed that, on steady state, this segment will grow at the same pace than the overall economy, which, assuming that the IMF predictions for 2020 are representative for 2025 as well, will grow at 4%.

4.1.1.3.5 Prepared dishes and cooking aids

It's the third highest contributor to Nestlé's total sales. Over the past five years, it has been the segment with the worst performance, with an average sales growth rate of 1%. This low average growth rate is manly due to the weak performance in 2015, caused by a situation in India, which is an interesting situation to be analyzed in order to understand how Nestlé is affected by external risks, and how it handles them **(see appendix VI).**

It's assumed that Nestlé will solve this situation and gradually start growing at a pace similar to 5-year average that would have been verified if the 2015 growth was similar to the one in 2014, 3%. On steady state, starting in 2020, it's assumed that the segment will follow the impact of the global inflation growth.

4.1.1.3.6 Confectionery

Nestlé is well known worldwide for its chocolate ate confectionery business line. This segment is divided into three categories, chocolate (72%), biscuits (16%) and sugar confectionery (12%).

The sales growth on this segment is expected to slowly and gradually increase, on an average growth similar to the one verified on the previous five years until it reaches a steady growth, in 2020, similar to the impact of the global inflation.

4.1.1.3.7 PetCare

Finally, Nestlé owns many of the main brands in the Pet Care market such as Friskies, Purina or Pro Plan, among many others. Over the last five years, this segment's performance has been solid with an average sales growth of 6%.

It's assumed that Nestlé will continue to perform as it did on the current past, gradually increasing its growth, following the market and the economy recoveries, as well as the boom of the industry in emerging markets. After 2020, it's assumed that the segment will reach its steady growth, similar to the impact of the global inflation growth.

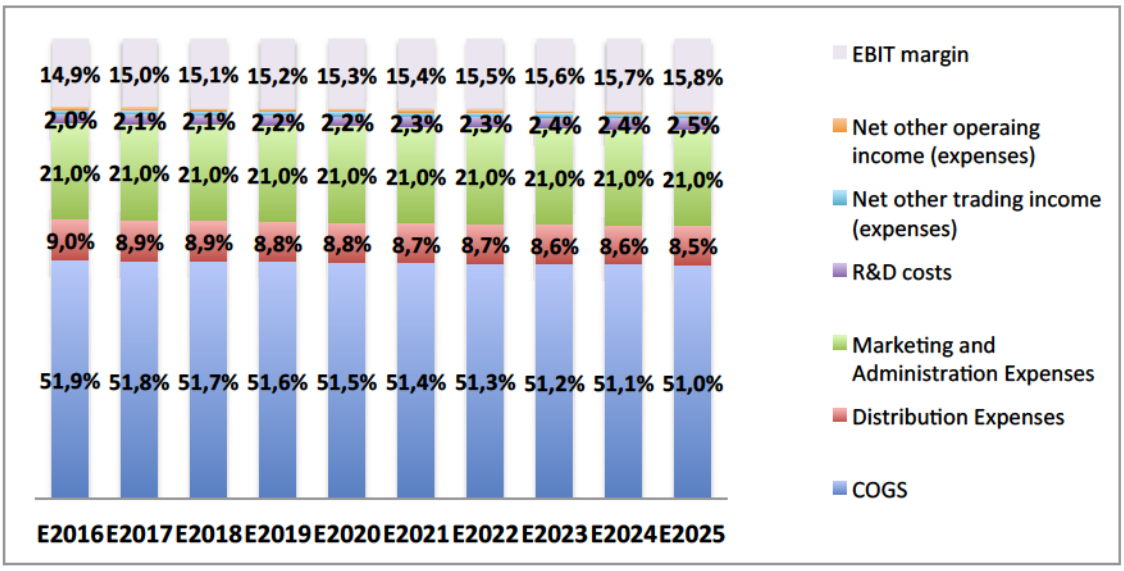
4.1.2 Other revenues

According to the company, this figure is primarily license fees from third parties, which have been earned during the period. Its forecasting was based on the calculation of the historical average percentage of this figure on the total sales amount, **0.21%.**

4.1.3 Operating expenses and other operating income

The forecasted operating expenses and other operating income rely on the assumption that due to the already mentioned Nestlé Business Excellence **(see appendix VIII)** the company will be able to become more efficient, consequently increasing its profitability, represented below by the EBIT (or operating profit) margin, from 14.9% to 15.8%.

Figure 17: The projected EBIT margin



Source: Own projections

In this valuation, it's considered that the major value driver of Nestlé is its potential ability to make use of its size to save in structural and operational costs. Therefore, it makes sense to value the company as a whole, using the consolidated operational expenses, this way considering the expected synergies between segments and consequential cost savings that will result in a larger profit.

In the process of estimating the EBIT margin for the next ten years, one assumed that the Trading Operating Profit of each segment would gradually increase over the next ten years. In opposition, the TOP of the Unallocated Items segment, which comprises mainly corporate expenses and other non-specific costs, is assumed to decrease, as a result of the company's attempt to cut in structural costs. After that, one estimated the impact of the increasing profitability verified on the different segments, on the consolidated operational expenses. As we can see on the graphic above, it's assumed that the increasing profitability of each segment is a result of a decrease in COGS and distribution expenses. Also, the increase in R&D costs is a consequence of both an assumption that the company will continue to invest in innovation and a gradual decrease in non-operational costs **(see appendix IX).**

4.1.4 Gross PP&E and Intangible Assets

Moving on, one needs to forecast the Gross Property, Plant and Equipment and the Intangible Assets, as Depreciation and Amortization are directly linked to them.

The Gross PP&E is composed by land and buildings, machinery and equipment, tools furniture and other equipment, and vehicles. Using sales as the forecast driver, it's assumed that, as the company is getting more efficient, it will not need to acquire tangible fixed assets at the same pace as their sales are growing. Therefore, the target Gross PP&E as a percentage of sales **(55%)** is slightly lower than the 5-year average **(57.5%)**.

In turn, Intangible Assets are expected to remain at the levels verified, on average, between 2010 and 2015 **(see Appendix X)**.

Figure 18: The projected PP&E and IA

	E2016	E2017	E2018	E2019	E2020	E2021	E2022	E2023	E2024	E2025
Gross PP&E	48459	48312	49054	50105	51566	52609	53598	54136	54347	54207
% of sales	57,50%	57,25%	57,00%	56,75%	56,50%	56,25%	56,00%	55,75%	55,50%	55,00%
Land and Buildings	14053	14010	14226	14530	14954	15257	15543	15700	15761	15720
Machinery and equipment	26168	26088	26489	27057	27846	28409	28943	29234	29348	29272
Tools, furniture and other equipment	7269	7247	7358	7516	7735	7891	8040	8120	8152	8131
Vehicles	969	966	981	1002	1031	1052	1072	1083	1087	1084
Intangible Assets	15338	15358	15663	16069	16611	17022	17419	17673	17822	17938
% of sales	18,20%	18,20%	18,20%	18,20%	18,20%	18,20%	18,20%	18,20%	18,20%	18,20%

Source: Own projections

4.1.5 Depreciation and Amortization

To project these two figures, one based on their historical performance, as a % of Gross PP&E and Intangible Assets, respectively **(see appendix XI)**. The assumption behind this forecast is that Depreciation and Amortization will remain at the same levels as the respective 5-year average.

Figure 19: The projected D&A

	E2016	E2017	E2018	E2019	E2020	E2021	E2022	E2023	E2024	E2025
PP&E (Total Depreciation)	2520	2512	2551	2605	2681	2736	2787	2815	2826	2819
% of gross PP&E	5,2%	5,2%	5,2%	5,2%	5,2%	5,2%	5,2%	5,2%	5,2%	5,2%
Land and Buildings	388	386	392	401	413	421	429	433	435	434
Machinery and equipment	1260	1256	1275	1303	1341	1368	1394	1408	1413	1409
Tools, furniture and other equipment	775	773	785	802	825	842	858	866	870	867
Vehicles	97	97	98	100	103	105	107	108	109	108
Intangible Assets (Total Amortisation)	460	461	470	482	498	511	523	530	535	538
% of gross IA	3,0%	3,0%	3,0%	3,0%	3,0%	3,0%	3,0%	3,0%	3,0%	3,0%
Total D&A	**2980**	**2973**	**3021**	**3088**	**3180**	**3246**	**3310**	**3345**	**3361**	**3357**

Source: Own projections

4.1.6 Capex

Similarly to the previous figures, Capex, or Capital Expenditures, was also projected based on its historical performance, in this case as a % sales **(see Appendix XII)**. As it is mentioned in **Appendix II**, Capex and Depreciation are directly linked, and assumptions made about these two figures have a significant impact on the valuation. In this one, it's assumed that Capex will gradually meet Depreciation, because as the company moves towards the steady state, it's not expected to grow rapidly, gradually investing less to support growth, and more to replace its assets.

For this reason, the Capex forecast driver is **2.95%** of sales, which results in a Capex/Depreciation ratio of **1.03 (see Appendix XIII)**.

Figure 20: The projected Capex

	E2016	E2017	E2018	E2019	E2020	E2021	E2022	E2023	E2024	E2025
PP&E	4382	4177	4045	3929	3833	3694	3541	3350	3134	2907
% of sales	5,2%	4,95%	4,7%	4,45%	4,2%	3,95%	3,7%	3,45%	3,2%	2,95%
Land and Buildings	1087	1036	1003	974	951	916	878	831	777	721
Machinery and equipment	2327	2218	2148	2086	2035	1962	1880	1779	1664	1544
Tools, furniture and other equipment	859	819	793	770	751	724	694	657	614	570
Vehicles	110	104	101	98	96	92	89	84	78	73

Source: Own projections

4.1.7 Net Working Capital

As for the NWC, it represents not only the company's ability to meet its short-term obligations, but also the company's operational efficiency. As such, a positive Working Capital (Current assets > Current liabilities) is highly recommended but a high one isn't necessarily good, as it could mean that the company has a lot of money tied up (in inventory or money that it's still owed to the company, for example) that can't be used to pay its obligations.

From Nestlé's historical data, one can observe that the company's NWC is positive but it has been decreasing over the years, as in 2010 NWC represented **4.8%** of sales, and, in 2014 and 2015, it only represented **1.8% (see appendix XIV).** To project this figure, one used the % of sales as the forecast driver and assumed that the company will continue to show the same operational liquidity and efficiency as it showed on the last two years. The variables that constitute the NWC were projected considering their 5-year average.

Figure 21: The projected variation in Net Working Capital

	E2016	E2017	E2018	E2019	E2020	E2021	E2022	E2023	E2024	E2025
Working Capital	1496	1505	1542	1589	1649	1697	1745	1778	1800	1819
% of sales	1,8%	1,8%	1,8%	1,8%	1,8%	1,8%	1,8%	1,8%	1,8%	1,8%
Inventories	8436	8431	8582	8787	9066	9272	9470	9590	9651	9695
Trade and other receivables	12381	12398	12643	12971	13408	13740	14061	14266	14386	14479
Prepayments and accrued income	509	510	520	533	551	565	578	586	591	595
Current tax assets	835	836	853	875	905	927	949	962	971	977
Trade and other payables	16039	16029	16315	16705	17235	17628	18004	18231	18349	18431
Accruals and deferred income	3385	3390	3457	3547	3666	3757	3845	3901	3934	3959
Current tax liabilities	1241	1251	1284	1326	1379	1422	1465	1495	1517	1537
Increase/Decrease in WC	**-14**	**9**	**37**	**47**	**61**	**48**	**47**	**33**	**23**	**19**

Source: Own projections

4.1.8 Tax Rate

According to Nestlé, "the Group is subject to taxes in different countries all over the world. Taxes and fiscal risks recognized in the Consolidated Financial Statements reflect Group Management's best estimate of the outcome based on the facts known at the balance sheet date in each individual country". Therefore, one assumed that the tax rate will be equal to the average 5-year tax rate reported by the company on its financial statements, **26.3%.**

4.1.9. WACC

As it was mentioned in literature review, to reach the company's WACC, one needs to calculate the costs of its sources of capital, debt and equity and, also, their weights in company's capital structure. The data used on the computation of this discount rate is from **2nd of December 2015**.

$$WACC = \frac{E}{V} \times R_e + \frac{D}{V} \times R_d \times (1 - T_c)$$

4.1.9.1 Cost of debt

Regarding the cost of debt, as Nestlé's debt structure outstanding is mainly constituted by bonds, and Nestlé's rating is higher than BBB, one can use the proxy defended by Koller et al (2005), according to which the cost of debt can be computed using the Yield-to-Maturity (YTM) of the bonds outstanding. To perform this proxy, one should take into consideration the risk-free rate of the currency that Nestlé uses to report its results (Swiss Franc) and the credit spread. **(see full tables in appendix XV)**. The aforementioned risk-free rate must have the same maturity as the average maturity of the company's bonds. The credit spread is reached through the difference between each

individual bond's YTM and the respective risk-free rate (according to the currency it is issued in, and its maturity).

Steps:

1. Credit Spread = YTM - Risk-free rate (rf)
2. Weight = Amount Outstanding/Total Amount Outstanding
3. Sum of (Credit Spread x Weight)
4. **Cost of debt = Rf + Credit Spread**

According to Bloomberg, Nestlé has currently 33 bonds outstanding issued in 6 different currencies, USD, EUR, CHF, AUD, GBP, NOK. The calculation of the credit spread is necessary in order to take into consideration the different risks that bonds issued in different currencies entail. Moreover, the YTM used for each bond were obtained from Bloomberg and the risk-free rates for each currency were considered to be the respective countries' Government Bond, with maturity equal to the maturity of the respective bonds. Regarding the Euro bonds' specific case, the risk-free rate used to compute its spread was the German Bunds, because of its high liquidity and low risk, as it was mentioned in the Literature Review.

Nestlé S.A faced, during this year, an abnormal situation as a great part of its bonds, had smaller YTM than the respective risk-free rate, which results in a negative credit spread **(see Appendix XVI)**. This represented an exceptional situation that still has influence on this valuation, as the credit spreads are close to zero. In fact, it will be assumed in the sensitivity analysis that this influence tends to end up in the medium-term, as it is an unusual situation that is not common among other firms. In this scenario, the weighted average credit spread would obviously increase, because there would be larger spreads to increase the value. However, considering the current scenario, after calculating the weighted average credit spread, one reaches a rate of **0,462%.**

As already mentioned, the next and final step to compute Nestlé's cost of debt is to apply the weighted average credit spread to a specific Swiss risk-free rate. During this year, Switzerland has become the first country to sell 10-year debt at negative yield, which is representative of the low rates currently in place for investors willing to buy

Swiss debt **(see Appendix XVI).** The maturity of the Swiss Government Bonds has to be equal to the average maturity of Nestlé's bonds, 4 years. According to Bloomberg, the Swiss 4-Year Government Bond has a yield of **-1.156%.**

As it is easily concluded, the cost of debt would be negative, so this valuation will assume a cost of debt equal to **0%**. This seems to be a reasonable value to Nestlé's cost of debt, as according to the values currently in place, investors consider the company as a "non-risky" one, being willing to invest in company's bonds at similar (and sometimes lower) rates than the respective government bonds.

