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Mergers & Acquisitions: buy-side advisory solution to PepsiCo, Inc. on its acquisition of Mondelēz International, Inc.

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Abstract

The aim of this dissertation is to issue a buy-side recommendation, based upon a combination of strategical drivers and valuation methodologies, to PepsiCo, Inc. on its acquisition of Mondelēz International, Inc. Within the non-cyclical markets framework, the F&B business sector stands out for its solid M&A activity. Product innovation and shifts in consumer preferences stimulate PepsiCo, Inc. to engage in a sizeable deal, being Mondelēz International, Inc. the optimal target. PepsiCo, Inc. intrinsic EV amount to USD 238,093 million, while Mondelēz International, Inc. intrinsic EV is equal to USD 86,076 million. The deal relies on a friendly approach with a purchase premium of 25% on Mondelēz International, Inc. current market value on the 24th of May 2019. This proposal generates a total purchase price of USD 93,862 million, captures synergies, net of fees, of USD 5,654 million and the sources of funds correspond to 55% of stock and 45% of cash. The transaction signals shareholder value creation and presents a potential accretion of 25.40% in 2025.

Keywords: Mergers and acquisitions; non-cyclical market; F&B; synergies

Resumo

O objetivo desta dissertação consiste em emitir uma recomendação de compra, baseada na combinação de vetores estratégicos e metodologias de avaliação, à PepsiCo, Inc. na sua aquisição da Mondelēz International, Inc. No âmbito dos mercados não cíclicos, o sector de negócio dos alimentos e bebidas destaca-se pelo elevado número de fusões e aquisições. A inovação e as alterações das preferências dos consumidores estimulam a PepsiCo, Inc. a envolver-se num negócio de maior dimensão, sendo a Mondelēz International, Inc. o alvo ideal. O valor intrínseco da PepsiCo, Inc. é de 238.093 milhões de dólares, enquanto o da Mondelēz International, Inc. corresponde a 86.076 milhões de dólares. A transação assenta numa abordagem amigável com um prémio de 25% sobre o valor de mercado da Mondelēz International, Inc. a 24 de maio de 2019. Esta proposta gera um preço de compra de 93.862 milhões de dólares, cria sinergias no valor líquido de 5.654 milhões de dólares e projeta-se que ações e dinheiro sejam as fontes de financiamento do negócio em 55% e 45% respetivamente. A transação demonstra que existe criação de valor para os acionistas e apresenta um potencial lucro por ação de 25,40% em 2025.

Palavras-chave: Fusões e aquisições; mercado não cíclico; alimentos e bebidas; sinergias

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List of abbreviations

AMEX	American Stock Exchange
APV	Adjusted present value
BSM	Black-Scholes model
CAGR	Compounded annual growth rate
CAPEX	Capital expenditure
CAPM	Capital asset pricing model
CCF	Capital cash flow
CEO	Chief executive officer
CF	Cash flow
COGS	Cost of goods sold
CRSP	Center for Research in Security Prices
DCF	Discounted cash flows
DDM	Dividend discount model
DOJ	Department of Justice
EBIT	Earnings before interest and taxes
EBITDA	Earnings before interest, taxes, depreciations and amortizations
EBT	Earnings before taxes
EPS	Earnings per share
EV	Enterprise value
F&B	Food & beverage
F&SR	Food & staples retailing
FB&T	Food, beverage & tobacco
FCFE	Free cash flow to the equity

FCFF	Free cash flow to the firm
FD	Fully diluted
FF	Fama and French
H&PP	Household & personal products
ICR	Interest coverage ratio
IMF	International Monetary Fund
ITS	Interest tax shields
LBO	Leveraged buyout
LT	Long term
M&A	Mergers & Acquisitions
MRP	Market risk premium
NASDAQ	National Association of Securities Dealers Automated Quotations
NOPLAT	Net operating profit less adjusted taxes
NYSE	New York Stock Exchange
P&L	Profit & loss
PER	Price-to-earnings ratio
PP&E	Property, plant & equipment
PV	Present value
R&D	Research & development
ROE	Return on equity
ROIC	Return on invested capital
S&P 500	Standard & Poor's 500
SG&A	Selling, general & administrative
SPS	Sales per share

ST	Short term
SWOT	Strengths, weaknesses, opportunities and threats
TCJA	Tax Cuts and Jobs Act
USD	United States dollar
WACC	Weighted average cost of capital
WC	Working capital
YOY	Year-over-year
YTM	Yield to maturity

List of variables and symbols

$\boldsymbol{\beta_i}$	Beta coefficient i
$\boldsymbol{\beta_L}$	Levered beta
$\boldsymbol{\beta_U}$	Unlevered beta
$\boldsymbol{D}$	Debt
$\boldsymbol{D_t}$	Dividend per share at time t
$\boldsymbol{E}$	Equity
$\boldsymbol{E[CF_t]}$	Expected cash flow at time t
$\boldsymbol{FCFE_t}$	Free cash flow to the equity at time t
$\boldsymbol{FCFF_t}$	Free cash flow to the firm at time t
$\boldsymbol{g}$	Growth rare
$\boldsymbol{HML}$	High minus low
$\boldsymbol{k}$	Discount rate
$\boldsymbol{k_d}$	Cost of debt
$\boldsymbol{k_e}$	Cost of equity
$\boldsymbol{PV(ITS)}$	Present value of interest tax shields
$\boldsymbol{r_f}$	Risk-free interest rate
$\boldsymbol{r_i}$	Return on investment i
$\boldsymbol{r_M}$	Return on market index
$\boldsymbol{SMB}$	Small minus big
$\boldsymbol{t}$	Marginal tax rate
$\boldsymbol{T}$	Corporate tax rate
$\boldsymbol{V_u}$	Value of the unlevered firm

1. Introduction

Continuous improvement is a challenging process during periods with an increasing pace of change and disruption. In order to thrive, corporations need to draw up growth strategies tailored toward progress.

Amongst the non-cyclical markets encompassed in the consumer staples sector, the F&B industry arises as a particularly relevant business segment to examine. As a result of product innovation, shifts in consumer demand, new legislation, original sustainable packaging practices and intensive competition, M&A activity becomes a viable alternative for leading players like PepsiCo, Inc. Hence, a merger with a powerful corporation that allows PepsiCo, Inc. to strengthen its competitive position and enhance its brand image, would, perhaps, generate higher added value and delight the management team. Thus, this dissertation aims to answer the following fundamental research question: *should PepsiCo, Inc. start bargaining the acquisition of Mondelēz International, Inc. on the 27th of May 2019?*

In truth, to explore the likelihood of closing this megadeal successfully, it is mandatory to investigate external and internal factors, cross-reference economic, financial and operational findings, as well as compare results. One secondary research question that emerges from this study is: *what is PepsiCo, Inc. and Mondelēz International, Inc.'s current fair value on the 24th of May 2019?*

Accordingly, to respond to the aforesaid questions, this dissertation is divided into seven sections: section 2 describes the prevailing academic literature on M&A and main valuation techniques; section 3 provides an in-depth analysis of the F&B industry and the two segments of interest, global carbonated soft drinks and confectionery; section 4 introduces PepsiCo, Inc. and Mondelēz International, Inc. activity, historical performance and future plans; section 5 discusses the deal rationale; section 6 valuates each stand-alone company and the combined firm; section 7 defines critical transaction issues and explores the deal acceptance; section 8 presents financial advisory conclusions to PepsiCo, Inc.

2. Literature review

2.1. Mergers and acquisitions overview

2.1.1. Value creation determinants

M&A represent a form of organizational restructuring with the ultimate goal of improving overall performance (Lubatkin, 1983) and creating net value (Bruner, 2004). Bauer and Matzler (2014) state that the success of this source of external growth and corporate development depends on the interaction of strategic complementarity, cultural fit and integration, whilst Bruner (2004) declare that financing deals mainly with cash, acquiring firms from related industries and having rigorous governance practices are three factors that increase the likelihood of having higher post-merger returns. Moreover, the premium size does not always correlate with the success of the underlying deal (Eccles, Lanes, & Wilson, 1999). In this sense, pre-merger and post-merger phases need to be properly managed and should be based upon a clear strategy (Bower, 2001).

2.1.2. Takeovers and defense tactics

According to Schnitzer (1996), friendly and hostile takeovers are two approaches that relate to specific disadvantages. The first creates agency problems between shareholders and executives, and the second often leads to a target-oriented tender offer without prior management consent (Schnitzer, 1996). Further, Schnitzer (1996) shows empirical evidence that raiders search hostile takeovers in uncertain environments, essentially due to management's inside information. Nevertheless, target entities might protect themselves and reduce the probability of success of these unwelcome bids through shark repellants (Pound, 1987), such as, poison pills and white knights. The former post-bid defense tactic is associated with contingent securities that harm acquirer's goals as a result of unwanted financial obligations, loss of voting rights, or dilution of equity holdings (Mallette & Fowler, 1992), whereas the latter allows the target organization to be purchased by a friendly acquirer, invited by the target management (Shleifer & Vishny, 1986), with favorable takeover conditions. In addition, one must have thorough and independent governance mechanisms to avoid negative reactions of the market when triggering anti-takeovers defenses (Bruner, 2004).

2.1.3. Buy-side priorities and mergers varieties

Kaplan and Schoar (2005) observe that private equity average fund returns, net of fees, are barely equal to the ones from S&P 500, notwithstanding a large level of heterogeneity in the industry and throughout time. Thereby, it is regular to see financial buyers, especially LBO funds, leveraging their investments, by way of operational and capital restructuring, in order to maximize equity returns[1] (Shivdasani & Zak, 2007). Aside from leverage, focus on cash returns, organizational culture, capital structure flexibility and shareholder expectations are other drivers of private equity value creation (Shivdasani & Zak, 2007).

Still, some buy-side agents are more focused on horizontal mergers, which occur between competitors or companies from the same industry, and vertical expansions, which arise between firms in different supply chain stages (Meador, Church, & Rayburn, 1996). Other common natures of M&A transactions are the conglomerates, deals made by companies with unrelated lines of business (Bruner, 2002) and perhaps, from different geographies, and product-congeneric mergers, transactions between firms that share similar production but different portfolios of products (Lubatkin & O'Neill, 1987). At the end, these sorts of strategic investments are, in essence, attempting to identify and reach synergies (Damodaran, 2005).

2.1.4. Motivations

There are several reasons to engage in M&A, and Bower (2001) stresses that acquisitions are made to: deal with overcapacity through consolidation; roll-up competitors in geographically fragmented industries; boost the range of products offered; substitute R&D; explore the limits of an eroding industry.

The term synergy, frequently used in M&A, is defined by Damodaran (2005) as the value generated by combining two companies into a new and more valuable one, forming opportunities that would not be available if both entities operate separately. Hence, Damodaran (2005) divides this concept in two categories: operating and financial.

[1] Companies that adopted leveraged recapitalizations outperformed the market (Shivdasani & Zak, 2007)

On the one hand, operating synergies are relevant M&A determinants (Bernile & Bauguess, 2011) and allow companies to improve their operating margins from existing assets, growth rate, or both (Damodaran, 2005). Better growth rates, higher pricing power, combination of different functional strengths[2] and economies of scale[3] are four types of operating synergies (Damodaran, 2005).

On the other hand, financial synergies resemble financial conditions which lead to a lower cost of capital, higher expected CFs, or both, and show up under the form of higher debt capacity, more uses for excess cash, tax benefits and diversification (Damodaran, 2005). Debt refinancing, capital management optimization and tax-engineering make transactions feasible and can produce value for shareholders (Eccles et al., 1999). However, financial synergies might be negative if the firms involved have fairly different risks and default costs (Leland, 2007).