However, Nestlé's rating, according to S&P is **AA,** which is synonym of small default risk but it is not the highest credit rating, so it does not support the value assumed to the cost of debt. Taking into consideration only the aforementioned rating, a positive yet low cost of debt would be more reasonable. Therefore, for this valuation to be accurate, it has to admit, in the sensitivity analysis, the great possibility of the aforementioned influence of the recent past abnormal reality to end, and the cost of debt to become positive which would, obviously, increase the WACC. As the cost of debt is assumed to be zero, there is no use in calculating the tax shields.

4.1.9.2 Cost of equity

As for the cost of equity, to compute its value one has to consider three different parameters, the risk-free rate, the market risk premium and the beta. After reaching their values, the cost of equity formula is given by:

Cost of equity = Risk-free rate + Beta x Market Risk Premium

After finding the value of all the parameters and using the already mentioned formula, the cost of equity is:

Ke = -0.39% + 0.849 x 6.83% = **5.405%**

4.1.9.2.1 Risk free rate

The risk free rate used to come up with the cost of equity should be measured consistently with the cash flows. Thus, if cash flows are estimated in Swiss Franc

terms, the risk free rate will be the Swiss Government Bond rate, more specifically the 10 year one as it is the standard used one. According to Bloomberg, the Swiss 10-Year Government Bond is **-0.39%.**

4.1.9.2.2 Market risk premium

As we can see on the table below, the approach used to calculate the market risk premium was the weighted average market premium, considering the market premium of the different markets, according to Damodaran, and the weights of the same markets on the total amount of sales. The market risk premium of the "Rest of the world" market was assumed to be the average of the market risk premium of the other markets. This way, the risks of the different markets in which Nestlé operates are considered. The country risk premium is assumed to be zero due to the fact that Nestlé has a highly diversified portfolio that mitigates the country risk. Using this method, the market risk premium is **6,83%.**

Figure 22: Market risk premium

By Principal markets	2014	ERP	ERP * Weight
USA	25,48%	5,81%	1,48%
China	7,20%	6,71%	0,48%
France	5,97%	6,41%	0,38%
Brazil	5,55%	8,66%	0,48%
Germany	3,62%	5,81%	0,21%
UK	3,24%	6,41%	0,21%
Mexico	3,21%	7,61%	0,24%
Philippines	2,70%	8,66%	0,23%
Italy	2,29%	8,66%	0,20%
Canada	2,13%	5,81%	0,12%
Spain	2,01%	8,66%	0,17%
Russia	1,88%	9,56%	0,18%
Australia	1,76%	5,81%	0,10%
Switzerland	1,70%	5,81%	0,10%
Japan	1,62%	6,86%	0,11%
Rest of the world	29,64%	7,15%	2,12%
			6,83%

Sources: Nestlé S.A., Damodaran data and own calculations

4.1.9.2.3 Beta

The beta measures a company's volatility, which means the extent at which the company's stocks follow the index fluctuations. The more volatile a company is, the riskier it is. A company with a beta higher than 1 is more volatile than its market, a company with a beta equal to 1 is as much volatile as the market, and, finally, a company with a beta lower than 1 is less volatile than the market.

To calculate the beta of Nestlé, one performed a linear regression where the dependent variable (y) is the Swiss index variation from one month to another over the last five years, and the independent variable (x) is the Nestlé's stocks monthly variation in the same period. The raw beta is the slope in this linear regression, and it's equal to **0.849**, resulting in an adjusted beta of **0.899,** which means that when the SIX (Swiss market index) fluctuates 100%, Nestlé fluctuates 89.9%.

4.1.9.3 Weights of Debt and Equity in Capital Structure

Finally, to compute WACC one needs to know the weight of both sources of capital in Nestlé's capital structure. The calculation of these weights is made through the market values of both equity and debt.

The market value of equity is easily calculated. One just needs to multiply the current stock price (75.45) by the number of shares outstanding (3188 billion).

MV of equity: CHF 244 679 000 000

The market value of debt is harder to calculate, as Nestlé does not have all its debt publicly traded. To get the market value of the bonds outstanding, one multiplied the amount issued of each bond by its last price.

Figure 23: Market value of bonds outstanding

Issuer	Amount Outstanding (CHF)	Amount Issued	Last Price	Amount Issued*Last Price	(Amount Issued*Last Price)/100
Nestle Holdings Inc	206 521 750	206 521 750	100,435	20 742 011 961	207 420 120
Nestle Holdings Inc	119 016 127	119 016 127	100,361	11 944 577 522	119 445 775
Nestle Finance International Ltd	545 263 990	545 263 990	100,654	54 883 001 649	548 830 016
Nestle Holdings Inc	205 160 000	205 160 000	100,937	20 708 234 920	207 082 349
Nestle Finance International Ltd	93 873 523	93 873 523	102,69	9 639 872 077	96 398 721
Nestle Holdings Inc	923 220 000	923 220 000	100,249	92 551 881 780	925 518 818
Nestle Holdings Inc	357 048 381	357 048 381	102,203	36 491 415 683	364 914 157
Nestle Holdings Inc	150 197 636	150 197 636	102,834	15 445 423 700	154 454 237
Nestle Holdings Inc	119 016 127	119 016 127	102,335	12 179 515 357	121 795 154
Nestle Holdings Inc	386 726 600	386 726 600	100,999	39 058 999 873	390 589 999
Nestle Holdings Inc	512 900 000	512 900 000	99,77	51 172 033 000	511 720 330
Nestle Holdings Inc	131 422 932	131 422 932	102,049	13 411 578 788	134 115 788
Nestle Holdings Inc	250 000 000	250 000 000	106,883	26 720 750 000	267 207 500
Nestle Holdings Inc	150 197 636	150 197 636	102,737	15 430 854 530	154 308 545
Nestle Holdings Inc	410 320 000	410 320 000	99,665	40 894 542 800	408 945 428
Nestle Holdings Inc	300 395 272	300 395 272	103,516	31 095 716 976	310 957 170
Nestle Holdings Inc	512 900 000	512 900 000	100,819	51 710 065 100	517 100 651
Nestle Finance International Ltd	545 263 990	545 263 990	105,247	57 387 399 156	573 873 992
Nestle Holdings Inc	410 320 000	410 320 000	101,036	41 457 091 520	414 570 915
Nestle Holdings Inc	666 770 000	666 770 000	101,01	67 350 437 700	673 504 377
Nestle Holdings Inc	187 747 045	187 747 045	104,85	19 685 277 668	196 852 777
Nestle Holdings Inc	119 016 127	119 016 127	105,009	12 497 764 480	124 977 645
Nestle Finance International Ltd	545 263 990	545 263 990	104,859	57 175 836 727	571 758 367
Nestle Holdings Inc	131 433 932	131 433 932	101,926	13 396 534 953	133 965 350
Nestle Purina PetCare Co	64 635 658	205 160 000	131,1989	26 916 766 324	269 167 663
Nestle Finance International Ltd	545 263 990	545 263 990	109,951	59 952 320 964	599 523 210
Nestle Finance International Ltd	545 263 990	545 263 990	102,045	55 641 463 860	556 414 639
Nestle Purina PetCare Co	81 000 245	256 450 000	130,6171	33 496 755 295	334 967 553
Nestle Finance International Ltd	926 948 783	926 948 783	107,931	100 046 509 098	1 000 465 091
Nestle Purina PetCare Co	45 060 317	179 515 000	128,8566	23 131 692 549	231 316 925
Nestle Finance International Ltd	618 762 560	618 762 560	101,48	62 792 024 589	627 920 246
Nestle Holdings Inc	545 263 990	545 263 990	100,096	54 578 744 343	545 787 443
Nestle Purina PetCare Co	52 484 031	230 805 000	134,4501	31 031 755 331	310 317 553
					12 606 188 503

Source: Bloomberg and own calculations

To get the market value of the bank debt, one computed the net present value of the loans, using the weighted average YTM of the four different loans as a discount rate. For lack of information, the YTM of each loan is assumed to be equal to YTM of a bond with the currency and maturity.

Figure 24: Bank loans - Amount issued and discount rate

Maturity (Date)	Amount Issued (CHF)	Currency	Yield	Spread	Weight	Maturity	Yield*Weight
30/09/18	3 468 315 188	EUR	0,051%	0,358%	27%	3	0,014%
30/09/18	1 984 324 712	EUR	0,051%	0,358%	15%	3	0,008%
21/10/16	2 375 169 940	EUR	0,058%	0,474%	18%	1	0,011%
22/10/16	5 054 198 664	USD	1,040%	0,545%	39%	1	0,408%
	12 882 008 504						**0,440%**

Source: Bloomberg

Figure 25: Market value of bank loans

Book value	Maturity	Discount rate	Market Value
7 429 368 604	1	0,44%	7 396 822 585
5 452 639 900	3	0,44%	5 381 293 818
12 882 008 504			**12 778 116 402**

Source: Own calculations

Finally, one needs to consider the carrying amount of commercial paper, a short-term debt instrument, usually only issued by highly rated companies. The value considered is based on two main assumptions: given the methods used by Nestlé to compute the fair value **(see Appendix XVII),** the market value of commercial paper is assumed to be equal to its fair value; and the value for 2015 is reached calculating the average annual variation of this item, assuming that variation for this year.

Figure 26: Market value of commercial paper

	2011	2012	2013	2014	2015
Commercial paper	10535	13490	7241	5569	4789
Variation		28%	-46%	-23%	**-14%**

Source: Nestlé S.A

MV of debt: CHF 30 173 644 905

Therefore, one reached an E/V ratio of **89%** and a WACC of **5.117%.**

4.1.10 Terminal Value

In perpetuity, the FCFF are expected to grow at the same pace than the estimated impact of the global inflation rate in 2025, **2.5%**, which is slightly lower to the expected growth rate verified in the last year of the estimation period, **3%**.

The assumption that the company will grow at the same pace than the global inflation rate is coherent to the Capex/Depreciation ratio of 1.03 reached for 2025, as, in real terms, the company is not expected to grow.

4.1.11 Enterprise Value

Figure 27: Nestlé's Enterprise Value

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
EBIT	12 742	12 605	12 729	13 044	13 462	13 955	14 347	14 729	14 991	15 166	15 333
(-)Taxes	3 351	3 315	3 348	3 431	3 541	3 670	3 773	3 874	3 943	3 989	4 032
(+)D&A	3 030	2 987	2 987	3 030	3 095	3 177	3 233	3 286	3 312	3 317	3 307
(-)Capex	4 456	4 393	4 196	4 057	3 939	3 830	3 680	3 516	3 317	3 093	2 864
(-)Variation in WC	-133	-10	12	34	46	55	43	42	27	17	15
FCFF	8 098	7 894	8 160	8 552	9 032	9 577	10 085	10 584	11 016	11 385	11 728
		-3%	3%	5%	6%	6%	5%	5%	4%	3%	3%
WACC	5,117%										
PV FCFF		7 510	7 385	7 363	7 397	7 462	7 475	7 463	7 390	7 265	7 120
Terminal value	459 274										
PV Terminal value	265 248										
Enterprise Value	**339 078**										

Source: Own projections

It's well established that the Enterprise Value doesn't properly represent a company's value, as it leaves several important factors out. In order to reach the proper value of Nestlé, one must discount the Net debt, Minority interest and Unfunded pensions to the Enterprise Value.

4.1.12 Net debt

Net debt = Gross debt - (Excess Cash + Marketable Securities)

Gross debt = Bonds + Bank Loans + Commercial Paper (Maturity > 6 months)

Marketable securities = Commercial paper (Maturity < 6 months)

Gross debt comprises the market value of all interest bearing liabilities whereas Marketable securities are very liquid assets that can be converted into cash rapidly and at a reasonable price. Nestlé considers as Marketable securities commercial paper with maturity between 3 and 6 months.

4.1.13 Equity Value

So after subtracting the Net debt for 2015, as well as the values for of Minority interest and Unfunded pensions **(see Appendix XVIII)**, one reached the Nestlé's Equity Value of **CHF 97.64** per share.

Figure 29: Nestlé's Price Target

Enterprise Value		**339 078**	
(-)YE 15 Net debt		22 725	
(-)Minority Interest		1 859	**(BV)**
(-)Unfunded pensions		2 734	
Equity Value		**311 760**	
# Shares		3188	
YE 15 Price Target	**CHF**	**97,64**	

Source: Own calculations

4.1.14 Sensitivity Analysis

As mentioned in Literature Review, a DCF valuation is significantly dependent on assumptions. Given this dependence, it's important to consider that the assumptions might not correspond to reality, building different scenarios. A sensitivity analysis is very useful to understand how several assumptions, such as the FX impact or the null cost of debt, influence the price per share obtained, and, given the difficulty of these forecasts, how changes in those assumptions alter the equity valuation outcome.

As we can conclude from the table below, if the WACC increases, the price per share goes on the opposite way. This increase is important to consider, as it's very likely that Nestlé's cost of debt is higher than zero, as assumed. In addition, the growth in perpetuity is another important assumption to analyze, given its influence on the final result.

Figure 30: Sensitivity analysis

WACC/g	**1%**	**1,5%**	**2%**	**2,5%**	**3%**	**3,5%**	**4%**
5,117%	67,33	74,64	84,3	**97,64**	117,29	149,08	209,33
5,138%	66,93	74,14	83,66	96,79	116,05	147,08	205,36
5,158%	66,54	73,67	83,06	95,98	114,87	145,18	201,65
5,178%	66,16	73,20	82,46	95,17	113,72	143,32	198,06
5,198%	65,78	72,74	81,87	94,37	112,59	141,52	194,59
5,239%	65,02	71,80	80,68	92,80	110,34	137,96	187,88

Source: Own calculations

Finally, this valuation contains three sensible assumptions that could easily differ from the reality in the future. Given the impossibility of predicting the future behavior of exchange rates, it's vital to consider different assumptions related to the FX impact on Nestlé sales reports. Also, considering different scenarios on the increase in Nestlé's

profitability and on the impact of the global inflation rate is relevant to have an accurate valuation.

Figure 31: Pessimistic and optimistic scenarios

Pessimistic scenario	Price per share
Cost of debt = 0.5%	**95,98**
Cost of debt = 1%	**94,37**
Cost of debt = 1.5%	**92,80**
FX impact = + 1%	**88,80**
COGS decrease = 0%	**92,00**

Optimistic scenario	Price per share
FX impact = -1%	**107,25**
COGS decrease 2%	**103,28**
Global inflation rate impact = 3%	**98,00**

Source: Own calculations

Therefore, considering the different scenarios, one puts Nestlé's equity value per share between CHF 83.06 and CHF 117.25, assuming that the main assumptions made during the dissertation possibly undervalue or overvalue the company.

4.2 Relative Valuation

Although many authors consider the DCF method the most accurate one, a relative valuation is also seen as a useful complement to assess the consistency of the assumptions. The next sub-sections are meant to explain the peer group selection process and the multiples chosen to reach the Nestlé's equity value.

4.2.1Peer group selection

The peer group selection is, perhaps, the hardest task in a multiple valuation. The objective is to find a group of comparable companies, meaning representative firms from which we can compare operating metrics and valuation multiples in order to make conclusions about the value of a target company, in this case, Nestlé SA.

When selecting this peer group, there are several variables to take into account, such as industry, size, capital structure, growth and profitability. The objective is to find a group of companies with similar numbers than Nestlé in most of these criteria, having in mind that, depending on the context, some factors are more relevant than others. As mentioned in Literature review, the two last factors, growth and ROIC are the two

main drivers in relative valuation. Therefore, when picking the peer group out of the first list of *comparables*, these two were considered as the main selection criteria. The other criteria were the size, the capital structure and the profitability.

Figure 32: Peer group selection

Company Name	Mkt Capitalization (CHF)	D/E	Sales Growth (TTM)	ROCE (TTM)	EBIT Margin (TTM)
Nestle SA	**236 269 135 341,41**	**37,3%**	**3,7%**	**14,0%**	**15,4%**
Procter & Gamble Co	208 966 773 421,63	48,9%	2,7%	10,7%	16,8%
Unilever NV	127 472 334 935,29	100,8%	2,1%	19,6%	14,5%
L'Oreal SA	95 296 082 724,46	13,8%	3,6%	19,0%	16,2%
Mondelez International Inc	69 010 951 963,40	54,8%	-0,1%	7,6%	12,9%
Reckitt Benckiser Group PLC	65 676 446 687,32	39,2%	3,3%	18,0%	24,7%
Henkel & Co KGaA AG	44 710 665 855,84	14,3%	3,7%	16,2%	16,0%
Danone SA	44 468 876 535,58	81,0%	2,9%	9,4%	10,1%
Kellogg Co	24 750 710 450,36	298,5%	-3,5%	15,7%	9,9%
Beiersdorf AG	22 815 958 254,96	3,0%	3,6%	26,6%	13,8%

Source: Reuters

The table above shows the list of *comparables*, based on the one given by Reuters with other companies included by me. In green are the variables I considered similar to Nestlé. In Black are neutral and in red are the variables far from similar, and thus, not comparable. As we can observe, only one firm presents a capital structure similar to Nestlé. For that reason, one decided to use only enterprise value multiples, given that they are not affected by capital structure, which allowed me to disregard this variable. In addition, as no information related to ROIC of the different companies was available, one considers the ROCE (Return On Capital Employed) as a fair substitute.

So, three companies, Procter & Gamble Co, Unilever NV and L'Oreal SA, compose the peer group selected, since, except for D/E ratio, all their variables were considered to be similar or neutral. Henkel was considered to be too small, compared to Nestlé, to be included in the peer group.

4.2.2 Multiples

As already mentioned, the multiples considered being the more appropriate, given the data available, were the enterprise value multiples, EV/EBITDA and EV/EBIT.

Figure 33: Peer group multiples and Nestlé's Price per share (CHF)

Company Name	EV/EBITDA	EV/EBIT
Peer Group Average	**16,4**	**20,5**
Procter & Gamble Co	15,9	18,55
Unilever NV	14,4	17,74
L'Oreal SA	19,0	23,32
Price per share (CHF)	74,77	74,83

Source: Reuters and own calculations

After calculating the peer average of both ratios, multiplying it by the driver (EBITDA and EBIT in 2015), and adjusting the EV for net debt and other non-operational items, as recommended by Goedheart et al (2005), one reached a price per share between CHF 74.77 and CHF74.83.

Significantly lower than the price per share obtained in DCF valuation, this result constitutes, nevertheless, a BUY recommendation, as at the time this relative valuation was performed, Nestlé's shares were being traded at CHF 72.45. Furthermore, the market underestimating the company's growth potential from increased profitability, and cash returns through potential divestures seeking portfolio optimization, may explain this difference in price target.

5. Comparison with Investment Banking report

Figure 34: Differences in Estimation period and Price target (CHF) between both valuations

	Dissertation	J.P. Morgan
Estimation period	2015-2025	2015-2016
Price target (CHF)	97,64	78
Price share at the time of valuation (CHF)	76,75	71,8

Source: Dissertation and J.P. Morgan September Analyst Report

From the table above, one can easily conclude that the analyst report performed by J.P.Morgan in September 2015 sets a significantly lower target price than the dissertation. Therefore, it's important to discriminate the major differences between the two valuations, in order to understand this discrepancy. In **appendix XX** it's possible to compare the financial statements of both valuations.

The most relevant difference between both valuations, given the influence it has on the final result, is the estimation period length. The analyst report assumes a 2-year forecast (considering 2015 as a forecast year) and the dissertation assumes a 10-year forecast, valuing Nestlé on the 31st of December 2015. Nestlé SA is a mature and stable company, so one could argue that a 1-year or 5-year estimation period length would be more accurate. However, it doesn't make sense to constrain Nestlé SA to a short estimation period, given its long-term growth potential, explained by the increasing profitability (it's assumed that a plan to become more cost efficient in order to increase profitability and support growth takes time) and the several high-growth and unstable segments that compose the company's portfolio.

Figure 35: Different main forecasts of both valuations

	2014	2015	2016
Sales - Dissertation	91612	85686	84488
Sales - J.P Morgan	91612	89132	92051
Trading Operating Profit - Dissertation	14019	13204	13062
Trading Operating Profit - J.P Morgan	14019	13763	14553
TOP margin - Dissertation	15,3%	15,4%	15,5%
TOP margin - J.P Morgan	15,3%	15,4%	15,8%

Source: Dissertation and Analyst Report

As for the expected sales, the J.P. Morgan's estimations are more optimistic, mainly because in this dissertation 2015 values are based on 9 months sales, which can possibly lead to an undervaluation and because, in this dissertation, sales are estimated on a long-term basis, assuming a gradual growth acceleration after 2015. In addition, the analyst report addresses the FX impact as a huge drawback, choosing, given its unpredictability, not to quantify the negative impact, which can also explain the different forecasts.

Another variable worth comparing is the forecasted Trading Operating Profit margin, which represents the company's profitability. Both valuations expect that Nestlé will increase its operating margin considering Nestlé Business Excellence as "the cornerstone to deliver savings, to foster a more cost-conscious culture". Given that Nestlé's management doesn't quantify these expected cost savings, assumptions were necessary, and, naturally, they are different in both valuations.

Once again, this dissertation is more pessimistic than the analyst report on the short-term. However, it's important to state that this dissertation expects in 2025, a TOP margin of 16.4%. Furthermore, the analyst report assumes that Nestlé will become more efficient mainly by saving in overheads whereas this dissertation assumes that an acceleration in operating margins will be possible thanks, in great part, to a gradual decrease in COGS, which contains, among other costs, the costs with manufacturing-related overheads.

Also, both valuations assume cash and cash equivalents to stabilize in 2014 onwards. In this dissertation it's assumed that differences in cash and cash equivalents from the beginning to the end of the year will be paid as dividends to the shareholders.

Finally, although the analyst report sets a CHF 78 price target, significantly lower than the price target set by the dissertation, it also considers that, in a "blue sky scenario", this price would go up until CHF 100. Concluding both valuations give a strongly BUY recommendation.

6. Conclusion

An accurate valuation of any company starts by choosing the right valuation approach. This choice is subjective and the criteria used may differ form analyst to analyst, which explains the importance of the Literature review. After reading state of the art articles, studying the opinion of several experts on this area, one can easily conclude that the right choice depends on the information available and the intrinsic characteristics of the company.

Moreover, after the aforementioned choice, it is important to analyze both the internal and external context of the company. Valuing a company is a significantly subjective exercise, as most of the assumptions depend on the analyst perspective, varying from one to another. As such, in order to come up with the most accurate assumptions possible, one needs to obtain as much information as there is available. Furthermore, forecast assumptions are much reliant on past performance, company's intentions towards the future and, very important, on the economic context.

Nestlé S.A. is a mature company, with a stable capital structure, which explains my choice for the FCFF valuation approach. Throughout the valuation, I faced several limitations that must be stated. As already mentioned, to perform an accurate valuation, one needs to possess as much information as possible. Unfortunately, the access of inside information, not reported by the company, was denied, which limits the solidity of some assumptions such as the cost of debt being equal to zero or the market value of the bank loans, which clearly has influence on the value reached for the WACC. Also, perhaps the most relevant limitation in this dissertation is the FX impact forecast, given its unpredictability and massive impact on Nestlé's reports. However, the purpose of the sensitivity analysis is to mitigate this limitations, coming up with a range of different values for the company, assuming more pessimistic and optimistic scenarios. Therefore, although the value reached for the company is CHF 97.64 per share, one assumes the possibility of this value to vary in a range that goes from CHF 83.06 to CHF 117.29.

Finally, a relative valuation was performed to complement and test the accuracy of the FCFF valuation. According to this last approach, the company is clearly overvalued by the first one. However, one considers that the market underestimates the main factor that explains the high value reached using the FCFF approach, the projected increasing and gradual cost efficiency of Nestlé.

Appendix I: Literature review

1. Contingent Claim Valuation (Options Theory)

DCF approaches don't consider the value of managerial flexibility, a concept that consists on the managers' ability to react to changes in the economic environment, adjusting their plans and strategies (Koller et al, 2005). However, managerial flexibility is different than uncertainty. Quoting the authors, "companies or projects with highly uncertain futures involving a single management decision**,** such as business start-ups with high growth potential, can indeed be valued using a standard DCF approach under different scenarios" whereas "flexibility refers to choices between alternative plans that managers may make in response to events".

The contingent claim valuation method is capable of capturing the value of flexibility, particularly through real options, an adjusted model of financial options. Leslie and Michaels (1997) consider that "real options are important because traditional valuation tools such as NPV ignore the value of flexibility". In turn, according to Copeland and Keenan (1998), "real options are especially valuable for projects that involve both a high level of uncertainty and opportunities to dispel it as new information becomes available".

Luehrman (1997) seemed to agree with the previous statement, considering option pricing a solution to the **Opportunities valuation** problem. Firsly, defining the concept, according to the author, an opportunity "may be thought of as a possible future operation". In author's perspective, "the right to make a decision optimally, to do what it is best when the time comes, is valuable". In other words, if we have the chance to know that the decision we are going to make is optimal, we can get value from that.

Furthermore, Luehrman (1997) establishes the relationship between an option and an opportunity, "with an option, we have the right, but not the obligation, of buy or sell something at a specified price on or before some future date" and "corporate opportunities have the same feature: *if R&D proves that the concept is valid, we go ahead and invest* is analogous to *if the stock price rises (...) we'll exercise the option*". Therefore, real options help managers making better decisions in order to take the best out of the investment opportunities.

Leslie and Michaels (1997) defend that the typical way to estimate a financial option is through the Black-Scholes formula, which takes in consideration the following variables:

- **Stock price:** "value of the underlying stock";

- **Exercise price:** "predetermined price at which the option can be exercised";

- **Uncertainty:** "measure of the unpredictability of future stock price measures";

- **Time to expiry:** "period during which the option can be exercised";

- **Dividends:** "sums paid regularly to stockholders";

- **The risk-free interest rate:** "the yield of a riskless security with the same maturity as the option".

Real options differ from financial options in the matter that real options usually apply to tangible assets rather than financial instruments. However, Leslie and Michaels (1997) studied the "advantages of using a modified Black-Scholes equation for real options", one of which being the identification of what maximizes an option's value.

However, and despite the advantages already mentioned, many specialists disregard this approach considering that it is only more relevant than DCF models in markets with characteristics that create flexibility and volatility such as the commodities market. Otherwise, the DCF approach is considered to be more suitable, as it is much easier to apply in a business context than financial options.

2. Emerging Markets

As a multinational company, Nestlé operates in several emerging markets. These markets are considered to be riskier and, as a consequence, valuation is much more difficult to perform. Therefore, it's important to find the best method to conduct valuation in emerging markets.

James and Koller (2005) consider the DCF approach together with profitability-weighted scenarios, the best valuation model, as it is able to incorporate "the extra level of risk that characterizes many emerging markets". "Inflation, macroeconomic

volatility, capital controls, political changes, war or civil unrest", to name a few, are examples that contribute to the high level of risk verified in these markets.

According to the authors, there are two ways of incorporating additional risk in a DCF-based model, either by including the risks in the "assessment of actual cash flows" or "in an extra risk premium added to the discount rate".

James and Koller (2005) believe that the first approach is more correct than the latter, for three reasons: the investors are able to "diversify most of the risks peculiar to emerging markets" which conflicts with the fact that the discount rate "should reflect only *nondiversifiable* risk"; "risks don't apply to all industries or even to all companies within a industry", incorporating risk into the discount rate by adding a country risk premium is not the best approach; and, finally, using credit risk as a proxy for real risk doesn't consider situations where "equity investments in a company can often be less risky than investments in government bonds".

The approach suggested by the authors consists in constructing macroeconomic scenarios using macroeconomic factors such as inflation rates, GDP, foreign-exchange rates and interest rates, and aligning "the specific scenarios for companies and industries with those" to guide managers on their forecast assumptions. According to the authors, incorporating risks into cash flows using these steps not only "helps managers achieving a much better understanding of explicit risks and their effect on cash flows" but also "permits managers to make better plans to mitigate" those risks.

On the other hand, Goedheart and Haden (2003) consider that although individual risks in countries from emerging markets are high, "it is important to keep in mind that they have low correlations with each other". Therefore, according to the authors, "the overall performance of an emerging-market portfolio can be quite stable if investments are spread out over several countries".

Appendix II: Brief explanation of FCFF components

EBIT (Earnings Before Interests and Taxes), or operating profit, is the difference between operating income and operating expenses, before the deduction of interest

payments or taxes. It is, basically, an indicator of the profits a company makes out of its operating process. So, to estimate the future values of EBIT, one has to assume the growth rate of both operating income and expenses. According to Janiszewski (2011), the assumptions made in the financial projections should be based on the information specific to the business, the industry in which the company operates and the macroeconomic factors. Naturally, multinational companies, like Nestlé, operate in different markets with different contexts. In those cases, managers should take in consideration the different markets in which the company operates and make different assumptions for each context.

When computing the **tax** on the EBIT, there are two options we can choose from, the effective tax rate and the marginal tax rate. The first option consists in the average rate at which a company is taxed whereas the latter option consists on the amount of taxes paid on an additional dollar of income. In the case of a multinational company, managers can either compute the average tax rate weighted by the income on each country, or use the marginal tax rate of its domestic country.