Meanwhile, Berkovitch and Narayanan (1993) demonstrate empirically that despite the fact that synergies are the main motivation behind transactions with positive returns, the hubris effect is also identifiable in the same sample of deals. Furthermore, Grinstein and Hribar (2004) mentioned that a CEO, who has the power to persuade the board of directors and expects bonuses from M&A activity, may wish to maximize her own wealth rather than shareholder value. Berkovitch and Narayanan (1993) add that this transfer of value from shareholders to managers is the primary motivation behind takeovers with negative total gains[4].

2.1.5. Payment methods

Corporate acquisitions are linked to methods of payment that rely on certain characteristics of the acquirer and target firm, as well as features of the underlying environment (Martin, 1996). Those characteristics, such as, mode of acquisition and type of investment opportunity for the acquirer, determine the amount of cash and stock in each M&A deal (Martin, 1996).

[2] Often produce revenue enhancements through, for instance, distribution channels (Eccles et al., 1999)
[3] Cost savings come from eliminating duplication, like jobs and facilities, or purchasing in volume (Eccles et al., 1999)
[4] Appendix 1 enumerates major global M&A motivations of 2018 and illustrates transaction volumes of recent years

Additionally, one should consider that cash is utilized to signal high target value and prevent other companies from bidding (Martin, 1996). Indeed, it not only influences announcement effects (Travlos, 1987) but also impacts on post-acquisition returns, since returns from stock-financed M&A are lower than the ones from cash-financed M&A[5] (Agrawal, Jaffe, & Mandelker, 1992). However, as stated by Faccio and Masulis (2005), cash offers normally require debt financing, in consequence of limited liquidity, which rises financial distress costs and constrain the bidder's payment choice.

Bruyland, Lasfer, De Maeseneire and Song (2019) show evidence that bidders with high default risk are more likely to finance acquisitions with shares. Hence, target corporations accept these transactions due to the high premia paid, which justify the risk taken (Bruyland et al., 2019). Stock deals with high premiums appear, for instance, when a huge amount of synergies will be captured by the acquiring company (Eccles et al., 1999). Further, shares are mainly used as a method of payment in cases of friendly takeovers, smoothly overvalued acquirer's stock price, decentralized ownership, lack of cash and larger deals in size (Bruner, 2004).

Other types of deal designs relate to LBOs, whereby target shareholders earn large abnormal returns, earnouts, which provide stronger performance incentives to the seller management team, and collars, that make stock-for-stock offers more likely to succeed (Bruner, 2004).

2.2. Valuation techniques

2.2.1. Intrinsic valuation methodologies

The intrinsic value[6] of a company corresponds to its net present value of expected future CFs (Eccles et al., 1999) and it is based upon a DCF approach, which emerged as a best practice, and became the standard, in terms of valuing corporate assets (Luehrman, 1997b). Formula 1 indicates how to compute the present value of an asset (Luehrman, 1997b).

[5] Tender offers amplify the relationship between cash and shares, meaning, when the payment is in cash, the expected average returns are even higher (Bruner, 2004)

[6] Intrinsic values are usually lower than market values (Eccles et al., 1999). Appendix 2 shows the true value of an acquisition

$$Present\ value = \sum_{t=0}^{n} \frac{E[CF_t]}{(1+k)^t}$$

Where, n indexes for number of periods in the asset's life

$E[CF_t]$ *for expected cash flow at time t*

k *for discount rate*

Formula 1 – Present value

2.2.1.1. Discount rate

Since investors require higher returns, the discount rate is composed by the sum of the risk-free rate of return[7] and a risk premium[8] (Luehrman, 1997b).

2.2.1.1.1. Risk-free rate

The risk-free rate does not have default nor reinvestment risk, and, in mature markets like, for instance, F&B, it is measured by a 10-year treasury bond consistent with how CFs are defined (Damodaran, 2008). Apart from that, the risk-free rate of return is the basis for estimating the cost of equity and the cost of debt (Damodaran, 2008).

2.2.1.1.2. Cost of equity

In the aftermath of choosing the correct proxy for the risk-free interest rate, it is important to estimate the risk premium for equity market exposure[9], which consists of an extra return from investing in the stock market (Jacobs & Shivdasani, 2012).

[7] Risk-free fluctuations change the value of existing and growing assets (Damodaran, 2008)
[8] Bearing more risk brings greater returns (Luehrman, 1997b)
[9] Jacobs and Shivdasani (2012) specify that the majority of the firms use MRPs within a range between 5% and 6%, whilst Koller, Goedhart and Wessels (2010) refer that various models use MRPs between 4.5% and 5.5%

Subsequently, one quantifies the systematic risk through a measure that replicates the sensitivity of a security's returns relative to the market's returns (Jacobs & Shivdasani, 2012). This tool, widely recognized as beta, is estimated by the regression in Formula 2 (Damodaran, 1999).

$$r_i = \alpha + \beta \, . \, r_M$$

Where, r_i indexes for return on investment i

r_M for return on market index

Formula 2 – Beta estimation regression

Non-cyclical companies, like the ones from F&B industries, have lower betas than firms sensitive to market conditions, like automobile organizations (Damodaran, 1999). Besides the business type, operating and financial leverage are the remaining determinants of betas (Damodaran, 1999). Thereby, a bottom-up approach should be developed, with unlevered betas, as expressed by Formula 3 (Damodaran, 1999), followed by leverage (Jacobs & Shivdasani, 2012) and market adjustments (Blume, 1975).

$$\beta_U = \frac{\beta_L}{1 + (1 - T) \, . \, \frac{D}{E}}$$

Where, β_U indexes for unlevered beta

β_L for levered beta

T for corporate tax rate

D for debt

E for equity

Formula 3 – Conventional unlevered beta approach

Then, one has the required elements to calculate the cost of equity according to a largely used model, the CAPM (Jacobs & Shivdasani, 2012). The model assumes that expected excess returns from an asset are proportional to its beta (Merton, 1973) as described by Formula 4 (Ross, 1976).

$$k_e = r_f + \beta_i . (r_M - r_f)$$

Where, k_e indexes for cost of equity

r_f for risk-free interest rate

β_i for market beta i

Formula 4 – Cost of equity according to CAPM

An alternative method is the FF three-factor model, which expands the aforementioned model by adding two common risk factors in the returns on stock: size and value[10] (Fama & French, 1993). The mathematical representation is described in Formula 5 (Fama & French, 1993).

$$k_e = r_f + \beta_1 . (r_M - r_f) + \beta_2 . SMB + \beta_3 . HML$$

Where, β indexes for factor coefficient

SMB for small minus big factor (average returns on small-cap portfolios minus large-cap portfolios)

HML for high minus low factor (average returns on high book-to-market value portfolios minus low book-to-market value portfolios)

Formula 5 – Cost of equity according to FF three-factor model

2.2.1.1.3. Cost of debt

Koller et al. (2010) argue that companies with low risk of default estimate their pre-tax cost of debt through the YTM of LT bonds, a suitable proxy for firms with an investment-grade rating. Formula 6 determines the after-tax cost of debt[11] (Koller et al., 2010).

[10] There are results which favor the CAPM-based approach over the FF three-factor model (Kaplan & Ruback, 1996)
[11] It includes tax-adjustments (ITS) as a result of the firm's debt capacity (Luehrman, 1997b)

$$After - tax\ cost\ of\ debt = k_d\ .(1 - t)$$

Where, k_d indexes for pre-tax cost of debt

t for marginal tax rate

Formula 6 – After-tax cost of debt

2.2.1.1.4. Weighted average cost of capital

The WACC is the most common discount rate in valuation, it shows whether value is created or destroyed by the funding program (Luehrman, 1997b) and it is interpreted as the weighted average of the costs of equity and debt (Jacobs & Shivdasani, 2012).

It bundles all the financing side effects into the discount rate[12] (Luehrman, 1997b), which is expressed in Formula 7 (Koller et al., 2010).

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

Where, $\frac{E}{E+D}$ indexes for target level of equity to firm value using market-based values

$\frac{D}{E+D}$ for target level of debt to firm value using market-based values

Formula 7 – WACC

2.2.1.2. Discounted cash flow methodologies

Valuation is a function of cash, timing and risk (Luehrman, 1997b) and the DCF methodology follows this pattern[13]. This approach valuates businesses as a range of future risky CFs, in which expected future CFs are forecasted and discounted to the present value at the opportunity cost (Luehrman, 1997b). Furthermore, a DCF valuation is divided in four standard methods: FCFF, FCFE, APV and CCF[14] (Oded & Michel, 2007). Discount rates and CFs are the factors that distinguish the methods formerly cited (Oded & Michel, 2007).

[12] The typical WACC approach assumes a constant debt-to-capital ratio (Kaplan & Ruback, 1996)
[13] DCF methodologies prompt reliable forecasts of market value (Kaplan & Ruback, 1996)
[14] Method not addressed since it is similar to the FCFF and closely related to the APV (Ruback, 2000)

2.2.1.2.1. Free cash flow to the firm

Pinto, Henry, Robinson and Stowe (2010) claim that the after-tax CF available to all company's shareholders and bondholders is the FCFF. It is independent of non-operating items, financing (Koller et al., 2010) and, as reported before, is vastly adopted in finance (Luehrman, 1997b). Table 1 identifies how the FCFF is computed (Pinto et al., 2010).

EBIT
- Operating taxes
= **NOPLAT**
+ Depreciation and amortization expenses
- Investments in WC
- Investments in CAPEX
= FCFF

Table 1 – FCFF

Because FCFF is regarded as the CF to all suppliers of capital (Pinto et al., 2010), the value of the firm makes use of the WACC (Oded & Michel, 2007), as shown in Formula 8 (Pinto et al., 2010).

$$Firm\ value = \sum_{t=0}^{n} \frac{FCFF_t}{(1+WACC)^t} + \frac{FCFF_{n+1}}{WACC - g} \cdot \frac{1}{(1+WACC)^n}$$

Where, $FCFF_t$ *indexes for FCFF at time t*

g *for growth rate*

Formula 8 – Firm value according to FCFF

Thereafter, to reach the equity value, one should subtract, from the enterprise value, the market value of debt, and excess cash/cash equivalents if not deducted beforehand (Pinto et al., 2010).

2.2.1.2.2. Free cash flow to the equity

The FCFE is the CF from operations less CAPEX and payments to debtholders[15] (Pinto et al., 2010) therefore, the act of increasing dividends to shareholders lead to better valuations and higher FCFE (Koller et al., 2010). Table 2 exemplifies how to calculate the FCFE (Pinto et al., 2010).

Net Income
+ Cash charges
- Investments in WC
- Investments in CAPEX
+ Net borrowing
= FCFE

Table 2 – FCFE

Once FCFE represents the CF available to equity holders, after all other dues have been satisfied, the equity value of the firm discounts the FCFE at the cost of equity, as expressed in Formula 9 (Pinto et al., 2010).

$$Equity\ value = \sum_{t=0}^{n} \frac{FCFE_t}{(1+k_e)^t} + \frac{FCFE_{n+1}}{k_e - g} \cdot \frac{1}{(1+k_e)^n}$$

Where, $FCFE_t$ indexes for FCFE at time t

Formula 9 – Equity value according to FCFE

2.2.1.2.3. Adjusted present value

The common framework of the APV methodology is based on valuing the components of the business distinctly, meaning, the sum of the present value of the project as if it was financed with equity and the present value of financing effects, such as, interest tax shields, cost of financial distress and issue costs (Luehrman, 1997a).

[15] Method implemented in the case of valuing banks and financial institutions (Koller et al., 2010)

To have a more comprehensive and schematic approach, a basic APV analysis should be subdivided in five different steps: prepare performance forecasts of the target; discount base-case CFs and terminal value; value financing side effects; add the components of value; adapt or modify the model according to the managers' preferences and needs (Luehrman, 1997a).

In sum, the APV is a flexible and reliable tool in terms of valuation methods (Luehrman, 1997a) and can be better tailored to make substantial changes in capital structure[16] (Koller et al., 2010). Formula 10 indicates how to calculate a base-case APV[17] (Koller et al., 2010).

$$APV = V_u + PV(ITS)$$

Where, V_u *indexes for present value of the unlevered firm*

$PV(ITS)$ *for present value of ITS*

Formula 10 – Base-case APV

2.2.1.3. Dividend discount model

One of the most straightforward and old present value methodologies to valuing common stock is the DDM (Pinto et al., 2010). This approach claims that a value of stock depends on future dividends, as determined by Formula 11 (Pinto et al., 2010).

$$Stock\ value = \sum_{t=1} \frac{D_t}{(1 + k_e)^t}$$

Where, D_t *indexes for dividend per share at time t*

Formula 11 – Stock value according to DDM

Nonetheless, this model does not accurately forecast a significant number of dividends and has debatable assumptions, like a stable dividend growth rate (Pinto et al., 2010).

[16] Particularly relevant when firms need to issue a huge level of debt to proceed with the purchase (Koller et al., 2010)
[17] On a more detailed view, APV should also value bankruptcy costs (Koller et al., 2010)

2.2.2. Relative valuation methodology

Dealmakers and investment bankers generally price acquisitions using transaction or trading multiples (Kaplan & Ruback, 1996). This valuation method is based upon two major assumptions: comparable firms are presumed to have expected future CFs that grow at the same rate and with the same underlying risks as those of the company being valued; value varies, in the same proportion, with changes in performance (Kaplan & Ruback, 1996).

Even though there are no perfect matches and the abovementioned assumptions are not completely valid (Kaplan & Ruback, 1996), multiples are useful after performing a valuation which relies on a different methodology (Fernández, 2001).

Considering that relative valuation analysis provide insights in terms of key value drivers of one industry[18], it is pertinent to form a proper comparable set (Goedhart et al., 2005). Yet one may first organize multiples in three major groups: multiples based on the firm's capitalization, value and growth (Fernández, 2001). Table 3 expresses five of the most used multiples in valuation (Fernández, 2001).

Type	Name	Formula
Capitalization	Price-to-earnings ratio	Share price/EPS
Value	Enterprise-value-to-EBITDA ratio	EV/EBITDA
Growth-referenced	Price/earnings to growth ratio	PER/growth of EPS
Capitalization	Price-to-sales ratio	Share price/SPS
Value	Enterprise-value-to-sales ratio	EV/sales

Table 3 – Most popular multiples in valuation divided by categories

Despite of different industries being valued with distinct multiples[19], in general, the most used multiples are the EV/EBITDA and the PER[20] (Fernández, 2010). Then, one should bear in mind that finding the adequate peer group is a picky process that requires knowing operating and financial specifics of one market (Goedhart et al., 2005).

[18] Multiples should be based on recent data and not contain one-time events (Goedhart, Koller, & Wessels, 2005)
[19] The F&B sector is commonly valued through the EV/EBITDA multiple (Fernández, 2010)
[20] It has two key flaws: influenced by capital structure and includes non-operating items (Goedhart et al., 2005)

2.2.3. Option pricing methodology

Option pricing computes a value for each option that a deal can create as a consequence of several possible outcomes (Eccles et al., 1999). It values, for example, companies with new technologies in fast growing markets, such as, telecommunication firms, and one broadly used model is the BSM[21] (Luehrman, 1997b).

[21] This valuation methodology will not be further analyzed since it will not be used to valuate neither PepsiCo, Inc. nor Mondelēz International, Inc.

3. Industry analysis

3.1. Food and beverage industry overlook

Aligned with the Global Industry Classification Standard (2018), within the consumer staples sector, it is possible to identify three key industry groups, being the F&B industry deducted from the FB&T industry group[22] – Figure 1 reflects the aforementioned hierarchy.

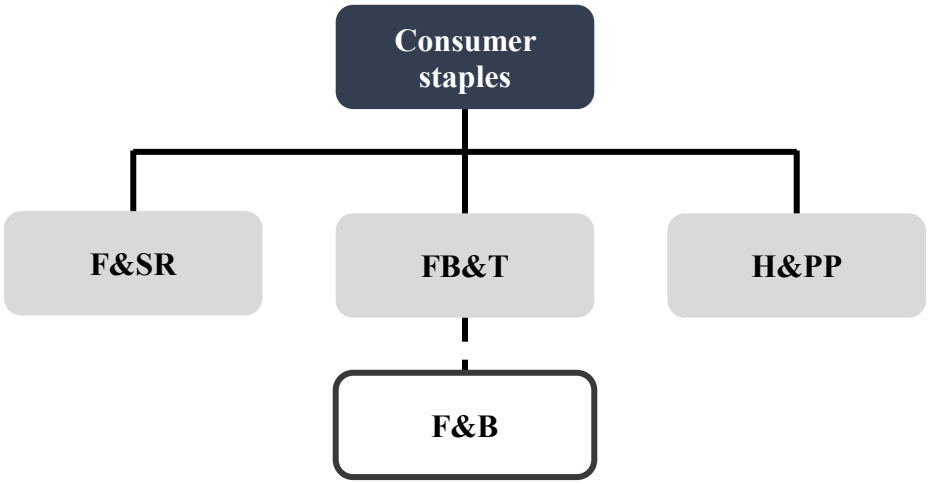

Figure 1 – F&B industry deduction according to Global Industry Classification Standard

Additionally, the food products industry incorporates two sub-industries, agricultural products, as well as packaged food and meats, while beverages span three sub-industries, brewers, distillers and vintners, as well as soft drinks (Global Industry Classification Standard, 2018). In short, when it comes to F&B, the industry is composed by various categories and classes of participants, Figure 2 systematizes the F&B value chain (Natural Capital Coalition, 2016).

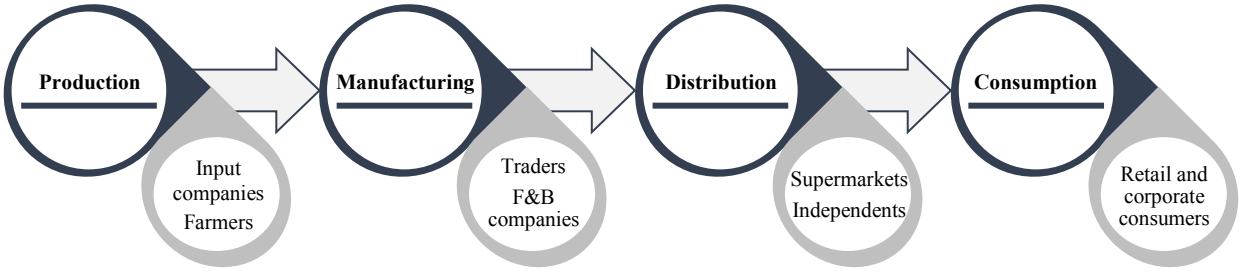

Figure 2 – Traditional F&B value chain

[22] In other words, the F&B business sector might be taken from a blend of two industries, more precisely, food products and beverages (Global Industry Classification Standard, 2018)

One consumer staples index, launched in 1996, with 33 constituents classified as consumer staples companies, according to the Global Industry Classification Standard, is the S&P 500 consumer staples index (Thomson Reuters, 2019). This index has a market value of around USD 2.04 trillion and Figure 3 presents the components with higher market capitalization (Thomson Reuters, 2019).

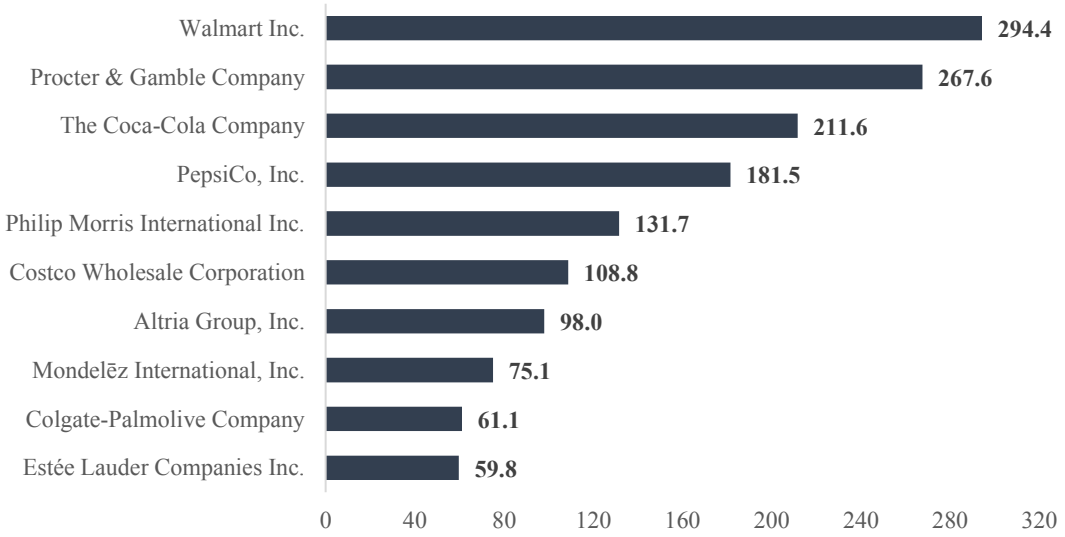

Figure 3 – Companies with higher market capitalization in the consumer staples sector as of May 2019, in USD billions

From the group of corporations exposed above, there are three organizations that belong to the F&B business sector: The Coca-Cola Company (USD 212 billion), PepsiCo, Inc. (USD 182 billion) and Mondelēz International, Inc. (USD 75 billion).

3.1.1. Growth drivers

A crucial global growth driver of the F&B industry is the premiumization process of the products offered, being value one of the most highlighted features (Fitch Solutions, 2019). Hence, considering that volume is not a main determinant and consumer preferences continue to change, disruption is what boosts growth (Fitch Solutions, 2019). The access to information and consumers' healthful diets are two other critical growth drivers of the F&B industry – gluten-free products are an example of a niche segment that gain value as access to information and health concerns increase (Mellentin, 2018). In this sense, larger corporations, like PepsiCo, Inc., face substantial pressure, and in order to remain competitive, as well as diminish their limitations, these companies need to reduce costs, diversify through new products and perform acquisitions (Fitch Solutions, 2019).

3.1.2. Mergers and acquisitions market overview

In the United States and Canada, M&A activity in the F&B industry remained strong, with a total of 276 transactions in 2018 (Duff & Phelps, 2019). From the previously cited deal volume, 89% of the deals were closed by strategic buyers, whereas 11% were done by financial buyers. Also, in 68% of the cases a private buyer was involved, as displayed in Figure 4 (Duff & Phelps, 2019).

Figure 4 – Deals, in the United States and Canada, by types of buyer as of December 2018, in percentage

Recent activity revealed that the segments with greater transaction volumes in 2018 were: alcoholic beverages, namely, craft brewers, distillers and vintners; general food products, especially oil producers, sauces, condiments and frozen foods; non-alcoholic beverages, to a certain extent due to cannabis-infused beverage drinks (Duff & Phelps, 2019).

3.2. Food and beverage segments of interest

PepsiCo, Inc. and Mondelēz International, Inc. are market leaders in two different segments. Hereupon global carbonated soft drinks and global confectionery markets will be briefly discussed.