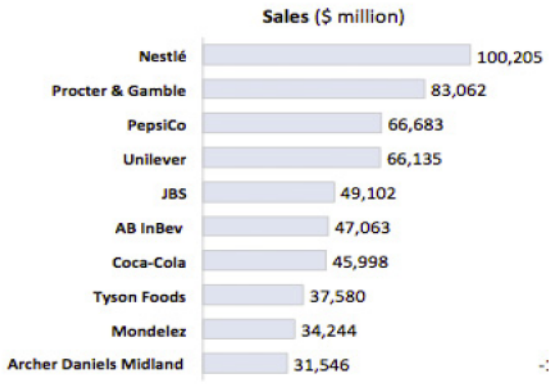
According to Koller et al (2005), to estimate **Depreciation**, one can base our forecasts either on the depreciating methods used by the company (only feasible if information from the inside of the company is available), as a percentage of revenues, or as a percentage of the Property Plant and Equipment.

Depreciation is strongly related to **Capex** (Capital Expenditures), as Capex consists on the capital expenditures used to acquire or upgrade fixed assets such as properties or equipment. For this reason, Net Capex (Capex - Depreciation) reflects the growth expectations of a company. Hence, companies with high growth rates such as start-ups, present higher levels of Net Capex than mature companies with low and stable growth rates. As a company moves towards the steady state, depreciation and capex must converge, since in this state the company is not expected to grow rapidly. As Damodaran (2002) states, one can estimate future values of Capex based either on company's historical accounts or on the average ratio Capex/Depreciation of the company's peer group. The author also explains that because this ratio represents how companies generate future growth from investing their earnings in long-term assets, using this option is more suitable for companies with high growth rates, which is not verified in Nestlé's specific case.

Working Capital is the difference between current assets and current liabilities. It represents the capacity of a company to meet its obligations in the short-term and helps the managers to understand how efficiently the company is using its resources. Changes in working capital are reflected in the Operating cash flow section of the Cash Flow Statement. To estimate the Working Capital, one must forecast every operating item it is dependent on, such as inventory or accounts receivable/payable, among others, as a percentage of revenues.

Appendix III: Top 10 FMCG companies of the world

Figure 37: Ranking of the biggest FMCG companies of the world



Source: Statista

Appendix IV: Swiss Franc

The first factor one has to analyze in order to project the impact of exchange rates on Nestlé's sales results is the common denominator between all the exchange rates, the Swiss Franc. Being the aforementioned impact related to the strength of the Swiss Franc, there are two questions that need to be answered:

1) Why is this currency so strong?

2) Is it going to remain that strong in the future?

1) According to a study performed by the German National Bank, the Swiss Franc is long considered a safe haven in times of financial stress. This time was no exception, and with the debt crisis, Swiss Franc sharply appreciated against other currencies, mainly due to the stability of the Swiss financial system and the low rate of inflation.

Furthermore, in September 2011, the Swiss National Bank (SNB) put a cap on its currency, which meant that the EUR/CHF exchange rate could go beyond the 1.20 francs to the euro, this way protecting the National economy from the turmoil in Eurozone, and more specifically, the manufacturers that were selling a great share of their exports to this area. In January 2015, the removal of this cap has triggered this highly appreciation of the Swiss Franc against the Euro, as this cap required SNB to purchase assets in non-franc currencies and, according to the same institution, it became too costly and too risky.

2) This is the silver lining question that everyone would like to know the answer for. Whether the Swiss Franc will remain a safe haven or not, it is dependent on the turmoil in Eurozone, highly related to the Greek situation. There are still speculations about whether Greece will leave the Euro monetary union or not and how it will manage its debt burden. Therefore, it is likely that the Swiss franc will continue to be a safe haven on the short-term. However, this situation has negative repercussions on Swiss economy. As an example, according to Bloomberg, the Swiss GDP dropped in the first three months on this year, the first contraction in three years, after the Swiss franc appreciated against Euro and Dollar. For this reason, I believe it is reasonable to assume that, on the long-term, this situation will attenuate and the Swiss franc will not as strong as it is now, compared to Euro and Dollar.

Appendix V: The projected impact of the exchange rates on Nestlé's sales results

1. Principal markets

Figure 38: Market weight (as % of sales)

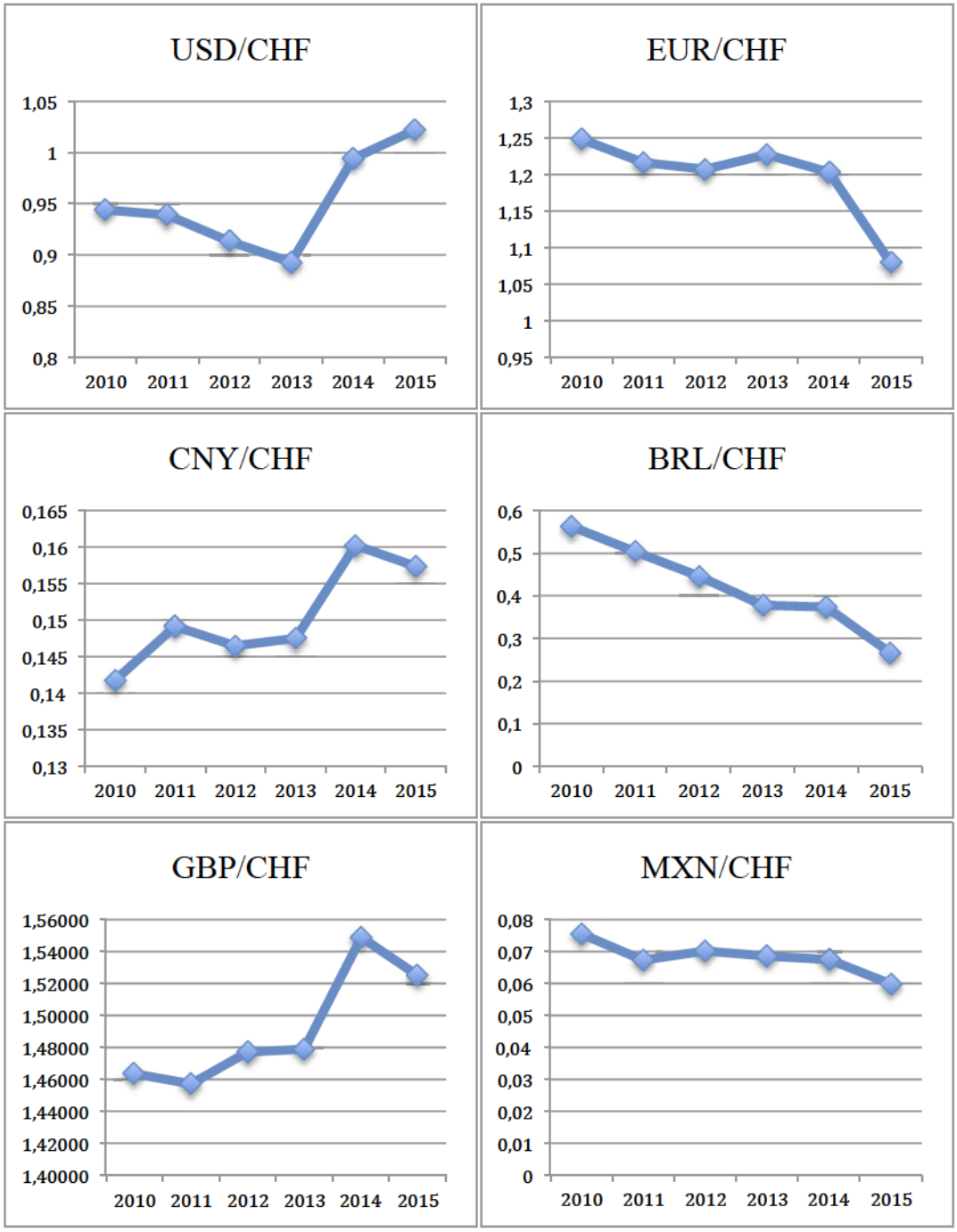
Market weight (as % of sales)				
By Principal markets	**2012**	**2013**	**2014**	**average**
USA	25,72%	25,32%	25,64%	**25,56%**
China	5,60%	7,18%	7,25%	**6,67%**
France	6,17%	6,05%	6,01%	**6,08%**
Brazil	5,80%	5,55%	5,59%	**5,65%**
Germany	3,55%	3,60%	3,65%	**3,60%**
UK	3,18%	3,06%	3,26%	**3,17%**
Mexico	3,52%	3,45%	3,23%	**3,40%**
Philippines	2,26%	2,62%	2,72%	**2,53%**
Italy	2,41%	2,28%	2,30%	**2,33%**
Canada	2,37%	2,24%	2,14%	**2,25%**
Spain	2,08%	2,00%	2,03%	**2,04%**
Russia	1,98%	2,01%	1,89%	**1,96%**
Australia	2,33%	1,93%	1,77%	**2,01%**
Switzerland	1,65%	1,64%	1,71%	**1,67%**
Japan	2,00%	1,70%	1,63%	**1,78%**
Rest of the world	29,38%	29,37%	29,20%	**29,32%**
By continent				
Europe	28,78%	28,29%	28,27%	**28,45%**
USA + Canada	28,09%	27,56%	27,95%	**27,86%**
Asia	20,18%	22,25%	22,71%	**21,71%**
Latin America + Caribbean	16,51%	15,81%	15,10%	**15,81%**
Africa	3,61%	3,69%	3,73%	**3,68%**
Oceania	2,83%	2,41%	2,24%	**2,49%**

Source: Nestlé S.A. and own calculations

For simplicity, it will be assumed that the different market weights in the future will be equal to their average of the last three years.

2. Graphs showing tendency

Figure 39: Historical performance of main exchange rates and respective impact



	2011	2012	2013	2014	2015	average
Impact	-13,4%	1,70%	-3,70%	-5,50%	-5,80%	**-5,34%**

Source: Bloomberg and Nestlé S.A.

The values for 2015 were obtained on the 11th of November. The impact for the same year is assumed to be equal to the impact reported by the company on the 9 months sales.

3. Main conclusions

Exchange rates are displayed by order of importance, according to the table of the principal markets. Euro and Dollar are the two main currencies, accounting together for roughly 50% of Nestlé's sales. Furthermore, the future impact of the exchange rates on the company's sales is going to be assumed from the currencies displayed above, as together, they account for nearly 70% of Nestlé's total sales.

Moreover, it is important to understand that when the trajectory is descendent, that means that the CHF is appreciating against the other currency, which is equivalent to a negative impact on company's sales results. Furthermore, it is also possible to observe that, this year, apart from the USD/CHF exchange rate, every graph is showing a descendent trajectory. The worse case is definitely the EUR/CHF exchange rate, which reflects the effects of the, already mentioned, currency cap removal from the Swiss National Bank.

From the graphs, it's also possible to conclude that every trajectory is very irregular, which causes the impact to be irregular as well (e.g. in 2011 the impact was -13.4% and in 2012 the impact was 1.70%). That makes it difficult to make an accurate forecast of the impact for the next years. Having that in mind, this valuation has five main assumptions about this factor:

- Given the historical performance of the main currencies, along with the strength of the Swiss franc, explained on the previous chapter, it is assumed that the overall impact is always going to be negative;

- For the next year, 2016, it is assumed that the descendant trajectory of the main exchange rates is going to maintain, as well as the tendency verified on the impact (-5.5% in 2014, followed by -5.8% in 2015);

- As the Swiss franc is considered to be in overvaluation, due to the fact that is commonly used by the investors as a safe haven in times of financial stress, I believe

that on the long-term, the impact is going to be attenuated. Therefore, one has to take into consideration that, on perpetuity, the impact is going to be less negative;

- For the last five years, we have lived in a debt crisis that, as already mentioned, tends to overvalue the Swiss franc, worsening the impact of the exchange rates on Nestlé's results. During this period, the average impact was of **-5.34%.** Therefore, it is assumed that, on the short term, the average impact is going to be equivalent. However, as it is also assumed that, on the long term, the impact is going to be attenuated, the average impact is going to be gradually lower.

- It is assumed that on perpetuity, the average impact will be half as much the average impact of the last five years. That is because it is a fact that on the last five years, the debt crisis overvalued the Swiss franc and, so, on perpetuity one has to consider that the impact will be much lower.

In order to consider the unpredictability of this factor, other scenarios are going to be taken into account on the sensitivity analysis.

Appendix VI:

1. Powered and Liquid Beverages

This segment is the highest seller in Nestlé's portfolio, having sold, on average, about 19 300 CHF billion, over the past five years. Its main category is the soluble coffee that contains brands such as Nescafe and Nespresso. These two well-known brands are competitors and, ironically, represent the changing trend in the industry, responsible for the gradual decrease verified on this segment historical performance.

According to an analyst from Euromonitor International, different parts of the world have different perceptions about instant coffee, the core business of Nescafé. For instance, in Europe and U.S, instant coffee is seen as a low quality product whereas in Asia, the same product is seen as a luxury product. In fact, Nescafé's sales in Asia are growing faster than in the aforementioned markets, where the last generation of consumers is more demanding about quality and flavor. Those consumers, now, value

more the quality and the convenience of the pod machines, sold by Nespresso, among other companies, in comparison to instant coffee.

Present in 180 countries, Nescafé is the largest and one of the oldest brands of Nestlé S.A. According to the company, it generates, on average 59% of this segment's revenue. Recently, due to the reasons already mentioned, the sales growth of this brand has been slowing down.

Nestlé has been reporting strong performances from Nespresso, mainly in Europe, driven by the shift in consumers tastes, the company's constant innovation in products and services and its unique service proposition including boutiques, e-commerce and call centers, building intimacy with consumers, which is appreciated and accelerating Nespresso's sales growth.

It is obvious that Nespresso's success is being achieved through the expenses of Nescafé, which ironically, given the weight of this brand on the segment's total revenue, is slowing the segment's growth.

Nestlé S.A. is investing on this brand, geographically expanding and innovating every year. Through Nespresso, Nestle, along with Kraft Foods, dominates the premium market of the soluble coffee category. As such, Nespresso's core business is inserted on one of company's growth drivers, premiumsation.

In fact, being inserted in one of the company's established growth drivers is one of the main reasons to expect higher growth rates to this segment. Nespresso dominates the premium segment of the coffee systems category and Nescafe Dolce Gusto, the premium product of Nescafé, has been the main growth driver of this segment for the last two years.

In addition, the competition in the instant coffee market is getting tougher, as Mondelez International and DE Master Blender 1753 VH, the second and third biggest players in this market, respectively, has merged the coffee business last year, which caused Nescafé to loose market share (47% to 44.3%).

Asia is the main market of this segment, which is not a surprise, as it's the part of the globe where Nescafé performs better.

Nestlé announced, last year that it would prioritize measures to put back up Nescafé's sales. These measures consist on a campaign called "It all starts with a Nescafé", with a strong digital component to appeal to younger costumers, launching new products, that way attempting to attract new costumers, and launching a new machine in Asia (Nescafé Red Cup), as a part of an effort to increase the brand's presence in the market where, as already mentioned, it performs better.

Finally, the global growth rate is expected to increase, supported by increases on both Advanced Economies and Emerging Markets, with this latter reversing a slowing growth situation.

To sum up, the assumption that this segment is going to slowly and gradually reverse this negative tendency is based on the following aspects: Nespresso will continue to grow rapidly, as it's core business goes according to the shift on consumers' tastes; Nescafé will slowly accelerate its growth, as a consequence of an investment on the Asian market, as well as the launching of new products; the premium products of both brands will also be major contributors to the segments' growth rate acceleration; and, finally, the macroeconomic conditions are expected to improve next year, with the emerging markets growth rate accelerating from 4.3% to 4.7%, a significant improvement in a very important market for this segment.

2. Water

According to the Beverage Marketing Corporation, the bottled water market is expected to grow at a CAGR of 8.7% from 2014 to 2020. The same institution adds that the main factors supporting this high-expected growth rate are the rising concern for health and wellness and the evolution of new packaging activities.

Over the last decade, there has been a shift in consumption all around the world but mainly in U.S, which is relevant in Nestlé's specific case, as roughly 50% of the total sales of this segment are made in this country. For the eighth year consecutive, the soft drink category has been experiencing a volume sales loss, which makes analysts

predict that within the next decade, bottled water will overtake soda as the American consumers' favorite packaged drink.

The Nestlé Pure Life, the Nestlé's biggest bottled brand has been the growth engine of this segment for the last years, particularly in emerging markets, becoming in 2014 the world's top-selling water brand. Furthermore, this segment is also inserted on the premiumsation growth driver, as the premium international brands Perrier and S.Pellegrino have also been accelerating their growth. Complementing these performances, also local brands delivered good growth, in particular Yunnan Shan Quan in China, Buxton in UK, Erikli in Turkey and La Vie in Vietnam.

In addition, as already mentioned in this dissertation, the global growth rate is expected to accelerate in 2016, as well as the growth rate for U.S, with an expected growth rate of 3% in 2016, after 2.5% in 2015.

3. Milk products and Ice cream

Regarding the global **dairy products** market, analysts projected a CAGR of 5.3% between 2014 and 2022. Similarly to the bottled water market, the main growth driver of this market is the increasing concern towards health. Furthermore, due to changing consumer dietary patterns and consequent increase in demand, emerging markets represent a massive opportunity for both existing players and new entrants. As an example, the 11% growth verified in 2011 was mainly supported on the 31% sales growth of this segment in Asia, in emerging markets such as China and Philippines.

Given the weight of this market on this segment's sales, is not a surprise that Nestlé's performance in it has been equivalent to the segment's one. Therefore, much of the growth expectations of this segment rely on Nestlé's performance in the dairy products market.

Regarding the **ice cream** market, it has been globally dominated by two main brands, Nestlé and Unilever, together controlling one third of the global market. However, according to Reuters, changing tastes and distribution challenges in emerging markets are opening up this market, as consumers are turning to niche brands with unusual or

healthier ingredients, and to premium brands. Also according to Reuters, the ice cream market is expected to grow 6% in 2015, which makes it easy to conclude that Nestlé is underperforming the market.

Nestlé has been showing a tendency to divest in this market, having sold some of its mass-market ice cream operations, and analysts speculate that this tendency will most likely go on. This year, the company agreed to sell its South African ice cream business to R&R Ice Cream, the same company to which Nestlé sold the rights to UK ice cream business. This tendency goes according to Nestlé main ambition, being the leader in Wellness, Health and Nutrition. Moreover, analysts expect that Nestlé, not wanting to expand in the unhealthy ice cream business, will focus on its premium brands, Haggen-Dazs and Movenpick, selling some of its mass-market brands.

In the general global market, Nestlé is the main player with a general market share of 12.4%.

In conclusion, the emerging markets represent a massive opportunity to the global players, of which, I believe, Nestlé can take great advantage. The consumers' increasing concern towards health is, also, an aspect that Nestlé could benefit from, as it's already ambitioning to offer healthier products in all its brands and segments.

As for the ice cream market, Nestlé is clearly underperforming the market. Also, most analysts expect that Nestlé will continue to divest in this market, as it contradicts the company's main ambition, being the leader in Wellness, Health and Nutrition. It's also expected that Nestlé will focus on premiumsation with its premium ice cream brands, which makes sense as consumers are, now, turning to niche and premium brands.

4. Nutrition and Health Science

Nestlé's sales growth on the nutrition market has been increasing every year, mainly thanks to the strong performance on infant nutrition, which has been growing on a double-digit basis in emerging markets. This growth has been in great part driven by continuous strong sales of NAN, Cerelac and its premium brands. In 2014, there was a

negative impact on sales caused by the divesture on the performance nutrition business, PowerBar.

As for the Health Science category, it is divided into two subsidiaries, Nestlé Health Science, which started operating in 2011, and Nestlé Skin Health, which started operating last year. The first subsidiary has the ambition to offer nutritional solutions that address disease and health conditions**.** It has been delivering a high and solid growth, mainly in Europe and North America and it's not expected to slow down given that plans to keep expanding the business. As a result, last year, its presence got stronger in China as well. Regarding the latter subsidiary, last year, in its first year, it delivered double-digit growth with strong performances in all geographies, as expected by the company. As already mentioned in a previous chapter, this growth was further strengthened by the acquisition of the full rights to commercialize several key aesthetic dermatology products in the United States and Canada.

In conclusion, this segment has been delivering a solid and consistent growth, due to a strong performance in all markets. It's quite clear that this segment is vital to the company's ambitions. Therefore, the company does not have any intentions to stop investing in its expansion, which makes me believe that its performance will keep solid in the future.

5. Prepared dishes and cooking aids

The low average growth of this segment is mainly due to its weak performance in 2015, which is an interesting situation to be analyzed in order to understand how Nestlé is affected by external risks, and how it handles them.

For years, Maggi has been one of the Indian's favorite brands. According to Euromonitor, in 2014, Nestlé sold 623 million dollars of Maggi's packaged and prepared foods. In June of 2015, Indian government forced Nestlé to stop selling, making or importing its nine varieties of Maggi noodles, as tests of 29 samples found that 15 had levels of lead beyond permissible limits. The company argued that its products were completely safe to human consumption but eventually it had to withdraw the noodles from the Indian market.

As Nestlé's products are perceived as top quality, this happening had a significant negative impact on company's reputation, damaging the entire strategic business in India. After months struggling to get the product back on shelves, Nestlé succeeded on November, five months after it pulled its best seller out of market.

Analysts expect Nestlé's sales in this country to star growing rapidly once the noodles hit the shelves. The company, before the re-launching, started investing in nostalgic marketing for Maggi, remembering how much Indian costumers loved this product, and CEO of Nestle S.A himself, gave many interviews confirming the safety and the quality of the product.

In conclusion, I believe that if it weren't for this scandal, the segment's performance in 2015 would have been equivalent to previous years. Assuming that, in 2015, the sales growth rate was equal to the one in 2014, the 5-year average growth rate would be 3%.

6. Confectionery

Over the last five years, the performance of the company in this segment has been irregular, with a positive average sales growth of 2%, but showing a decreasing tendency since 2012. However, this low average is mainly affected by the significant weak performance on 2015, which can be misleading. The sales for 2015 are assumed to be twice as much the sales reported on the half-year report, which in this specific case can lead to a worse performance that the company will eventually report at the end of the year. The reason for this is the major increasing impact that Christmas has on this segment's sales, mainly on the chocolate market, that most important one. Therefore, to estimate the future performance of this segment, one will consider that the performance in 2015 is likely to be better than what doubling the half report data can make us assume.

According to KPMG, the future of world's confectionery market is expected to be brighter than it has been in the last decade. The main improving factor is the long-term expected world's economy recovery. Another important factor, this one I believe it can be of significant relevance for Nestlé, is the potential long-term growth in emerging

markets. As an example, in China, the per capita consumption of chocolate is only one tenth of that in Switzerland.

Furthermore, also according to KPMG, innovation and premiumsation are key growth drivers, as an increasing number of chocolate consumers are driven by value or luxury. Nestlé has been continuously innovating on its products, with positive impacts mainly on the Kit Kat brand, and this year, it launched its first premium chocolate product

Also, Nestlé S.A is only the fourth key player in the market, after Mars Inc, Mondelez International and Ferrero Group, which makes me believe that there is an opportunity for the company's global market share to increase in the future, if Nestlé is able to make use of this boom in the market's profitability.

7. PetCare

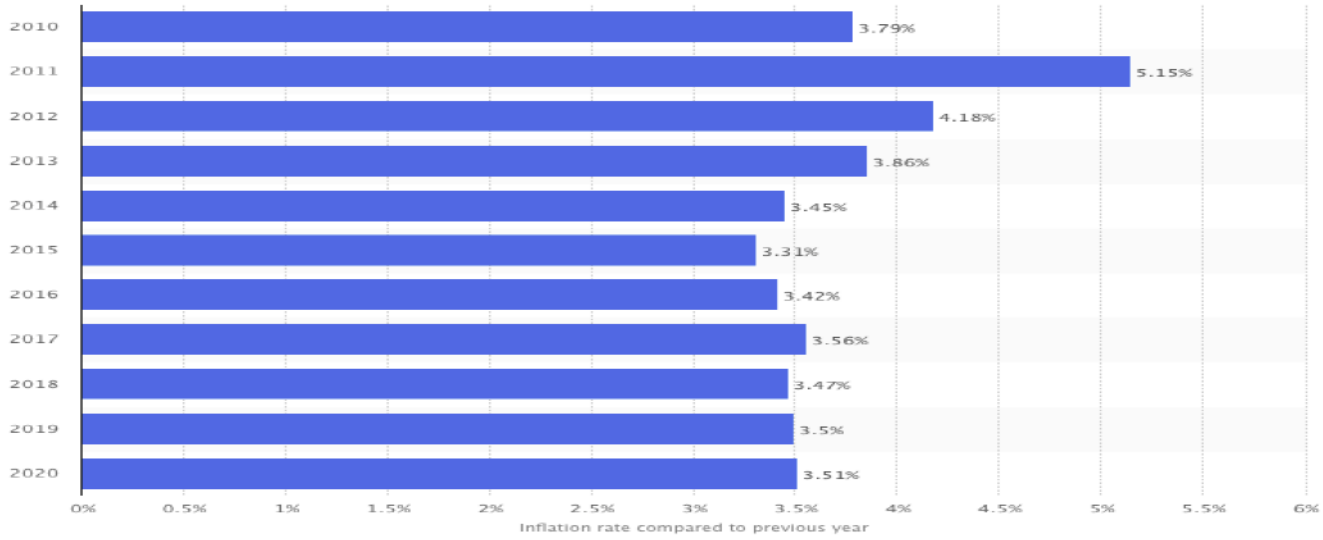
Analysts forecast a growth rate of 4% for this market until 2020, as the number of households owning pets is expected to increase, as well as the purchasing power due to the expected economy recovery.

Furthermore, it's also expected an increasing demand of premium brands due to the ongoing trend of "pet humanization". Nestlé's main premium brands, Felix, Purina ONE and Gourmet, have been important for Nestlé to strengthen its position on Europe and North America.

Also, analysts consider that a boom in the pet market can, currently, be seen in several emerging countries, more intensively in China, India and Russia. Therefore, also in this segment, emerging markets and premiumsation are the main growth drivers.

Appendix VII: Estimation of the impact of global inflation on sales

Figure 40: Historical and expected global inflation



Source: Statista

Figure 41: Expected impact of global inflation

	Global inflation	Impact
2010	3,79%	1,80%
2011	5,15%	3,60%
2012	4,18%	2,80%
2013	3,86%	1,50%
2014	3,45%	2,20%
2015	3,31%	2,80%
E2016	3,42%	**2,50%**
E2017	3,56%	**2,50%**
E2018	3,47%	**2,50%**
E2019	3,50%	**2,50%**
E2020	3,51%	**2,50%**
E2021-2025	3,49%	**2,50%**

Source: Nestlé S.A. and own projections

First of all, it's assumed that the inflation rate to take into account is the global inflation rate given that Nestlé is a global player. Furthermore, the impact of the inflation rate that one needs to forecast, is the extent at which the Nestlé's sales growth goes along with the global inflation growth rate. As the company doesn't operate equally in every country, the impact is not equal to the global inflation rate. Therefore, this way, one can have more accurate projection of the inflation rate that actually will affect Nestlé's organic growth.

So, to project the aforementioned impact, one firstly observed the 6-year historical impact of the inflation rate on the company's organic growth. Then, using the forecasted global inflation growth rates until 2020, one compared them to previous years in order to find an inflation growth rate similar to the forecasted ones. As we can observe from the table above, the inflation growth rates verified on 2014 and 2015 are close to the forecasted inflation growth rates until 2020. Therefore, one computed the average between these two values and assumed this value for the next five years, **2.5%.**

To forecast the global inflation growth rate between 2021 and 2025, one computed the average of the five years before that period, and assumed the similar impact verified on previous years.

Appendix VIII: Nestlé Business Excellence

Seen as a great opportunity to leverage its scale, in 2014, Nestlé set up the Nestlé Business Excellence at Executive Board Level, with the main objective of decreasing structural costs and operational expenses, this way freeing up resources to invest in its brands and support growth.

This new Nestlé Business Excellence function allows the company to dedicate more attention to a fast-growing part of the globe, the Zone Asia, Oceania and Africa, an area where three quarter of the population of the world live, by integrating the Maghreb, Middle East, North East Africa, Turkey and Israel into the Zone Europe, creating the Zone EMENA and balancing the different consumers dynamics in each geography.

According to Nestlé's CEO, Paul Bulcke, through this strategic action, Nestlé intends to "make better use of its size by driving efficiency and effectiveness within the organization".

In conclusion, Nestlé Business Excellence is the way that the company has chosen to build the foundations for future growth. The fact that this division is, since last year, integrated at Executive Board Level reflects the company's effort and motivation to

become more efficient and makes it reasonable to assume that its operational expenses will gradually decrease in the future, through potential synergies that might exist between the different segments and economies of scale. For these reasons, one will project the profitability of each segment with the information available, consolidating, then, the data, in order to better perceive the effect of the aforementioned synergies on the company's overall profitability.