3.2.1. Global carbonated soft drinks

In a summarized matter, the global carbonated soft drinks market is dominated by The Coca-Cola Company and PepsiCo, Inc.[23] (MarketLine, 2018a). This segment, whose market value CAGR is likely to be around 3.04% between 2018 and 2022, encompasses the retail sale of carbonated soft drinks, Table 4 forecasts its market values between 2018 and 2022 (MarketLine, 2018a).

[23] Player with higher market share in the global savory snacks segment (MarketLine, 2018b)

USD 000,000's	**2018**	**2019**	**2020**	**2021**	**2022**	**CAGR** (2018-2022)
Market value	291,500	301,584	310,661	319,768	328,552	3.04%

Table 4 – Global carbonated soft drinks market value forecasts between 2018 and 2022, in USD millions

Furthermore, carbonated soft drinks' product innovation relies on the appearance of opportunities that are associated with novel government legislation, as well as health and well-being (MarketLine, 2018a). The former relates to, for instance, new regulation to help prevent obesity whereas the latter is connected to higher demand for sugar-free drinks[24] (MarketLine, 2018a).

3.2.2. Global confectionery

In broad terms, the global confectionery market comprises the retail sale of chocolate, gum and sugar confectionery products (MarketLine, 2019). Mars, Inc., Mondelēz International, Inc. and Nestlé S.A. are the players with superior market share in this segment (MarketLine, 2019). Market value forecasts illustrate that the segment should grow at a similar pace than previous years, reflecting a CAGR of 4.19% between 2018 and 2022, as estimated in Table 5 (MarketLine, 2019).

USD 000,000's	**2018**	**2019**	**2020**	**2021**	**2022**	**CAGR** (2018-2022)
Market value	168,623	175,990	183,407	190,908	198,733	4.19%

Table 5 – Global confectionery market value forecasts between 2018 and 2022, in USD millions

In addition, confectionery growth is influenced by conventional factors, like higher disposable income and fast urbanization, and modern aspects, such as greater health awareness and the upward trend of gifting confectionery products[25] (MarketLine, 2019). Consequently, manufactures innovate via new healthy snacks and original packaging[26] (MarketLine, 2019).

[24] To complement the analysis, Appendix 3 illustrates Porter's five forces in the global carbonated soft drinks segment
[25] Brand loyalty and assertive marketing strategies also bear market growth (MarketLine, 2019)
[26] To complement the analysis, Appendix 3 shows Porter's five forces in the global confectionery segment

4. Company analysis

4.1. PepsiCo, Inc.

PepsiCo, Inc.[27] is an American global F&B firm, quoted in the NASDAQ stock market, with a portfolio of leading and widespread brands, including Pepsi-Cola, Frito-Lay, Gatorade, Quaker and Tropicana[28] (Thomson Reuters, 2019). The company is headquartered in New York, United States and produces, markets, distributes and sells its products in six divisions, which, alongside their core businesses[29] and percentage of total revenue, are outlined in Table 6 (Thomson Reuters, 2019).

	Business			
Segment	Food	Snack	Beverage	**Revenue**
Quaker Foods North America	✓	×	×	4%
Asia, Middle East and North Africa	✓	✓	✓	9%
Latin America	✓	✓	✓	11%
Europe Sub-Saharan Africa	✓	✓	✓	18%
Frito-Lay North America	✓	✓	×	25%
North America Beverages	×	×	✓	33%

Table 6 – PepsiCo segments, underlying core businesses and percentage of total revenue as of December 2018

4.1.1. Share price history

PepsiCo's quote history shows evidence that in a time-span of ten years[30] its CAGR was approximately 9.71%. Throughout this period of time, PepsiCo had a minimum stock price of USD 50.0 in May 27, 2009 and a maximum of USD 130.5 in May 17, 2019. Figure 5 compares PepsiCo's cumulative returns with the S&P 500 index (Thomson, Reuters, 2019).

[27] Henceforth denominated as PepsiCo
[28] In order to analyze PepsiCo's internal and external competitive strands, Appendix 4 presents its SWOT analysis
[29] Primarily include potato and tortilla chips in the snack business, pasta, rice and cereals in the food business and finished beverages and beverage concentrates in the beverage business (Thomson Reuters, 2019)
[30] From May 26, 2009 to May 24, 2019

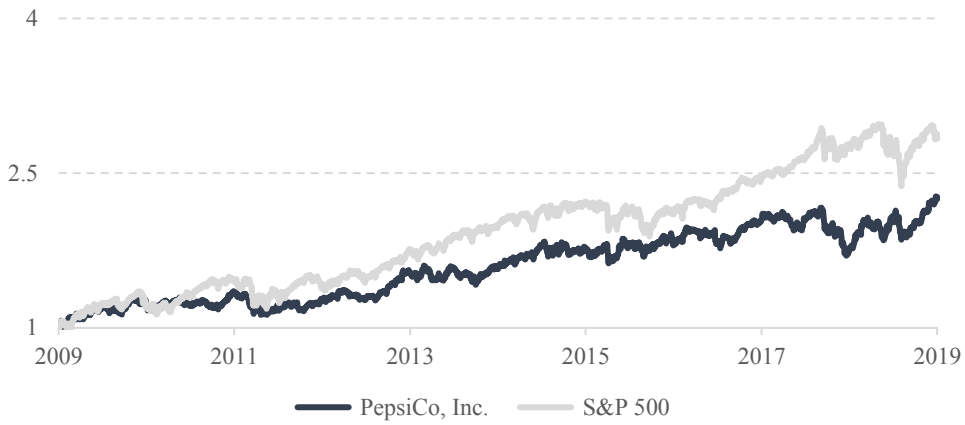

Figure 5 – PepsiCo and S&P 500 10-year cumulative returns

In regard to volatility, the last 1-year standard deviation of PepsiCo's daily returns and S&P 500 correspond to 0.17 and 0.15 respectively[31]. Moreover, since 2009, it is verifiable a robust correlation between the non-cyclical company daily returns and the benchmark, as expressed in Figure 6 (Thomson Reuters, 2019).

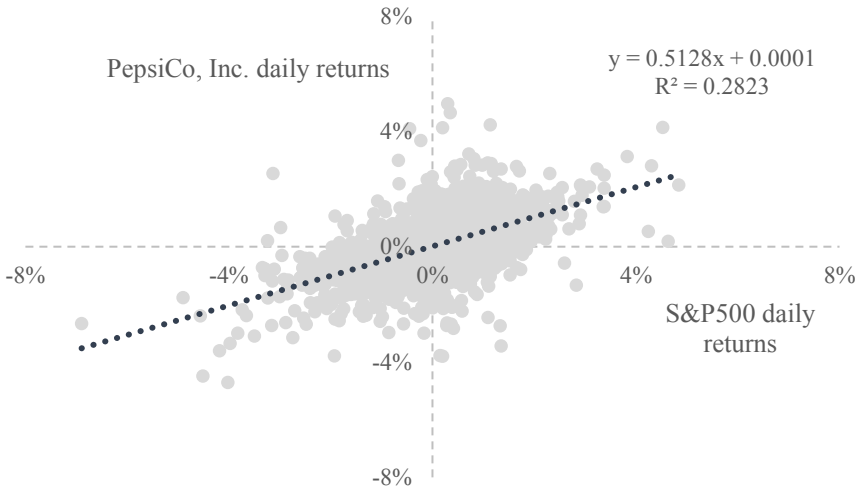

Figure 6 – Historical 10-year daily returns of PepsiCo and S&P 500, in percentage

4.1.2. Ownership structure

As of May 2019, the number of PepsiCo's net shares outstanding was 1,402 million[32] and Table 7 reports the company's dominant stockholders (Thomson, Reuters, 2019).

[31] From May 24, 2018 to May 24, 2019
[32] Free float of 99.77% (Thomson Reuters, 2019)

Shareholder	Shares	Value (USD)	Position (%)
The Vanguard Group, Inc.	124.2	13,721.3	8.84%
BlackRock Institutional Trust Company, N.A.	66.0	7,293.6	4.70%
State Street Global Advisors	63.6	7,024.4	4.53%
Wellington Management Company, LLP	30.0	3,312.9	2.14%
Geode Capital Management, LLC	19.5	2,151.1	1.39%
Bank of America Merrill Lynch	18.3	2,023.8	1.30%

Table 7 – PepsiCo's top investors as of December 2018, in millions

4.1.3. Historical operating and financial analysis

In a brief, historical operating and financial analysis will be managed over the past five years, between 2014 and 2018, with special emphasis on 2018.

Although revenue dropped at a 0.77% CAGR since 2014, organic revenue growth remained positive in the same time-span, reaching a YOY organic growth rate of around 3.70% at the end of 2018 (PepsiCo, 2019b). Once PepsiCo's aforesaid metric excluded adverse impacts of acquisitions, foreign exchange translation, structural charges and other charges in 2018 (PepsiCo, 2019b), organic revenue is perceived as a decisive cornerstone for mature companies involved in markets with recurring consolidation processes and M&A activity.

In the meantime, gross profit's CAGR, over the last five years, went down by approximately 0.11% each year, as expressed in Table 8 (Thomson Reuters, 2019). On the whole, excluding net income and net income attributable to PepsiCo items[33], the firm appears to present a low CAGR in its margins between 2014 and 2018.

[33] Values abundantly affected by negative tax provisions in 2018, which, on account of tax benefits related to international operations reorganization, as well as non-cash tax benefits from certain international tax audits and past years audit resolutions, amount to USD 3,342 million (PepsiCo, 2019b)

USD 000,000's	**2014**	**2015**	**2016**	**2017**	**2018**	**CAGR** (2014-2018)
Revenue	66,683	63,056	62,799	63,525	64,661	-0.77%
COGS	(31,238)	(28,731)	(28,222)	(28,796)	(29,378)	-1.52%
Gross profit	35,445	34,325	34,577	34,729	35,283	-0.11%
EBIT	9,581	8,353	9,804	10,276	10,110	1.35%
EBT	8,757	7,442	8,553	9,602	9,189	1.21%
Net Income	6,558	5,501	6,379	7,408	12,531	17.57%
Net Income attributable to PepsiCo	6,513	5,452	6,329	4,857	12,515	17.74%

Table 8 – PepsiCo's P&L statement overview between 2014 and 2018, in USD millions

Despite the overall small positive adjustment between 2014 and 2018, the reported gross margin, in 2018, fell down 10 basis points compared to the previous year. Likewise, this negative tendency, in the last two years, was valid for the EBIT margin[34] presented in Table 9.

	2014	**2015**	**2016**	**2017**	**2018**	**CAGR** (2014-2018)
Gross margin	53.15%	54.44%	55.06%	54.67%	54.57%	0.66%
EBIT margin	14.37%	13.25%	15.61%	16.18%	15.64%	2.14%

Table 9 – Profitability ratios of PepsiCo between 2014 and 2018, in percentage

[34] Appendix 5 displays PepsiCo normalized EBITDA and normalized EBITDA margin over the historical period

Further, PepsiCo's liquidity patterns have swung over the past four years, with a quick ratio ranging from 0.85 to 1.37 and a current ratio oscillating from 0.99 to 1.51 (Thomson Reuters, 2019). Parallel to this, the firm's leverage have been quite unstable, manifesting higher debt levels than the industry median. A final remark relates to PepsiCo's increasing ROE and ROIC, which went up by around 67% and 10% respectively, as expressed in Table 10 (Thomson Reuters, 2019).

USD 000,000's	**2014**	**2015**	**2016**	**2017**	**2018**	**Industry** (Median)
Quick ratio	0.97	1.16	1.12	1.37	0.85	0.88
Current ratio	1.14	1.31	1.25	1.51	0.99	1.24
Assets/Equity	4.01	5.77	6.53	7.23	5.35	2.46
Debt/Equity	1.64	2.76	3.29	3.56	2.23	0.72
ROE	31.20%	37.10%	55.00%	66.90%	98.30%	19.20%
ROIC	11.70%	10.50%	12.20%	13.30%	21.90%	-

Table 10 – Liquidity, leverage and performance ratios of PepsiCo between 2014 and 2018

4.1.4. Future prospects

PepsiCo's current solid momentum suggests that its past investments went as planned and that the CEO transition, in October 2018, was conducted efficiently (PepsiCo, 2019b).

On the one hand, as strategic measures is concerned, in 2019, the firm intends to: develop structural changes, in order to become more agile to commercial opportunities; invest in north America F&B segments to sustain its leadership and provide more benefits, like variety and desirability, to its consumers; improve automation and demand forecasting; focus on progressing sustainability (PepsiCo, 2019b). On the other hand, in terms of financial goals for 2019, PepsiCo plans to: achieve an organic revenue growth of 4%, improving shareholder value; reach core EPS of around USD 5.50; have total cash returns of approximately USD 8 billion, USD 5 billion in dividends and USD 3 billion in share repurchases (PepsiCo, 2019b).

4.2. Mondelēz International, Inc.

Mondelēz International, Inc.[35] is an American global F&B company, quoted in the NASDAQ stock market, that manufactures and markets snacks and beverages and has a portfolio of renowned brands[36], such as, Oreo biscuits, Milka chocolates, Trident gum and Tang powdered beverages[37] (Thomson Reuters, 2019). The firm is headquartered in Illinois, United States and it is segmented in four geographic regions addressed in Table 11 (Thomson Reuters, 2019).

	Business			
Segment	Food	Snack	Beverage	**Revenue**
Latin America	✓	✓	✓	12%
Asia, Middle East, and Africa	✓	✓	✓	22%
North America	✗	✓	✗	27%
Europe	✓	✓	✓	39%

Table 11 – Mondelēz segments, underlying core businesses and percentage of total revenue as of December 2018

4.2.1. Share price history

Mondelēz's share price evolution in the latter ten years[38] displayed a CAGR of roughly 11.91%. During this historical period, the company recorded a maximum share price of USD 52.8 in May 16, 2019 and a minimum of USD 16.2 in June 16, 2009. Mondelēz's scrutinized cumulative returns, compared to the S&P 500, are detailed in Figure 7 (Thomson Reuters, 2019).

[35] Hereafter named as Mondelēz
[36] Comprises mainly gum, candy, biscuits and chocolate in the snack business, cheese and grocery in the food business and coffee and powdered beverages in the beverage business (Thomson Reuters, 2018)
[37] In order to analyze Mondelēz's internal and external competitive strands, Appendix 4 presents its SWOT analysis
[38] From May 26, 2009 to May 24, 2019

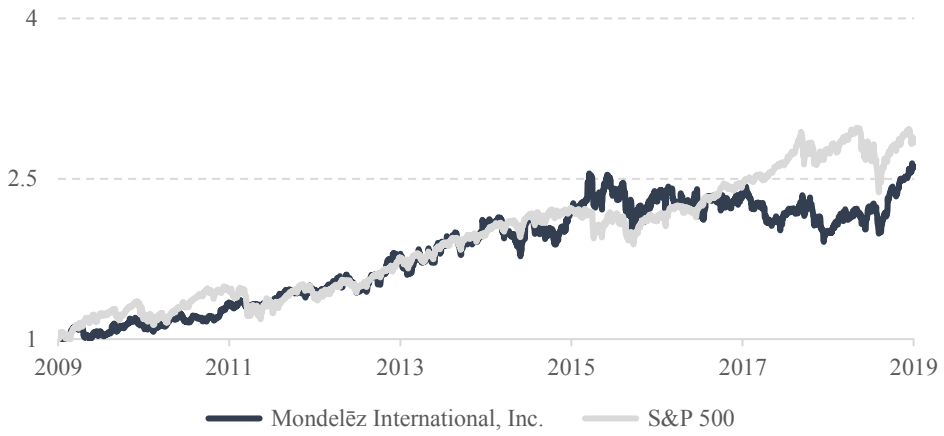

Figure 7 – Mondelēz's and S&P 500 10-year cumulative returns

In addition, the last 1-year standard deviation of Mondelēz's daily returns equals 0.16[39]. Even though in some cases one may observe significant share price variations, mature F&B corporations tend to be less volatile, and Mondelēz is no exception. Figure 8 contrast Mondelēz historical daily returns with the S&P 500 index (Thomson Reuters, 2019).

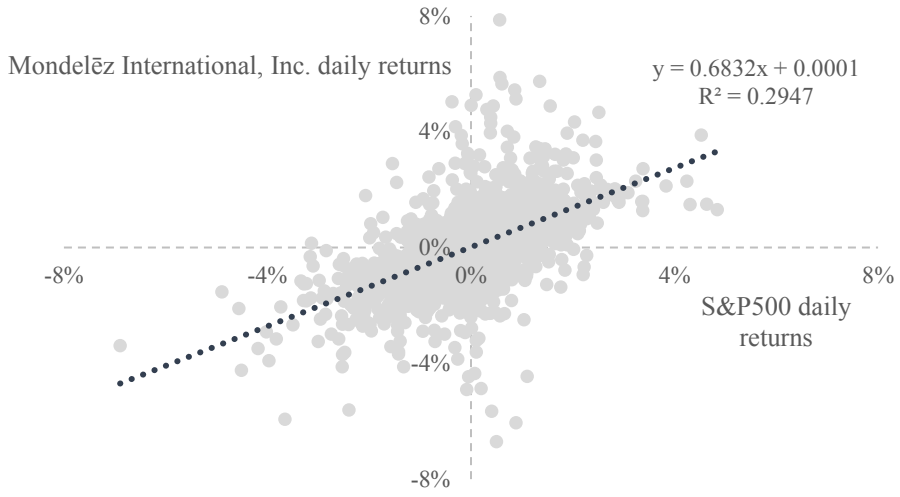

Figure 8 – Historical 10-year daily returns of Mondelēz and S&P 500, in percentage

4.2.2. Ownership structure

The company's number of shares outstanding, as of May 2019, was 1,440 million[40] and Table 12 discloses Mondelēz's most influential shareholders (Thomson, Reuters, 2019).

[39] From May 24, 2018 to May 24, 2019
[40] Free float of 99.82% (Thomson Reuters, 2019)

Shareholder	Shares	Value (USD)	Position (%)
The Vanguard Group, Inc.	107.6	4,308.1	7.44%
State Street Global Advisors	63.5	2,541.8	4.39%
BlackRock Institutional Trust Company, N.A.	62.5	2,503.0	4.32%
J.P. Morgan Asset Management	30.9	1,236.9	2.14%
Lindsell Train Limited	30.7	1,229.3	2.12%
Capital International Investors	21.9	877.4	1.52%

Table 12 – Mondelēz's top investors as of December 2018, in millions

4.2.3. Historical operating and financial analysis

Mondelēz's historical operating and financial analysis will be organized over the past five years, given greater prominence to 2018.

In line with the PepsiCo's case, Mondelēz reported a negative revenue CAGR of around 6.71% since 2014, and a positive organic revenue growth in the same period, announcing a YOY organic growth rate of approximately 2.40% at the end of 2018 (Mondelēz, 2019c). This prepotent variable reflected positive values among all Mondelēz's segments in 2018 annual results, being Latin America the region with highest YOY organic growth, around 3.60%, and North America the division with the lowest YOY organic growth, approximately 0.60% (Mondelēz, 2019c).

Unlike gross profit's negative CAGR, Mondelēz operating income's CAGR corresponded to 3.66% between 2014 and 2018[41], as it is possible to validate in Table 13 (Thomson Reuters, 2019). Furthermore, over the last five years, the net income attributable to Mondelēz item exhibits a CAGR of 11.54% – largely due to earnings, not distributed as dividends, from affiliates, joint ventures or associated organizations (Thomson Reuters, 2019).

[41] The firm displayed, in 2015, an extremely high EBIT of 8,897 as a result of unusual gains on the coffee business

USD 000,000's	**2014**	**2015**	**2016**	**2017**	**2018**	**CAGR** (2014-2018)
Revenue	34,244	29,636	25,923	25,896	25,938	-6.71%
COGS	(21,647)	(18,124)	(15,819)	(15,862)	(15,586)	-7.88%
Gross profit	12,597	11,512	10,104	10,034	10,352	-4.79%
EBIT	2,747	8,897	2,127	3,451	3,172	3.66%
EBT	2,554	7,884	1,454	3,124	2,842	2.71%
Net Income	2,201	7,291	1,340	2,414	2,088	-1.31%
Net Income attributable to Mondelēz	2,184	7,267	1,635	2,828	3,381	11.54%

Table 13 – Mondelēz's P&L statement overview between 2014 and 2018, in USD millions

Overall, the firm profitability margins show positive CAGRs between 2014 and 2018[42], stressing, for instance, a notable EBIT margin of 11.12%, as expressed in Table 14. However, in 2018, the gross profit margin was the ratio with the greatest increase when compared to 2017 – 116 basis points.

	2014	**2015**	**2016**	**2017**	**2018**	**CAGR** (2014-2018)
Gross margin	36.79%	38.84%	38.98%	38.75%	39.91%	2.06%
EBIT margin	8.02%	30.02%	8.21%	13.33%	12.23%	11.12%

Table 14 – Profitability ratios of Mondelēz between 2014 and 2018, in percentage

[42] Appendix 5 displays Mondelēz normalized EBITDA and normalized EBITDA margin over the historical period

Meanwhile, since Mondelēz's quick ratio and current ratio are lower than the industry median, the firm's capacity to meet its ST obligations might be jeopardized. Nevertheless, despite the lack of liquidity, the company's financial leverage ratios have small fluctuations throughout time, with an assets-to-equity ratio varying from 2.24 to 2.45 and a debt-to-equity ratio ranging from 0.55 to 0.72, as illustrated in Table 15 (Thomson Reuters, 2019). Lastly, reliable performance indicators leave, in practice, investors relatively optimistic (Thomson Reuters, 2019).

USD 000,000's	**2014**	**2015**	**2016**	**2017**	**2018**	**Industry** (Median)
Quick ratio	0.59	0.58	0.42	0.31	0.30	0.92
Current ratio	0.84	0.82	0.59	0.48	0.45	1.75
Assets/Equity	2.41	2.24	2.45	2.42	2.45	2.15
Debt/Equity	0.60	0.55	0.68	0.68	0.72	0.59
ROE	7.30%	26.10%	6.10%	10.90%	13.20%	13.10%
ROIC	4.00%	13.90%	2.70%	5.10%	4.50%	-

Table 15 – Leverage, liquidity and performance ratios of Mondelēz between 2014 and 2018

4.2.4. Future prospects

Mondelēz's strategic and structural plan allowed the company to meet its financial estimates and start 2019 with transparent consumer-centric priorities (Mondelēz, 2019c).

On the one hand, the firm's growth-oriented strategic plan for 2019 relies on: a more complete view of the snack business to refine brand positioning; marketing and digital transformation in order to increase ROIC; brand extension and balanced investments; continuous operational excellence; higher investments in talent and building capability; a new employee reward system (Mondelēz, 2018). On the other hand, Mondelēz's financial targets for 2019 and LT goals relate to: an organic revenue growth of 3%; a FCFF of USD 3 billion; a high-single digit adjusted EPS growth at constant currency (Mondelēz, 2019c).