Appendix IX: Operating expenses and other operating income

Figure 42: Historical and projected Trading Operating Profit of each segment

Powered and Liquid Beverages	2013	2014	2015	E2016	E2017	E2018	E2019	E2020	E2021	E2022	E2023	E2024	E2025
Sales	20495	20302	18742	17899	17630	17718	18073	18524	18802	19084	19180	19276	19276
Trading operating profit	4649	4685	4311	4126	4073	4102	4193	4122	4381	4485	4488	4520	4530
% of sales	23%	23%	23%	23,05%	23,10%	23,15%	23,20%	22,25%	23,30%	23,50%	23,40%	23,45%	23,50%

Water	2013	2014	2015	E2016	E2017	E2018	E2019	E2020	E2021	E2022	E2023	E2024	E2025
Sales	6773	6875	7020	7196	7519	7933	8488	9125	9627	9964	10113	10164	10214
Trading Operating profit	678	710	702	723	759	805	866	935	992	1031	1052	1062	1073
% of sales	10%	10%	10%	10,05%	10,10%	10,15%	10,20%	10,25%	10,30%	10,35%	10,40%	10,45%	10,50%

Milk Products and Ice Cream	2013	2014	2015	E2016	E2017	E2018	E2019	E2020	E2021	E2022	E2023	E2024	E2025
Sales	17357	16743	14382	13735	13391	13191	13059	13059	13059	13059	13059	13059	13059
Trading Operating profit	2632	2701	2229	2136	2089	2064	2050	2057	2063	2070	2076	2083	2089
% of sales	15%	16%	15,5%	15,55%	15,60%	15,65%	15,70%	15,75%	15,80%	15,85%	15,90%	15,95%	16,00%

Nutrition and Health Science	2013	2014	2015	E2016	E2017	E2018	E2019	E2020	E2021	E2022	E2023	E2024	E2025
Sales	11840	13046	14692	16088	17294	18764	20265	21785	22984	24248	25096	25473	25855
Trading Operating profit	2228	2723	2938	3226	3476	3781	4094	4412	4666	4934	5120	5209	5300
% of sales	19%	21%	20%	20,05%	20,10%	20,15%	20,20%	20,25%	20,30%	20,35%	20,40%	20,45%	20,50%

Prepared dishes and cooking aid	2013	2014	2015	E2016	E2017	E2018	E2019	E2020	E2021	E2022	E2023	E2024	E2025
Sales	14171	13538	12124	11578	11289	11120	11008	11008	11008	11008	11008	11008	11008
Trading Operating profit	1876	1808	1576	1511	1479	1462	1453	1459	1464	1470	1475	1481	1486
% of sales	13%	13%	13%	13,05%	13,10%	13,15%	13,20%	13,25%	13,30%	13,35%	13,40%	13,45%	13,50%

Confectionery	2013	2014	2015	E2016	E2017	E2018	E2019	E2020	E2021	E2022	E2023	E2024	E2025
Sales	10283	9769	7796	7445	7259	7150	7079	7079	7079	7079	7079	7079	7079
Trading Operating profit	1630	1344	1091	1046	1024	1012	1005	1009	1012	1016	1019	1023	1026
% of sales	16%	14%	14%	14,05%	14,10%	14,15%	14,20%	14,25%	14,30%	14,35%	14,40%	14,45%	14,50%

PetCare	2013	2014	2015	E2016	E2017	E2018	E2019	E2020	E2021	E2022	E2023	E2024	E2025
Sales	11239	11339	10930	10547	10389	10441	10546	10598	10598	10598	10598	10598	10598
Trading Operating profit	2163	2246	2131	2062	2036	2052	2077	2093	2098	2104	2109	2114	2120
% of sales	19%	20%	19,5%	19,55%	19,60%	19,65%	19,70%	19,75%	19,80%	19,85%	19,90%	19,95%	20,00%

Unallocated items	2013	2014	2015	E2016	E2017	E2018	E2019	E2020	E2021	E2022	E2023	E2024	E2025
Trading Operating profit	1809	2198	1775	1767	1745	1761	1788	1625	1808	1846	1804	1776	1735
% of total TOP	13%	16%	13%	13,53%	13,23%	13,03%	12,82%	11,24%	12,16%	12,09%	11,61%	11,30%	10,92%

Nestlé S.A	2013	2014	2015	E2016	E2017	E2018	E2019	E2020	E2021	E2022	E2023	E2024	E2025
Total Trading Operating profit	14047	14019	13204	13062	13191	13517	13950	14461	14868	15263	15535	15716	15889
% of total sales	15,24%	15,30%	15,41%	15,46%	15,56%	15,66%	15,76%	15,86%	15,96%	16,06%	16,16%	16,26%	16,37%

Source: Nestlé S.A. and own projections

Trading Operating Profit (TOP) = Sales + Other Revenues - COGS - Distribution Expenses - Marketing and Administration Expenses - R&D Costs - Net Other Trading Income (Expenses)

The only information related to the efficiency of each segment that the company gave access to, was the individual Trading Operating Profit. Therefore, not having any detailed information about each segment's specific operational expenses, one used the information available to assess and project their profitability.

Furthermore, according to the company, the Unallocated Items segment represent "non-specific items whose allocation to a segment would be arbitrary", mainly comprising corporate expenses and R&D costs. As we can observe on the tables above, the Trading Operating Profit of this segment affects negatively the total TOP.

The main assumptions behind the projection of the Nestlé's operational expenses are:
- Based on the stable TOP verified on every segment over the last three years, each one will gradually improve its cost efficiency, consequently increasing its profitability in 5 Basis point every year;

- Nestlé will become more profitable also by decreasing the negative impact of the Unallocated Items segment on its total TOP. In other words, saving in corporate expenses and R&D costs not related to any specific segment are two measures that are going to be of great relevance for Nestlé to become more efficient.

- When one consolidates the data, the increasing cost efficiency of Nestlé is reflected on the gradual decrease verified on the COGS and distribution expenses. Also, as the unallocated items comprise non-operational R&D costs, it's assumed that the total R&D costs will increase, as the negative impact of the unallocated items on this figure is attenuated.

1. Cost of goods sold (COGS)

The COGS is the cost of producing the goods that the company sells. Over the last five years, the company has been spending, on average, 52% of its sales on this figure. To forecast it, one assumes that, due to the Nestlé Business Excellence division, Nestlé will become more cost efficient and the COGS as percentage of sales will gradually decrease in the future, keeping up with the recent past performance, until it reaches the **51%.** As such, it's assumed that during the next ten years, the company's effort to decrease operational costs will lead it to efficiently save other 1% of sales on COGS.

2. Distribution Expenses

Distribution expenses are the costs of moving the goods from the point of production to the point of consumption. Furthermore, the average distribution expenses as percentage of sales of the last five years was 9.1% and it's assumed that over the next ten years the company is able to find a way of spending only **8.5%** of sales in distribution.

3. Marketing and Administration expenses

Marketing and Administration expenses are the costs related to advertising (Marketing), salaries of personnel not related to manufacturing, and other administration expenses such as telephone or light. These operating expenses are not expected to decrease in the future. In fact, last year, Nestlé hired 6000 more employees, having now a staff of 339000 employees and spending CHF 15978 million instead of CHF 15526 million on salaries and welfare.

As one does not have information related to how many of these employees are not related to the manufacturing process one cannot accurately project the administration expenses. However, one can reasonably assume that Nestlé isn't cutting on overhead costs. Also, decreases on marketing expenses are not expected.

Therefore, to forecast these operating expenses, one based on the assumption that, in the future, Nestlé will continue to spend on marketing and administration as much as it spent on average over the last five years, **21%.**

4. Research and Development cost

R&D cost is a type of expense related to innovation. In other words, it's incurred in the process of finding and creating new products and services.

Innovation has been, and will keep being, a part of the Nestlé's strategy. The company is constantly seeking to innovate its products and its portfolio. Additionally, the percentage of R&D cost out of total sales has been consistently around 2%. As already mentioned, it's assumed that, in the attempt of reducing structural costs making good use of its size, the company will reduce non-operational costs such as R&D not related to any specific segment. As such, the total R&D costs are expected to gradually increase over the next ten years, reaching **2.5%** of sales in 2025, being expected that the company will continue to seek innovation as a source of growth.

5. Net other trading income (expenses)

Net other trading income (expenses) is the difference between other trading income and other trading expenses. The latter figure has been consistently higher than the first, and since the projection of both figures is based on their recent historical performance, assuming that they will keep stable in the future, it's expected that Net other trading expenses will represent **0.9%** of sales over the next ten years.

6. Net other operating income (expenses)

Similarly to the last figure, Net other operating income (expenses) is going to be negative as the other operating expenses are higher than the other operating income. As for their projection, it's assumed that they will stabilize in the future and be equal to their average 5-year performance. As such, over the next ten years, this figure is expected to represent **0.6%** of total sales.

Appendix X: Historical Gross PP&E and Intangible Assets

Figure 43: Historical Gross Assets

	2010	2011	2012	2013	2014	2015	Average	Forecast driver
Gross PP&E	45835	49271	53137	53119	56107	49269		
% of sales	52,1%	58,9%	57,6%	57,6%	61,2%	57,5%	57,5%	55% (target)
Land and Buildings	12805	14109	15670	15988	17233	14288		
% of gross PP&E	28%	29%	29%	30%	31%	29%	29%	29%
Machinery and equipment	24775	26472	28493	28433	30003	26606		
% of gross PP&E	54%	54%	54%	54%	53%	54%	54%	54%
Tools, furniture and other equipment	7385	7728	8011	7817	8042	7390		
% of gross PP&E	16%	16%	15%	15%	14%	15%	15%	15%
Vehicles	869	961	962	880	828	985		
% of gross PP&E	2%	2%	2%	2%	1%	2%	2%	2%
Intangible Assets	11068	13026	17615	16350	23779	15595		
% of sales	12,6%	15,6%	19,1%	17,7%	26,0%	18,2%	18,2%	18,2%

Source: Nestlé S.A.

Appendix XI: Historical Depreciation and Amortization

Figure 44: Historical D&A

	2010	2011	2012	2013	2014	2015	Average	Forecast driver
PP&E (Total Depreciation)	2552	2422	2711	2864	2782	2562		
% of gross PP&E	5,6%	4,9%	5,1%	5,4%	5,0%	5,2%	5,2%	5,2%
Land and Buildings	370	341	393	428	434	394		
% of gross PP&E	0,8%	0,7%	0,7%	0,8%	0,8%	0,8%	0,8%	0,8%
Machinery and equipment	1319	1263	1434	1360	1424	1281		
% of gross PP&E	2,9%	2,6%	2,7%	2,6%	2,5%	2,6%	2,6%	2,6%
Tools, furniture and other equipment	765	728	782	970	826	788		
% of gross PP&E	1,7%	1,5%	1,5%	1,8%	1,5%	1,6%	1,6%	1,6%
Vehicles	98	90	102	106	98	99		
% of gross PP&E	0,2%	0,2%	0,2%	0,2%	0,2%	0,2%	0,2%	0,2%
Intangible Assets (Total Amortisation)	630	503	439	301	276	468		
% of gross IA	5,7%	3,9%	2,5%	1,8%	1,2%	3,0%	3,0%	3,0%
Total D&A	**3182**	**2925**	**3150**	**3165**	**3058**	**3030**		

Source: Nestlé S.A.

Appendix XII: Historical Capex

Figure 45: Historical Capex

	2010	2011	2012	2013	2014	2015	Average	Forecast driver
PP&E	4384	4779	5368	4928	3914	4456		
% of sales	5,0%	5,7%	5,8%	5,3%	4,3%	5,2%	5,2%	2,95% (target)
Land and Buildings	872	1022	1419	1330	1151	1105		
% of PP&E	19,9%	21,4%	26,4%	27,0%	29,4%	24,8%	24,8%	24,8%
Machinery and equipment	2468	2643	2863	2453	1985	2366		
% of PP&E	56,3%	55,3%	53,3%	49,8%	50,7%	53,1%	53,1%	53,1%
Tools, furniture and other equipment	893	950	957	1066	720	873		
% of PP&E	20,4%	19,9%	17,8%	21,6%	18,4%	19,6%	19,6%	19,6%
Vehicles	151	164	129	79	58	111		
% of PP&E	3,4%	3,4%	2,4%	1,6%	1,5%	2,5%	2,5%	2,5%

Source: Nestlé S.A.

Appendix XIII: Capex/Depreciation ratio

Figure 46: Capex/Depreciation ratio

	2010	2011	2012	2013	2014	2015	E2016	E2017	E2018	E2019	E2020	E2021	E2022	E2023	E2024	E2025
Depreciation	2552	2422	2711	2864	2782	2562	2520	2512	2551	2605	2681	2736	2787	2815	2826	2819
Capex	4384	4779	5368	4928	3914	4456	4382	4177	4045	3929	3833	3694	3541	3350	3134	2907
Capex/Depreciation	**1,72**	**1,97**	**1,98**	**1,72**	**1,41**	**1,74**	**1,74**	**1,66**	**1,59**	**1,51**	**1,43**	**1,35**	**1,27**	**1,19**	**1,11**	**1,03**

Source: Nestlé S.A.

Appendix XIV: Historical Net Working Capital

Figure 47: Historical Net Working Capital

	2010	2011	2012	2013	2014	2015
Working Capital	4251	4671	4467	1968	1644	1511
% of sales	4,8%	5,6%	4,8%	2,1%	1,8%	1,8%
Inventories	7925	9255	8939	8382	9172	8594
Trade and other receivables	12083	13340	13048	12206	13459	12588
Prepayments and accrued income	748	900	821	762	565	517
Current tax assets	956	1094	972	1151	908	849
Trade and other payables	13584	15592	14627	16072	17437	16338
Accruals and deferred income	2798	2909	3078	3185	3759	3442
Current tax liabilities	1079	1417	1608	1276	1264	1258
Increase/Decrease in WC		**420**	**-204**	**-2499**	**-324**	**-133**

Source: Nestlé S.A.

NWC= Current Assets - Current Liabilities

Current Assets = Inventories + Trade and other receivables + Prepayments and accrued income + Current tax assets

Current Liabilities = Trade and other payables + Accruals and deferred income + Current tax liabilities

Appendix XV: Full tables of cost of debt

Figure 48: Risk-free rate and cost of debt

Date: 2nd December	
Kd = rf+credit spread	**-0,694%**
rf: Swiss 4-year Government bonds	-1,156%

Source: Bloomberg and own calculations

Figure 49: Credit spread

Issuer	Coupon	Coupon class	Maturity	Amt Out (CHF)	Currency	Mty Type	S&P	Yield	rf	spread	Weight	Spread * Weight	Maturity	Weight * Maturity
Nestle Holdings Inc	5,5	Fixed Coupon	01/28/2016	206 521 750	AUD	MATURITY	AA	2,536%	1,974%	0,562%	1,81%	0,010%	1	0,018
Nestle Holdings Inc	3,375	Fixed Coupon	02/08/2016	119 016 127	NOK	MATURITY	AA	1,336%	0,501%	0,835%	1,04%	0,009%	1	0,010
Nestle Finance International Ltd	0,75	Fixed Coupon	10/17/2016	545 263 990	EUR	MATURITY	AA	0,058%	-0,42%	0,474%	4,78%	0,023%	1	0,048
Nestle Holdings Inc	2	Fixed Coupon	11/28/2016	205 160 000	USD	MATURITY	AA	1,040%	0,495%	0,545%	1,80%	0,010%	1	0,018
Nestle Finance International Ltd	4,625	Fixed Coupon	03/29/2017	93 873 523	AUD	MATURITY	AA	2,517%	2,007%	0,510%	0,82%	0,004%	2	0,016
Nestle Holdings Inc	1,375	Fixed Coupon	06/21/2017	923 220 000	USD	MATURITY	AA	1,211%	0,942%	0,269%	8,10%	0,022%	2	0,162
Nestle Holdings Inc	2,5	Fixed Coupon	07/10/2017	357 048 381	NOK	MATURITY	AA	1,102%	0,505%	0,597%	3,13%	0,019%	2	0,063
Nestle Holdings Inc	4	Fixed Coupon	10/13/2017	150 197 636	AUD	MATURITY	AA	2,666%	2,007%	0,659%	1,32%	0,009%	2	0,026
Nestle Holdings Inc	2,25	Fixed Coupon	11/20/2017	119 016 127	NOK	MATURITY	AA	1,042%	0,505%	0,537%	1,04%	0,006%	2	0,021
Nestle Holdings Inc	1,625	Fixed Coupon	12/11/2017	386 726 600	GBP	MATURITY	AA	1,119%	0,554%	0,565%	3,39%	0,019%	2	0,068
Nestle Holdings Inc	1,25	Fixed Coupon	01/16/2018	512 900 000	USD	MATURITY	AA	1,360%	1,220%	0,140%	4,50%	0,006%	3	0,135
Nestle Holdings Inc	3,75	Fixed Coupon	01/18/2018	131 422 932	AUD	MATURITY	AA	2,742%	2,091%	0,651%	1,15%	0,008%	3	0,035
Nestle Holdings Inc	2,625	Fixed Coupon	02/14/2018	250 000 000	CHF	MATURITY	AA	-0,483%	-1,312%	0,829%	2,19%	0,018%	3	0,066
Nestle Holdings Inc	3,875	Fixed Coupon	07/19/2018	150 197 636	AUD	MATURITY	AA	2,775%	2,091%	0,684%	1,32%	0,009%	3	0,040
Nestle Holdings Inc	1,375	Fixed Coupon	07/24/2018	410 320 000	USD	MATURITY	AA	1,504%	1,220%	0,284%	3,60%	0,010%	3	0,108
Nestle Holdings Inc	4,125	Fixed Coupon	12/06/2018	300 395 272	AUD	MATURITY	AA	2,888%	2,091%	0,797%	2,63%	0,021%	3	0,079
Nestle Holdings Inc	2,25	Fixed Coupon	03/12/2019	512 900 000	USD	MATURITY	AA	1,360%	1,429%	**-0,069%**	4,50%	-0,003%	4	0,180
Nestle Finance International Ltd	1,5	Fixed Coupon	07/19/2019	545 263 990	EUR	MATURITY	AA	0,051%	-0,31%	0,358%	4,78%	0,017%	4	0,191
Nestle Holdings Inc	2	Fixed Coupon	09/30/2019	410 320 000	USD	MATURITY	AA	1,717%	1,429%	0,288%	3,60%	0,010%	4	0,144
Nestle Holdings Inc	2,125	Fixed Coupon	01/14/2020	666 770 000	USD	MATURITY	AA	1,867%	1,638%	0,229%	5,85%	0,013%	5	0,292
Nestle Holdings Inc	4,25	Fixed Coupon	03/18/2020	187 747 045	AUD	MATURITY	AA	3,024%	2,276%	0,748%	1,65%	0,012%	5	0,082
Nestle Holdings Inc	2,75	Fixed Coupon	04/15/2020	119 016 127	NOK	MATURITY	AA	1,553%	0,938%	0,615%	1,04%	0,006%	5	0,052
Nestle Finance International Ltd	1,25	Fixed Coupon	05/04/2020	545 263 990	EUR	MATURITY	AA	0,148%	-0,22%	0,370%	4,78%	0,018%	5	0,239
Nestle Holdings Inc	3,625	Fixed Coupon	11/03/2020	131 433 932	AUD	MATURITY	AA	3,195%	2,276%	0,919%	1,15%	0,011%	5	0,058
Nestle Purina PetCare Co	9,3	Fixed Coupon	05/01/2021	64 635 658	USD	MATURITY	AA	3,006%	1,805%	1,202%	0,57%	0,007%	6	0,034
Nestle Finance International Ltd	2,125	Fixed Coupon	09/10/2021	545 263 990	EUR	MATURITY	AA	0,378%	-0,10%	0,475%	4,78%	0,023%	6	0,287
Nestle Finance International Ltd	0,75	Fixed Coupon	11/08/2021	545 263 990	EUR	MATURITY	AA	0,400%	-0,10%	0,497%	4,78%	0,024%	6	0,287
Nestle Purina PetCare Co	8,625	Fixed Coupon	02/15/2022	81 000 245	USD	MATURITY	AA	3,147%	1,971%	1,176%	0,71%	0,008%	7	0,050
Nestle Finance International Ltd	1,75	Fixed Coupon	09/12/2022	926 948 783	EUR	MATURITY	AA	0,554%	0,05%	0,501%	8,13%	0,041%	7	0,569
Nestle Purina PetCare Co	8,125	Fixed Coupon	02/01/2023	45 060 317	USD	MATURITY	AA	3,527%	2,076%	1,451%	0,40%	0,006%	8	0,032
Nestle Finance International Ltd	2,25	Fixed Coupon	11/30/2023	618 762 560	GBP	MATURITY	AA	2,037%	1,555%	0,482%	5,43%	0,026%	8	0,434
Nestle Holdings Inc	7,5	Fixed Coupon	05/16/2023	545 263 990	EUR	MATURITY	AA	0,737%	0,016%	0,721%	4,78%	0,034%	8	0,382
Nestle Purina PetCare Co	7,875	Fixed Coupon	06/15/2025	52 484 031	USD	MATURITY	AA	3,577%	2,181%	1,396%	0,46%	0,006%	10	0,046
				11 404 678 622							Average	**0,462%**	Average Maturity:	**4,271**

Source: Bloomberg and own calculations

Appendix XVI: News addressing Nestlé's cost of debt abnormal situation

- Financial Times: "Nestlé bond yields turn negative"[4]

"Nestlé's corporate bonds traded at negative yields on Tuesday (02/02/2015), highlighting investors' desperate search for cash-conserving investments following the move by the European Central Bank to drive down borrowing costs across the continent. The Switzerland-based chocolate-to-cereals food manufacturer is one of Europe's most highly rated companies. (...) That means investors are in effect paying to hold the bond. Corporate bonds remain more attractive to some investors than highly rated sovereigns, even though they are riskier, because they tend to pay more substantial interest. But it is extremely rare for corporate bond yields to turn negative".

- The Washington Post: "This is crazy! Nestlé is getting paid to borrow money"[5]

"Once upon a time, you actually had to pay lenders to borrow money. It was an archaic ritual called "interest but it's over now. In fact, it's the opposite of how things work today, at least in Europe's brave, new, deflationary world. France, Finland, Belgium, Denmark, the Netherlands, and Germany are all *getting* paid by investors—that is,

[4] http://www.ft.com/intl/cms/s/0/4b5c16a8-abcb-11e4-b05a-00144feab7de.html#axzz3t6VbOA1Z

[5] https://www.washingtonpost.com/news/wonk/wp/2015/02/04/this-is-freaking-nuts-nestle-is-getting-paid-to-borrow-money/

bond yields are negative—to borrow for up to four, and sometimes six, years. Switzerland is even getting paid to borrow for ten years. That's never happened anywhere before. But it's not just governments that people are paying for the privilege of lending to. It's companies, too. Or at least one of them: Nestlé. Its €500 million debt that comes due in October 2016 became the first corporate bond of a year or longer to have a negative yield, after it got as low as -0.0081 percent on Tuesday".

(Underlined in this latter excerpt is also a sentence that gives evidence of the negative rates currently in place on Swiss government bonds, the risk-free rate in this valuation).

Appendix XVII: Fair value

"The Group determines the fair value of its financial instruments on the basis of the following hierarchy:

- The fair value of financial instruments quoted in active markets is based on their quoted closing price at the balance sheet date. Examples include commodity derivative assets and liabilities and other financial assets such as investments in equity and debt securities.

- The fair value of financial instruments that are not traded in an active market is determined by using valuation techniques using observable market data. Such valuation techniques include discounted cash flows, standard valuation models based on market parameters for interest rates, yield curves or foreign exchange rates, dealer quotes for similar instruments and use of comparable arm's length transactions. For example, the fair value of forward exchange contracts, currency swaps and interest rate swaps is determined by discounting estimated future cash flows using a risk-free interest rate.

- The fair value of financial instruments that are measured on the basis of entity specific valuations using inputs that are not based on observable market data (unobservable inputs). When the fair value of unquoted instruments cannot be measured with sufficient reliability, the Group carries such instruments at cost less impairment, if applicable"

Appendix XVIII: Unfunded pensions in 2015

Figure 50: Historical unfunded pensions

	2011	2012	2013	2014	2015
Present value of unfunded pensions	2657	2799	2383	2700	2734
Variation		5,3%	-14,9%	13,3%	**1,3%**

Source: Nestlé S.A. and own calculations

Appendix XIX: Historical and forecasted Income statement and Balance Sheet

Figure 51: Historical Income Statement

Income statement						
In millions CHF	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**
Sales	**87 906**	**83 642**	**92 186**	**92 158**	**91 612**	**85 686**
Powered and Liquid Beverages	18 114	18 204	20 038	20 495	20 302	18 742
Water	7 215	6 526	7 178	6 773	6 875	7 020
Milk products and ice cream	17 202	16 406	18 564	17 357	16 743	14 382
Nutrition and Health Science	10 098	9 744	10 726	11 840	13 046	14 692
Prepared dishes and cooking aid	14 899	13 933	14 432	14 171	13 538	12 124
Confectionery	9 735	9 065	10 438	10 283	9 769	7 796
PetCare	10 643	9 764	10 810	11 239	11 339	10 930
Other revenue	109	128	210	215	253	180
COGS	44 775	44 127	47 500	48 111	47 553	44 557
Distribution expenses	7 953	7 602	8 017	8 156	8 217	7 712
Marketing and administration expenses	19 846	17 395	19 041	19 711	19 651	17 994
R&D costs	1 403	1 423	1 413	1 503	1 628	1 628
Other trading income	168	51	140	120	110	86
Profit on disposal of property, plant and equipment	41	18	52	24	50	28
Miscellaneous trading income	127	33	88	96	60	58
Other trading expenses	1 530	736	656	965	907	857
Loss on disposal of property, plant and equipment	9	15	20	9	14	17
Restructuring costs	469	100	95	274	257	197
Impairment of property, plant and equipment and intangible assets	194	150	75	143	159	129
Litigations and onerous contracts	584	341	378	380	411	386
Miscellaneous trading expenses	274	130	88	159	66	129
Trading operating profit	**12 676**	**12 538**	**14 012**	**14 047**	**14 019**	**13 204**
Other operating income	38	112	146	616	154	198
Profit on disposal of businesses	10	4	105	33	83	63
Miscellaneous operating income	28	108	41	583	71	135
Other operating expenses	571	179	226	1 595	3 268	660
Loss on disposal of businesses	13	7	3	1 221	592	132
Impairment of goodwill	337	16	14	114	1 908	185
Miscellaneous operating expenses	221	156	209	260	768	343
Operating Income	**12 143**	**12 471**	**13 932**	**13 068**	**10 905**	**12 742**
Financial income	94	115	120	219	135	129
Financial expense	856	536	825	850	772	857
Net Income Before Taxes	**11 381**	**12 050**	**13 227**	**12 437**	**10 268**	**12 014**
Taxes (26,3%)	3 343	3 112	3 259	3 256	3 367	3 351
Income from associates and joint ventures	1 010	866	1 253	1 264	8 003	1 200
Minority Interest	271	317	449	430	448	428
Discontinued Operations	25 456					
Net Income	**34 233**	**9 487**	**10 772**	**10 015**	**14 456**	**9 434**

Source: Nestlé S.A.

Figure 52: Projected Income Statement

Income statement										
In millions CHF	**E2016**	**E2017**	**E2018**	**E2019**	**E2020**	**E2021**	**E2022**	**E2023**	**E2024**	**E2025**
Sales	**84 488**	**84 772**	**86 317**	**88 518**	**91 179**	**93 157**	**95 040**	**96 133**	**96 656**	**97 089**
Powered and Liquid Beverages	17 899	17 630	17 718	18 073	18 524	18 802	19 084	19 180	19 276	19 276
Water	7 196	7 519	7 933	8 488	9 125	9 627	9 964	10 113	10 164	10 214
Milk products and ice cream	13 735	13 391	13 191	13 059	13 059	13 059	13 059	13 059	13 059	13 059
Nutrition and Health Science	16 088	17 294	18 764	20 265	21 785	22 984	24 248	25 096	25 473	25 855
Prepared dishes and cooking aid	11 578	11 289	11 120	11 008	11 008	11 008	11 008	11 008	11 008	11 008
Confectionery	7 445	7 259	7 150	7 079	7 079	7 079	7 079	7 079	7 079	7 079
PetCare	10 547	10 389	10 441	10 546	10 598	10 598	10 598	10 598	10 598	10 598
Other revenue	177	178	181	186	191	196	200	202	203	204
COGS	43 849	43 912	44 626	45 675	46 957	47 883	48 755	49 220	49 391	49 515
Distribution expenses	7 562	7 545	7 639	7 790	7 978	8 105	8 221	8 267	8 264	8 253
Marketing and administration expenses	17 742	17 802	18 127	18 589	19 148	19 563	19 958	20 188	20 298	20 389
R&D costs	1 690	1 738	1 813	1 903	2 006	2 096	2 186	2 259	2 320	2 379
Other trading income	84	85	86	89	91	93	95	96	97	102
Profit on disposal of property, plant and equipment	27	28	28	29	30	30	31	31	31	33
Miscellaneous trading income	57	57	58	60	62	63	64	65	65	69
Other trading expenses	845	848	863	885	912	932	950	961	967	971
Loss on disposal of property, plant and equipment	17	17	17	18	18	19	19	19	19	19
Restructuring costs	194	195	199	204	210	214	219	221	222	223
Impairment of property, plant and equipment and intangible assets	127	127	129	133	137	140	143	144	145	146
Litigations and onerous contracts	380	381	388	398	410	419	428	433	435	437
Miscellaneous trading expenses	127	127	129	133	137	140	143	144	145	146
Trading operating profit	**13 062**	**13 191**	**13 517**	**13 950**	**14 461**	**14 868**	**15 263**	**15 535**	**15 716**	**15 889**
Other operating income	196	198	203	209	217	223	229	233	236	238
Profit on disposal of businesses	63	63	65	67	69	71	73	75	75	76
Miscellaneous operating income	133	135	138	142	148	152	156	158	160	162
Other operating expenses	653	660	676	698	723	743	763	777	786	794
Loss on disposal of businesses	131	132	135	140	145	149	153	155	157	159
Impairment of goodwill	183	185	189	195	202	208	214	217	220	222
Miscellaneous operating expenses	340	343	351	363	376	387	397	404	409	413
Operating Income	**12 605**	**12 729**	**13 044**	**13 462**	**13 955**	**14 347**	**14 729**	**14 991**	**15 166**	**15 333**
Financial income	127	127	129	133	137	140	143	144	145	146
Financial expense	845	848	863	885	912	932	950	961	967	971
Net Income Before Taxes	**11 886**	**12 008**	**12 310**	**12 710**	**13 180**	**13 556**	**13 921**	**14 174**	**14 345**	**14 507**
Taxes (26,3%)	3 315	3 348	3 431	3 541	3 670	3 773	3 874	3 943	3 989	4 032
Income from associates and joint ventures	1 183	1 187	1 208	1 239	1 277	1 304	1 331	1 346	1 353	1 359
Minority Interest	422	424	432	443	456	466	475	481	483	485
Discontinued Operations										
Net Income	**9 332**	**9 424**	**9 657**	**9 966**	**10 330**	**10 621**	**10 903**	**11 097**	**11 226**	**11 349**