5. Transaction rationale

According to Bruner (2004), reshaping businesses in order to reply to changes in external environments creates value. As stated in aforesaid sections, PepsiCo belongs to a non-cyclical industry, in which the degree of premiumization, innovation and cost efficiencies are the principal drivers of growth (Fitch Solutions, 2019).

Nonetheless, one of the major threats in the carbonated soft drinks segment is the competition among leading players (MarketLine, 2018a). Thus, to diversify its portfolio, bear more effectively the current market constraints (Fitch Solutions, 2019), continue to invest in F&B segments and maintain strong operating performance (PepsiCo, 2019b), the firm should engage in sizeable M&A activity. Additionally, PepsiCo's new CEO might be willing to accept a deal that allows the firm to have more international scale.

In the aftermath of PepsiCo's strategic interests, Mondelēz fits as a worthwhile target. This multinational snack and beverages corporation seems to be able to complement current PepsiCo's business, once it has a set of operational and financial advantages that may appeal to PepsiCo. Therefore, this target choice can be justified by the following reasons: strong presence in emerging markets through a differentiated portfolio of powerful brands (Thomson Reuters, 2019); same most influential shareholders, such as The Vanguard Group, Inc., and Mondelēz's stockholders higher demand for earnings and dividends (Thomson Reuters, 2019); revenue enhancements from Mondelēz's ample global distribution network and cost savings from workforce optimization (MarketLine, 2019); striking profitability margins (Thomson Reuters, 2019) and positive organic revenue growth in prior years (Mondelēz, 2019c).

Henceforth, to price this transaction, PepsiCo and Mondelēz will be valued as two stand-alone companies, in accordance with their estimated future performance, and, consequently, it will be structured a pro-forma model, combining both F&B firms.

6. Valuation

To build an integrated valuation model, one may first enumerate the underlying transaction principles valid for PepsiCo and Mondelēz. In this sense, before forecasting financial data, it is relevant to underline that the companies' financials will be presented in USD millions, unless otherwise stated, and forecasted over 7 years due to the firms' maturity, brand awareness, overall slow-growing market and competitive features. Henceforward, to value the newly-formed firm, a DCF approach will be developed, as well as sensitivity, scenario and multiples analyses.

6.1. PepsiCo, Inc.

6.1.1. Income statement forecasts

The process of estimating a company's income statement is the first step toward building a sophisticated financial model. Then, each P&L item will be addressed separately.

With regard to sales forecasts, it is common to face some issues when estimating this item due to a large number of unpredictable factors, such as technology, currency effects and customers' desires. However, since most P&L assumptions are tied to revenue, it needs to be as much accurate as possible. Thereby, once a revenue top-down forecast[43] leads to values incompatible with historical evidence, YOY revenue growth rates between 2019 and 2021 are based on Thomson Reuters' mean projections[44], varying from 2.49% to 3.96%. Also, from 2021 onwards, annual growth rates are assumed to be the simple average of the YOY revenue growth rates between 2015 and 2021 – 1.06%.

As cited previously, PepsiCo historical gross margins are quite identical since 2014. Hence, COGS, as a percentage of revenue, should grow at a rate of nearly -0.76% per year, a value that matches this ratio's CAGR between 2014 and 2018. Moreover, the remaining operating expenses forecasts, namely SG&A and R&D economic costs, are also represented as a percentage of revenue[45]. Since both follow a stable pattern, the ratio taken into consideration for future estimates is the same than in 2018 – 37.88% for SG&A expenses and 1.05% for R&D expenses.

[43] It estimates revenue based on a market size approach, taking into account market shares (Koller et al., 2010)
[44] Take into account YOY revenue growth rates per segment
[45] Depreciation expenses are not clearly classified in the income statement, thus this item will be further forecasted

In addition, whilst non-operating income estimates rely on the simple average of the past three years, as a result of a recent and ascending trend on other pension and retiree medical benefits income, net interest expenses are expressed as a percentage of the beginning period total debt. In this way, it is estimated that the latter grows at a rate of -0.39% per year – CAGR of historical net interest expenses as a percentage of the last end of period ST and LT debt.

PepsiCo's management in the following operating period expect, in percentage terms, an effective tax rate in the low twenties – without considering items impacting comparability (PepsiCo, 2019a). This disclosure postulates that the TCJA may continue to affect the firm's annual tax rate in future years (PepsiCo, 2019a). After examining historical ratios, it was projected an effective tax rate of 24.87%, the simple average of effective tax rates from 2014 to 2017[46], which is feasibly aligned with the company's expectations.

Due to its steadiness and low volatility, the minority interests' forecasts correspond to the same value as the one in 2018. Lastly, because of its unusual nature, consistency with prior data and uncertain predictive power, equity in affiliates and extraordinary items are assumed to be zero. Figure 9 displays PepsiCo's estimated income statement[47].

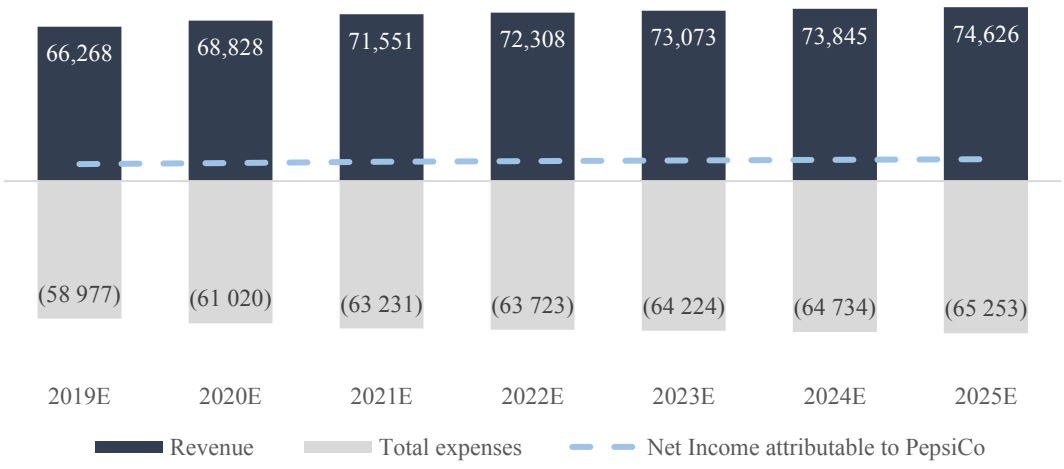

Figure 9 – PepsiCo's forecasted income statement, in USD millions

[46] At the end of the fiscal year of 2018, PepsiCo presented an effective tax rate of -36.37% for the reasons mentioned in the footnote 33. Being so, this year was labeled as an outlier and not included in the simple average computation
[47] Appendix 6 illustrates exhaustively PepsiCo's income statement forecasts

6.1.2. Balance sheet forecasts

Conventionally, and as best practice, after estimating PepsiCo's income statement, one initiates the process of forecasting its balance sheet.

Indeed, in terms of ST financial health, most of the WC line items, such as accounts receivables (11.05%), accrued expenses (6.64%), other current liabilities (6.98%) and prepaid expenses and other current assets (2.82%), are driven by revenue straight-line forecasting. Yet COGS represent other WC growth driver recurrently used, more specifically in inventory (10.65%) and accounts payable (24.55%)[48].

Within the scope of PP&E and intangible assets, each end of period value is forecasted according to a similar process. The former is fundamentally influenced by depreciation expenses, estimated as a percentage of PP&E from the previous year (13.52%), and CAPEX, forecasted as a percentage of revenue (5.08%). Formula 12 expresses the implied process.

$$PP\&E_t = PP\&E_{t-1} + CAPEX_t - Depreciation\ expenses_t - Asset\ sales_t$$

Formula 12 – PP&E end of period value

The latter is conceptually impacted by purchases, which were not taken into account as a result of lack of guidance, and amortization expenses, measured as a percentage of intangibles' value from the last year (0.50%) – as given in Formula 13.

$$Intangibles_t = Intangibles_{t-1} + Purchases_t - Amortization\ expenses_t$$

Formula 13 – Intangibles end of period value

Still in respect of assets and liabilities, whereas goodwill (USD 14,808 million), notes receivable (USD 97 million), other LT assets (USD 1,560 million) and other liabilities (USD 7,739 million) are projected to remain constant throughout the forecasted period, LT investments grow at its CAGR between 2016 and 2018 (11.15%) and deferred tax liabilities are assumed as a percentage of revenue (6.68%). Finally, in spite of PepsiCo's contemporary debt maturity plan disclosed in Table 16 (PepsiCo, 2019a), the likelihood of the company continue to offset future maturities with additional debt is high. Hence, LT debt was based on the last LT debt-to-equity ratio.

[48] All growth assumptions depend heavily on the ratio's historical stability, this is, while volatile ratios lead to simple averages of historical data, steady ratios suggest the use of the most recent historical ratio

USD 000,000's	**2017**	**2018**
Notes due 2018	4,016	-
Notes due 2019	3,933	3,948
Notes due 2020	3,792	3,784
Notes due 2021	3,300	3,257
Thereafter, less current maturities of LT debt obligations	18,755	17,306
Total	33,796	28,295

Table 16 – PepsiCo debt maturity disclosure in 2017 and 2018, in USD millions

Further, in the statement of shareholder equity, the bulk of the items are assumed to remain constant over the forecasted period – common stock, additional paid-in capital, other comprehensive income and minority interests. Yet some items are determined in line with the firm's future prospects, like common treasury stock (expected USD 3,000 million buyback in 2019) and retained earnings (anticipated USD 5,000 million dividends in 2019). To delve into more details, after 2019, common and preferred dividends are forecasted as a percentage of net income, and retained earnings are calculated in accordance with Formula 14[49].

$$Retained\ earnings_t = Retained\ earnings_{t-1} + Net\ Income_t + Ext.items_t - Dividends_t$$

Formula 14 – Retained earnings end of period value

6.1.3. Cash flow statement forecasts

The forecast of the CF statement represents the final process of the three-statement business model. It acts as a reconciliation of balance sheet YOY changes and allows to grasp whether a firm has enough cash to fund its activity and meet its obligations[50].

[49] PepsiCo's forecasted balance sheet is highlighted in Appendix 7
[50] Appendix 8 displays PepsiCo's in-depth cash flow statement forecasts

Since PepsiCo does not need more debt to finance its estimated future operating expenses, ST debt is assumed to be constant over time (USD 4,026 million). In the meantime, larger changes in cash give rise to higher end of period cash balances.

6.1.4. Discount rate

First, to compute PepsiCo's cost of equity, it was assumed a risk-free rate of 2.50%, the yield of a 10-year zero-coupon bond issued by the United States government at the data collection date, meaning, as of May 2019 (Thomson Reuters, 2019).

Second, the beta was designed through a bottom-up approach of PepsiCo's, and its main competitors (PepsiCo, 2019a), systematic risk. Then, the unlevered beta was adjusted to PepsiCo's target capital structure and market tendencies, ending up with a value of 0.70[51].

Third, the return on the market index of 7.71% was computed with the aid of CRSP stock market indexes' monthly returns[52], from December 1926 to December 2018 – generating a market premium of 5.21% (Wharton Research Data Services, 2019).

Subsequently, and according to Formula 4, the combination of the aforementioned inputs leads to a cost of equity of 6.13%.

Bearing in mind that PepsiCo is an investment-grade firm[53], to express the company's cost of debt it was used the weighted average of PepsiCo's YTM on its United States currently traded LT debt as a proxy. Hence, the cost of debt of 3.05% was converted into an after-tax cost of debt of 2.23%[54].

Finally, when applied to the target capital structure, approximated by the current market value of the debt-to-value ratio[55], it was computed a WACC of 5.35%.

6.1.5. Free cash flow to the firm

The FCFF was calculated in accord with Table 1 and previous forecast assumptions – Table 17.

[51] PepsiCo's beta computation follows the methodology expressed in Appendix 9
[52] AMEX, NASDAQ, NYSE and S&P 500
[53] A+ in domestic and foreign debt, according to S&P LT rating (Thomson Reuters, 2019)
[54] In line with KPMG's corporate tax rates table (2019), it was considered a marginal tax rate of 27%
[55] Market value of debt is given by the sum of the bonds outstanding plus the loans issued (Thomson Reuters, 2019)

USD 000,000's	**2019E**	**2020E**	**2021E**	**2022E**	**2023E**	**2024E**	**2025E**
EBIT	10,591	11,236	11,925	12,296	12,671	13,051	13,436
Operating taxes	(2,859)	(3,034)	(3,220)	(3,320)	(3,421)	(3,524)	(3,628)
NOPLAT	**7,731**	**8,202**	**8,705**	**8,976**	**9,250**	**9,527**	**9,808**
Depreciation and amortization expenses	2,456	2,589	2,721	2,855	2,975	3,084	3,184
Investments in WC	(1,221)	121	129	11	11	11	11
CAPEX	(3,364)	(3,493)	(3,632)	(3,670)	(3,709)	(3,748)	(3,788)
PepsiCo's FCFF	**8,045**	**7,177**	**7,666**	**8,149**	**8,505**	**8,852**	**9,193**

Table 17 – PepsiCo's FCFF, in USD millions

Then, the PV of the firm value was computed in conformity with Formula 8 and a mid-year discounting convention. Once it was assumed that by 2025 the company reaches steady state[56], the terminal value was based on the 2025 FCFF – with a perpetuity growth rate of 2%[57].

At last, the DCF valuation provided an EV of USD 238,093 million, which in turn, after subtracting the market value of debt and dividing the equity value by the number of shares outstanding, translated into a share price of USD 142.05[58] – potential upside of 9.69% to the current share price (USD 129.50).

6.1.6. Sensitivity and scenario analysis

A sensitivity analysis was conducted to depict the impact of terminal value inputs on PepsiCo's share price. Consequently, through Table 18 and Appendix 12, one concludes that the firm's share value is sensitive to changes on its WACC and perpetuity growth rate.

[56] Revenue and EBIT are growing steadily, and depreciation expenses converge to the value of CAPEX
[57] Appendix 10 displays the procedure that leads to PepsiCo's perpetuity growth rate
[58] PepsiCo's equity value and share price details are expressed in Appendix 11

USD	**Negative**	**Central**	**Positive**
WACC (± 50 basis points) and *g* (± 10 basis points)			
Share price	116.17	**142.05**	179.17
Change (%)	*-18.21%*		*26.13%*

Table 18 – Summarized PepsiCo share value sensitivity analysis, in USD

Furthermore, to construct a scenario analysis, one should cautiously consider the critical variables of the inherent business. Thus, on the one hand, a conservative scenario may be associated with negative changes in consumers' preferences and laws relating to the elimination of plastics, lower demand, as well as unstable political and economic conditions. On the other hand, an optimistic scenario relates to an increase in sales to major customers, penetration in emerging markets, higher ability to innovate in terms of environmental practices and favorable political, economic and currency conditions. Table 19 displays the aforesaid scenarios.

USD	**Conservative**	**Normal**	**Optimistic**
Revenue YOY growth rate (± 30 basis points)	0.76%-3.66%	**1.06%-3.96%**	1.36%-4.26%
COGS as a % of revenue (± 2%)	45.07%-47.09%	**43.07%-45.09%**	41.07%-43.09%
R&D expenses as a % of revenue (0%; +2%)	1.05%	**1.05%**	3.05%
$\boldsymbol{\beta_L}$ **(± 0.1)**	0.64	**0.54**	0.44
$\boldsymbol{k_d}$ **(+1%; 0%)**	4.05%	**3.05%**	3.05%
Share price	101.71	**142.05**	160.69
Change (%)	*-28.40%*		*13.13%*

Table 19 – PepsiCo share value in terms of conservative, normal and optimistic scenarios, in USD and percentage

6.1.7. Relative valuation

The peer group was based on PepsiCo's key competitors (PepsiCo, 2019a). However, in order to have reliable estimates from a group of firms with similar patterns, it was implemented a k-means cluster analysis with three centroids. Thereupon, after computing forward-looking EV/EBITDA and EV/EBIT multiples, it was possible to conclude that, through relative valuation, PepsiCo share value ranges from USD 119.03 to USD 149.86[59].

6.1.8. Valuation results

PepsiCo's valuation, or equity value per share, summary is presented in Figure 10.

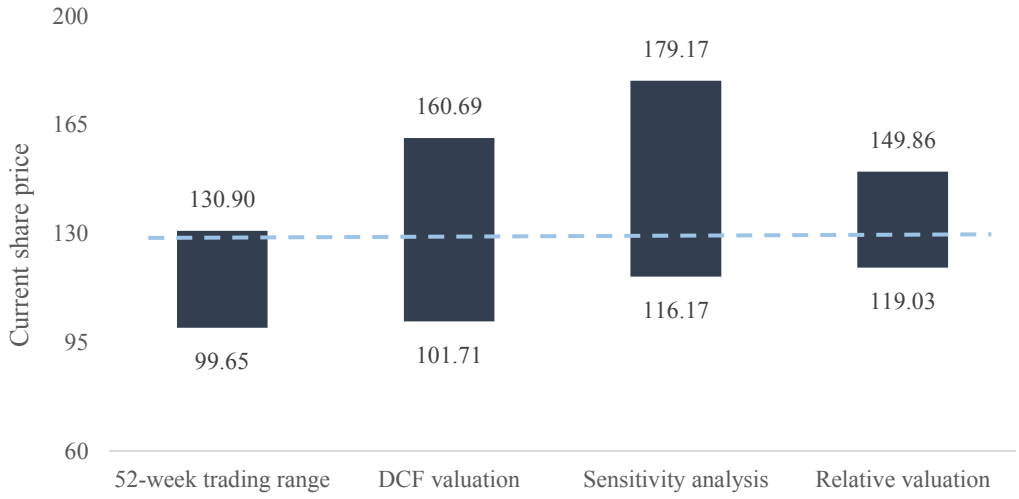

Figure 10 – PepsiCo's valuation, or equity value per share, summary, in USD

6.2. Mondelēz International, Inc.

6.2.1. Income statement forecasts

Mondelēz's income statement is forecasted in accordance with PepsiCo's assumptions. Similarly, the firm's YOY revenue growth rate forecasts, in the first three years, rely on Thomson Reuters' mean projections, ranging from 0.29% to 2.84%, and, from 2021 forward, revenue grows at a rate of 1.16%, the simple average of the YOY revenue growth rates between 2017 and 2021[60].

[59] Appendix 13 reveals PepsiCo's relative valuation and cluster allocation methodology
[60] In 2015 and 2016 YOY revenue growth rates are lower than -10%, contrasting with future predictions

In regard to its historical P&L, it is possible to verify that Mondelēz presents, consistently, operating efficiencies. Therefore, its COGS, as a percentage of revenue, is projected to grow at a CAGR of nearly -1.26%, which considers values between 2014 and 2018. Other operating expenses quantified as a percentage of revenue, like SG&A and R&D expenses, are assumed to present similar ratios than the ones in 2018 – 26.29% and 1.40% respectively.

Besides operating items, non-operating income forecasts, predominantly composed by employee benefit plans, are estimated to be USD 7 billion throughout the explicit period, the simple average of the values between the last five years. As in PepsiCo's estimates, net interest expenses are determined as a percentage of the last end of period ST and LT debt. Since this ratio has been declining since 2015, it was assumed a percentage of 2.03% – historical ratio of 2018.

Mondelēz's effective tax rates are impacted by various tax benefits, jurisdictions and one-time events (Mondelēz, 2019a). Nevertheless, considering that the TCJA lowers effective tax rates in certain categories of taxable income in the United States (Mondelēz, 2019a) and that Mondelēz historical effective tax rates vary expressively, it was assumed an effective tax rate of 15.69%, the simple average of the rates between 2014 and 2018. Then, to estimate the net income attributable to Mondelēz, minority interests are expected to have the same value as in 2018, extraordinary items are assumed to be zero and equity in affiliates' estimates are represented as the simple average of the earnings in the past three years[61]. Figure 11 expresses Mondelēz's forecasted P&L[62].

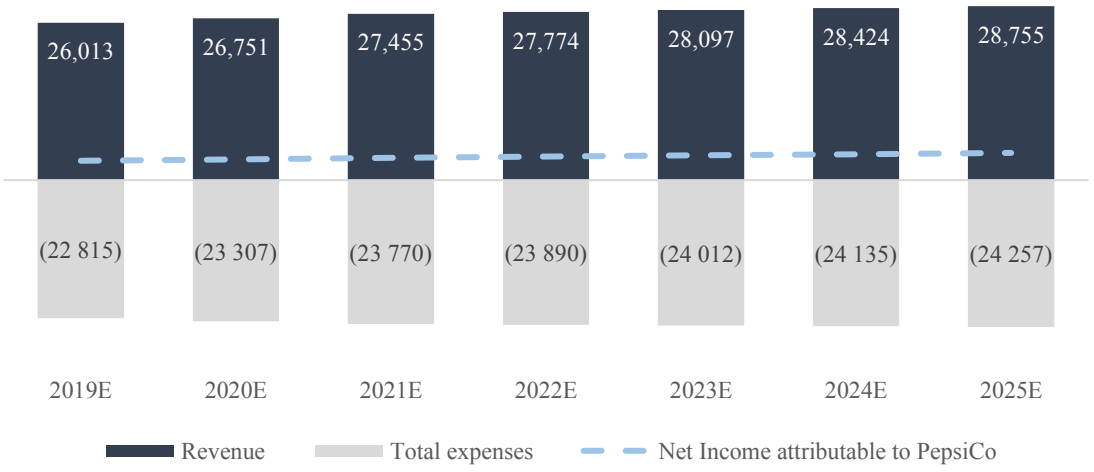

Figure 11 – Mondelēz's forecasted income statement, in USD millions

[61] Mondelēz reported positive equity in affiliates from 2016 to 2018
[62] Appendix 14 illustrates exhaustively Mondelēz's income statement forecasts

6.2.2. Balance sheet forecasts

As well as in the P&L statement, Mondelez's balance sheet is estimated in line with PepsiCo's assumptions.

Thus, WC items, which relate to liquidity and operational efficiency, are based upon a percentage of revenue or a fraction of COGS. The former affects accounts receivables (13.09%), accrued expenses (9.47%), other current liabilities (10.20%) and prepaid expenses and other current assets (2.48%). The latter impacts on inventory (16.63%) and accounts payable (37.17%).

Meanwhile, fixed and intangible assets are determined as displayed in Formula 12 and 13. Thereby, whereas depreciation and amortization expenses are forecasted as a percentage of PP&E (7.32%) and intangibles (0.94%)[63], CAPEX is measured as a fraction of revenue (4.22%).

Under the framework of assets and liabilities assumed to remain constant, the line items covered are the following: goodwill (USD 20,725 million), other LT assets (USD 944 million) and other liabilities (USD 4,606 million). Yet LT investments grow at its CAGR between 2015 and 2017 (7.22%) and deferred tax liabilities are forecasted as a percentage of revenue (15.39%). With regard to LT debt, this item was computed taking into account the LT debt-to-equity ratio of prior years and Table 20 systematizes Mondelez's aggregate debt maturities (Mondelēz, 2019a).