Source: Own projections

Figure 53: Historical Balance Sheet

Balance sheet						
In millions CHF	2010	2011	2012	2013	2014	2015
Assets						
Current assets						
Cash and cash equivalents	8 057	4 938	5 713	6 415	7 448	7 448
Short-term investments	8 189	3 050	3 583	638	1 433	1 340
Inventories	7 925	9 255	8 939	8 382	9 172	8 594
Trade and other receivables	12 083	13 340	13 048	12 206	13 459	12 588
Prepayments and accrued income	748	900	821	762	565	517
Derivative assets	1 011	731	576	230	400	374
Current income tax assets	956	1 094	972	1 151	908	849
Assets held for sale	28	16	368	282	576	539
Total current assets	**38 997**	**33 324**	**34 020**	**30 066**	**33 961**	**32 250**
Non-current assets						
Property, plant and equipment	21 438	23 971	26 576	26 895	28 421	23 269
Goodwill	27 031	29 008	32 688	31 039	34 557	40 316
Intangible assets	7 728	9 356	13 018	12 673	19 800	11 895
Investments in associates and joint ventures	7 914	8 629	11 586	12 315	8 649	8 090
Financial assets	6 366	7 161	4 979	4 550	5 493	5 138
Employee benefits assets	166	127	84	537	383	358
Current income tax assets	90	39	27	124	128	120
Deferred tax assets	1 911	2 476	2 899	2 243	2 058	1 925
Total non-current assets	**72 644**	**80 767**	**91 857**	**90 376**	**99 489**	**91 110**
Total assets	**111 641**	**114 091**	**125 877**	**120 442**	**133 450**	**123 361**
Liabilities						
Current liabilities						
Financial debt	12 617	16 100	18 408	11 380	8 810	8 370
Trade and other payables	13 584	15 592	14 627	16 072	17 437	16 338
Accruals and deferred income	2 798	2 909	3 078	3 185	3 759	3 442
Provisions	601	576	452	523	695	650
Derivaive liabilities	456	646	423	381	757	708
Current income tax liabilities	1 079	1 417	1 608	1 276	1 264	1 258
Liabilities directly associated with assets held for sale	3 -		1	100	173	162
Total current liabilities	**30 146**	**35 232**	**38 597**	**32 917**	**32 895**	**30 928**
Non-current liabilities						
Financial debt	7 483	6 207	9 008	10 363	12 396	11 594
Employee benefits liabilities	5 280	7 105	8 360	6 279	8 081	7 558
Provisions	3 510	3 094	2 827	2 714	3 161	2 957
Deferred tax liabilities	1 371	2 060	2 240	2 643	3 191	2 985
Other payables	1 253	2 119	2 181	1 387	1 842	1 723
Total non-current liabilities	**18 897**	**20 585**	**24 616**	**23 386**	**28 671**	**26 816**
Total liabilities	**49 043**	**55 817**	**63 213**	**56 303**	**61 566**	**57 744**
Equity						
Share capital	347	330	322	322	322	322
Treasury shares	-11 108	-6 722	-2 078	-2 196	-3 918	-3 918
Translation reserve	-15 794	-16 927	-17 924	-20 811	-17 255	-17 742
Retained earnings and other reserves	88 422	80 116	80 687	85 260	90 981	85 096
Total equity attributable to shareholders of the parent	**61 867**	**56 797**	**61 007**	**62 575**	**70 130**	**63 758**
Non-controlling interests	731	1 477	1 657	1 564	1 754	1 859
Total equity	**62 598**	**58 274**	**62 664**	**64 139**	**71 884**	**65 617**
Total liabilities and equity	**111 641**	**114 091**	**125 877**	**120 442**	**133 450**	**123 361**

Source: Nestlé S.A.

Figure 54: Projected Balance Sheet

Balance sheet										
In millions CHF	E2016	E2017	E2018	E2019	E2020	E2021	E2022	E2023	E2024	E2025
Assets										
Current assets										
Cash and cash equivalents	7 448	7 448	7 448	7 448	7 448	7 448	7 448	7 448	7 448	7 448
Short-term investments	1 322	1 326	1 350	1 385	1 426	1 457	1 487	1 504	1 512	1 519
Inventories	8 458	8 470	8 607	8 810	9 057	9 236	9 404	9 494	9 527	9 551
Trade and other receivables	12 412	12 454	12 681	13 004	13 395	13 686	13 963	14 123	14 200	14 264
Prepayments and accrued income	510	512	521	534	551	562	574	580	584	586
Derivative assets	369	370	377	386	398	407	415	420	422	424
Current income tax assets	837	840	856	877	904	923	942	953	958	962
Assets held for sale	531	533	543	557	573	586	598	604	608	610
Total current assets	**31 887**	**31 953**	**32 383**	**33 002**	**33 752**	**34 305**	**34 829**	**35 126**	**35 258**	**35 364**
Non-current assets										
Property, plant and equipment	22 580	22 532	23 201	24 234	25 516	26 401	27 222	27 594	27 644	27 399
Goodwill	39 503	39 710	40 635	42 427	43 825	45 006	46 224	47 147	47 847	48 678
Intangible assets	11 677	11 729	12 010	12 410	12 895	13 255	13 597	13 796	13 891	13 970
Investments in associates and joint ventures	7 976	8 003	8 149	8 357	8 608	8 795	8 973	9 076	9 125	9 166
Financial assets	5 066	5 083	5 176	5 307	5 467	5 586	5 699	5 764	5 795	5 821
Employee benefits assets	353	354	361	370	381	389	397	402	404	406
Current income tax assets	118	118	121	124	127	130	133	134	135	136
Deferred tax assets	1 898	1 904	1 939	1 988	2 048	2 093	2 135	2 160	2 171	2 181
Total non-current assets	**89 172**	**89 434**	**91 591**	**95 218**	**98 867**	**101 654**	**104 380**	**106 073**	**107 014**	**107 757**
Total assets	**121 059**	**121 387**	**123 974**	**128 219**	**132 620**	**135 959**	**139 209**	**141 199**	**142 271**	**143 121**
Liabilities										
Current liabilities										
Financial debt	8 252	8 280	8 431	8 646	8 906	9 099	9 283	9 390	9 441	9 483
Trade and other payables	16 079	16 102	16 364	16 748	17 218	17 558	17 878	18 048	18 111	18 157
Accruals and deferred income	3 394	3 405	3 467	3 556	3 663	3 742	3 818	3 862	3 883	3 900
Provisions	641	643	655	672	692	707	721	729	733	737
Derivaive liabilities	698	700	713	731	753	770	785	794	799	802
Current income tax liabilities	1 244	1 257	1 288	1 329	1 378	1 417	1 454	1 480	1 497	1 514
Liabilities directly associated with assets held for sale	160	160	163	167	172	176	179	182	183	183
Total current liabilities	**30 468**	**30 548**	**31 081**	**31 850**	**32 782**	**33 468**	**34 119**	**34 485**	**34 647**	**34 776**
Non-current liabilities										
Financial debt	11 432	11 471	11 680	11 977	12 337	12 605	12 860	13 008	13 079	13 137
Employee benefits liabilities	7 453	7 478	7 614	7 808	8 043	8 217	8 383	8 480	8 526	8 564
Provisions	2 915	2 925	2 978	3 054	3 146	3 214	3 279	3 317	3 335	3 350
Deferred tax liabilities	2 943	2 953	3 007	3 083	3 176	3 245	3 310	3 348	3 367	3 382
Other payables	1 699	1 704	1 736	1 780	1 833	1 873	1 911	1 933	1 943	1 952
Total non-current liabilities	**26 441**	**26 530**	**27 014**	**27 703**	**28 535**	**29 154**	**29 744**	**30 086**	**30 250**	**30 385**
Total liabilities	**56 910**	**57 078**	**58 095**	**59 552**	**61 318**	**62 623**	**63 863**	**64 571**	**64 896**	**65 161**
Equity										
Share capital	322	322	322	322	322	322	322	322	322	322
Treasury shares	-3 918	-3 918	-3 918	-3 918	-3 918	-3 918	-3 918	-3 918	-3 918	-3 918
Translation reserve	-18 132	-18 373	-18 463	-17 993	-18 140	-18 220	-18 238	-18 211	-18 160	-18 194
Retained earnings and other reserves	83 906	84 189	85 722	87 908	90 551	92 515	94 385	95 471	95 990	96 420
Total equity attributable to shareholders of the parent	**62 178**	**62 220**	**63 664**	**66 319**	**68 814**	**70 699**	**72 551**	**73 664**	**74 234**	**74 630**
Non-controlling interests	1 971	2 089	2 214	2 347	2 488	2 637	2 796	2 963	3 141	3 330
Total equity	**64 149**	**64 309**	**65 878**	**68 666**	**71 302**	**73 336**	**75 347**	**76 628**	**77 375**	**77 960**
Total liabilities and equity	**121 059**	**121 387**	**123 974**	**128 219**	**132 620**	**135 959**	**139 209**	**141 199**	**142 271**	**143 121**

Source: Own projections

Appendix XX: Comparison with Investment Banking report

Figure 55: Income Statement comparison

Income Statement	2014	2015	2016	Income Statement	2014	2015	2016
Sales	91612	89132	92051	Sales	91612	85686	84488
Trading operating profit	14019	13763	14553	Trading operating profit	14019	13204	13062
TOP margin	15,3%	15,4%	15,8%	TOP margin	15,3%	15,4%	15,5%
Net operating income	-3114	-89	-92	Net operating income	-3114	-462	-457
Net financing costs	-637	-665	-682	Net financing costs	-637	-728	-718
Taxes	3367	3712	3840	Taxes	3367	3351	3315
Associates	8008	985	1070	Associates	8003	1200	1183
Minorities	448	465	480	Minorities	448	428	422
Net income	14456	10518	11230	Net income	14456	9434	9332

Source: Dissertation and Analyst report

Figure 56: Cash flow Statement comparison

Cash flow statement	2014	2015	2016	Cash flow statement	2014	2015	2016
EBIT	10905	14366	15172	EBIT	10905	12742	12605
Change in Working Capital	-114	406	684	Change in Working Capital	-114	-133	-10
D&A	3058	2975	3073	D&A	3058	3030	2987
Capex	3914	3808	4142	Capex	3914	4456	4393
FCFF	9159	9564	10545	FCFF	9159	8098	7894
Dividends paid	6863	7014	7013	Dividends paid	6863	5868	7804
Cash at start of year	6415	7448	7448	Cash at start of year	6415	7448	7448
Cash at end of year	7448	7448	7448	Cash at end of year	7448	7448	7448

Source: Dissertation and Analyst report

Figure 57: Balance Sheet comparison

Balance Sheet	2014	2015	2016	Balance Sheet	2014	2015	2016
Current assets				Current assets			
Cash and cash equivalents	7448	7448	7448	Cash and cash equivalents	7448	7448	7448
Short-term investments	1433	1433	1433	Short-term investments	1433	1340	1322
Inventories	9172	8601	8739	Inventories	9172	8594	8458
Trade and other receivables	13459	12606	12389	Trade and other receivables	13459	12588	12412
Prepayments and accrued income	565	550	566	Prepayments and accrued income	565	517	510
Derivative assets	400	400	400	Derivative assets	400	374	369
Current income tax assets	908	908	908	Current income tax assets	908	849	837
Assets held for sale	576	576	576	Assets held for sale	576	539	531
Total current assets	**33961**	**32522**	**32459**	**Total current assets**	**33961**	**32250**	**31887**
Non-current assets				Non-current assets			
Property, plant and equipment	28421	44150	45497	Property, plant and equipment	28421	23269	22580
Goodwill	34557	34557	34557	Goodwill	34557	40316	39503
Intangible assets	19800	13133	13367	Intangible assets	19800	11895	11677
Investments in associates and joint ventures	8649	8649	8649	Investments in associates and joint ventures	8649	8090	7976
Financial assets	5493	5493	5493	Financial assets	5493	5138	5066
Employee benefits assets	383	383	383	Employee benefits assets	383	358	353
Current income tax assets	128	128	128	Current income tax assets	128	120	118
Deferred tax assets	2058	2058	2058	Deferred tax assets	2058	1925	1898
Total non-current assets	**99489**	**108551**	**110132**	**Total non-current assets**	**99489**	**91110**	**89172**
Total assets	**133450**	**141073**	**142592**	**Total assets**	**133450**	**123361**	**121059**
Current liabilities				Current liabilities			
Financial debt	8810	12667	9710	Financial debt	8810	8370	8252
Trade and other payables	17437	16588	17100	Trade and other payables	17437	16338	16079
Accruals and deferred income	3759	3576	3686	Accruals and deferred income	3759	3442	3394
Provisions	695	695	695	Provisions	695	650	641
Derivaive liabilities	757	757	757	Derivaive liabilities	757	708	698
Current income tax liabilities	1264	1264	1264	Current income tax liabilities	1264	1258	1244
Liabilities directly associated with assets held for sale	173	173	173	Liabilities directly associated with assets held for sale	173	162	160
Total current liabilities	**32895**	**35720**	**33385**	**Total current liabilities**	**32895**	**30928**	**30468**
Non-current liabilities				Non-current liabilities			
Financial debt	12396	11156	11156	Financial debt	12396	11594	11432
Employee benefits liabilities	8081	8081	8081	Employee benefits liabilities	8081	7558	7453
Provisions	3161	3161	3161	Provisions	3161	2957	2915
Deferred tax liabilities	3191	3191	3191	Deferred tax liabilities	3191	2985	2943
Other payables	1842	1842	1842	Other payables	1842	1723	1699
Total non-current liabilities	**28671**	**27431**	**27431**	**Total non-current liabilities**	28671	26816	26441
Total equity	**71884**	**77922**	**81776**	**Total equity**	71884	65617	64149
Total liabilities and equity	**133450**	**141073**	**142592**	**Total liabilities and equity**	**133450**	**123361**	**121058**

Source: Dissertation and Analyst report

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