USD 000,000's	**2017**	**2018**
Notes due 2018	1,163	-
Notes due 2019	2,651	2,648
Notes due 2020	896	1,544
Notes due 2021	3,373	3,334
Thereafter, less current maturities of LT debt obligations	6,116	7,724
Total	14,199	15,250

Table 20 – Mondelez debt maturity disclosure in 2017 and 2018, in USD millions

[63] Both depend on values from the previous year

With respect to Mondelēz's shareholder equity, the forecast of additional paid-in capital, other comprehensive income and minority interests involve tough predictions. Therefore, no YOY changes were estimated throughout the explicit period. Finally, share repurchases are projected to remain equal to USD 1,700 million, common and preferred dividends are estimated as a percentage of net income (50.80%) and retained earnings are calculated according to Formula 14[64].

6.2.3. Cash flow statement forecasts

Considering the assumptions made beforehand, Mondelēz's overall cash position during the forecast period will become negative, *ceteris paribus*. In this sense, in order to fund the deficit and maintain cash and ST investments at a minimum level of USD 925 million, the lowest historical value between 2014 and 2018, the company needs to issue more ST debt[65].

6.2.4. Discount rate

Mondelēz's discount rate comprises two major elements, the cost of equity and the cost of debt[66].

Hence, the firm's cost of equity of 6.24% depends on the following inputs: a risk-free rate of 2.50%, (Thomson Reuters, 2019); a beta of 0.72, performed via bottom-up approach (Mondelēz, 2019a), and then, reshaped in order to adapt to Mondelēz's capital structure and market tendencies[67]; a market premium of 5.21% (Wharton Research Data Services, 2019).

Further, since Mondelēz is an investment-grade firm[68], the weighted average of Mondelēz's YTM on its United States outstanding LT debt was assumed as a compelling proxy for its cost of debt. Subsequently, it was calculated an after-tax cost of debt of 2.64%.

At last, after taking into consideration Mondelēz's target capital structure, it was calculated a WACC of 5.45%.

[64] Mondelēz's forecasted balance sheet is highlighted in Appendix 15
[65] Appendix 16 displays Mondelēz's in-depth cash flow statement forecasts
[66] Mondelēz's computation of returns to shareholders and debtholders is aligned with PepsiCo's methodology
[67] Mondelēz's beta computation follows the methodology expressed in Appendix 9
[68] BBB in domestic and foreign debt, according to S&P LT rating (Thomson Reuters, 2019)

6.2.5. Free cash flow to the firm

Mondelēz's FCFF was based on the process described in Table 1 and is abridged in Table 21.

USD 000,000's	**2019E**	**2020E**	**2021E**	**2022E**	**2023E**	**2024E**	**2025E**
EBIT	3,378	3,674	3,973	4,222	4,473	4,727	4,983
Operating taxes	(912)	(992)	(1,073)	(1,140)	(1,208)	(1,276)	(1,345)
NOPLAT	**2,466**	**2,682**	**2,900**	**3,082**	**3,265**	**3,450**	**3,638**
Depreciation and amortization expenses	791	824	857	890	921	951	979
Investments in WC	(417)	79	72	10	10	10	10
CAPEX	(1,098)	(1,129)	(1,159)	(1,173)	(1,186)	(1,200)	(1,214)
Mondelēz's FCFF	**2,575**	**2,297**	**2,526**	**2,790**	**2,990**	**3,192**	**3,393**

Table 21 – Mondelēz's FCFF, in USD millions

In the aftermath of computing Mondelēz's firm value, a mid-year discounting convention was established and the annual FCFFs were discounted to its PV, assuming a perpetuity growth rate of 2% when calculating the terminal value[69]. In conclusion, the DCF valuation led to an EV of USD 86,076 million and a value per share of USD 48.09[70] – potential downside of 7.75% to the current stock price (USD 52.13).

6.2.6. Sensitivity and scenario analysis

To ascertain whether changes on uncertain variables, like WACC and perpetuity growth rate, influence Mondelēz's share price, it was performed a sensitivity analysis, observable from Table 22 and Appendix 18. After conducting this analysis, one concludes that Mondelēz and PepsiCo's inputs affect share price in a hugely similar way.

[69] Appendix 10 displays the procedure that leads to Mondelēz's perpetuity growth rate
[70] Mondelēz's equity value and share price details are expressed in Appendix 17

USD	**Negative**	**Central**	**Positive**
WACC (± 50 basis points) and *g* (± 10 basis points)			
Share price	39.27	**48.09**	60.63
Change (%)	*-18.34%*		*26.07%*

Table 22 – Summarized Mondelēz share value sensitivity analysis, in USD

Apart from a sensitivity analysis, one should build a scenario analysis. This mitigation of uncertainty technique requires in-depth understanding of key risk factors. Thereupon, on the one hand, a conservative scenario may occur when there are changes in tradable relations and volume manufactured, higher exposure to cybersecurity, a credit rating downgrade and economic instability in emerging markets. On the other hand, an optimistic scenario is described by larger demand of influential retailers, greater capacity to anticipate business and operating innovation, regulations with a positive impact on Mondelēz financial position and advantageous variations in terms of currency exchange rates. Table 23 exhibits the abovementioned scenarios.

USD	**Conservative**	**Normal**	**Optimistic**
Revenue YOY growth rate (± 20 basis points)	0.09%-2.64%	**0.29%-2.84%**	0.49%-3.04%
COGS as a % of revenue (+2%; -3%)	56.99%-61.33%	**54.99%-59.33%**	51.99%-56.33%
R&D expenses as a % of revenue (0%; +2%)	1.40%	**1.40%**	3.40%
$\boldsymbol{\beta_L}$ **(± 0.1)**	0.68	**0.58**	0.48
$\boldsymbol{k_d}$ **(+1.5%; -0.5%)**	5.11%	**3.61%**	3.11%
Share price	33.04	**48.09**	60.05
Change (%)	*31.29%*		*24.85%*

Table 23 – Mondelēz share value in terms of conservative, normal and optimistic scenarios, in USD and percentage

6.2.7. Relative valuation

The firm's peer group was centered on Mondelēz's main competitors (Mondelēz, 2019a). Nonetheless, to narrow down the target's rivals and have a more accurate comparable set, it was developed a k-means cluster analysis with three centroids. Then, after calculating forward-looking EV/EBITDA and EV/EBIT multiples, one can affirm that, via relative valuation, Mondelēz share value ranges from USD 26.80 to USD 32.28[71].

However, this approach is extremely influenced by recent negative The Kraft Heinz Company's occurrences[72], which, aside from The Coca-Cola Company, belong to Mondelēz's cluster. Consequently, this valuation method undermines Mondelēz's share price.

In fact, compared to financial analysts' relative valuation, Mondelēz should be valued through higher multiples, like a forward-looking EV/EBITDA of 17.65, as well as its EBIT and EBITDA should be adjusted to its normalized value.

6.2.8. Valuation results

Mondelēz's valuation, or equity value per share, summary is presented in Figure 12[73].

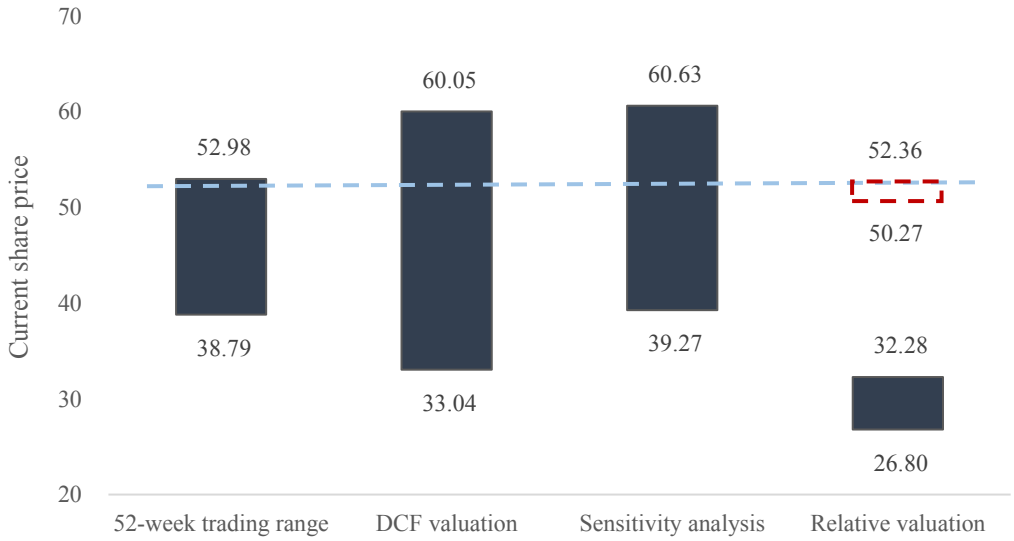

Figure 12 – Mondelēz's valuation, or equity value per share, summary, in USD

[71] Appendix 13 reveals Mondelēz's relative valuation and cluster allocation methodology
[72] As of February 2019, the company disclosed a USD 15.4 billion write-down and Warren Buffett declared publicly that he, and his investment partner 3G Capital, overpaid for The Kraft Heinz Company
[73] Mondelēz relative valuation also relies on financial specialists' analysis (Thomson Reuters, 2019)

6.3. Deal consolidation

Under the merger valuation framework, the deal between PepsiCo and Mondelēz is compelled to ensure that the synergy value is greater than the acquisition premium (Koller et al., 2010). Still, before proceeding with synergies' analysis, the combined company EV amounts to USD 324,169 million – sum of the acquirer (USD 238,093 million) and target (USD 86,076 million) EV.

Thereby, to build the final pro-forma model, one has to, first, define the transaction assumptions and, second, combine the acquirer and the target model with the underlying deal assumptions.

6.3.1. Synergies

Transaction operational and financial synergies are described as major M&A drivers[74]. Hence, the former will be analyzed in terms of revenue enhancements and cost savings, and the latter will be examined with regard to debt capacity, uses for excess cash and tax benefits.

In this context, revenue enhancements are one of the major sources of value from this deal. On the one hand, since Mondelēz operates in emerging markets, possesses an overwhelming distribution channel[75] and has a strong presence within the European market, geographic segment with greater revenue, it may escalate current PepsiCo's operations dramatically. On the other hand, PepsiCo's North America leading segments might heighten the target firm's sales. Nevertheless, considering that these improvements involve external forces and are hard to forecast, the revenue enhancement synergy is prudently assumed to be 35 basis points of the acquirer and target annual revenue.

Cost savings encompass three different categories: COGS, SG&A and R&D expenses. Once both companies operate in the same industry, the likelihood of having substantial cost synergies is, undoubtedly, high[76]. Thereby, the 3.50% decrease on Mondelēz's COGS is associated with eliminating duplicate personnel, underutilized facilities and the subsequent purchasing power. Also, whilst efficiency gains from target's best practices, functions centralization, marketing savings and optimization of corporate facilities contribute to a decrease of 4.00% on Mondelēz's SG&A expenses, cross-checking innovative information diminishes R&D expenses by 2.00%.

[74] Synergy realization increases gradually throughout time
[75] Allows PepsiCo to access novel opportunities
[76] Typically vary between 1% and 5% of the combined costs (Deloitte, 2017)

Because of PepsiCo and Mondelēz similar target debt-to-equity ratios, the borrowing capacity of the merged company should not suffer meaningful changes. Therefore, financial synergies from higher debt capacity are assumed to be zero[77]. Likewise, synergies from uses for excess cash and tax benefits are presumed to be zero, mainly due to Mondelēz limited cash funds, which correspond to a five-year historical minimum, and negligible fiscal divergences.

Figure 13 highlights the synergies PV, which amount to USD 31,899 million, decomposed into four categories[78].

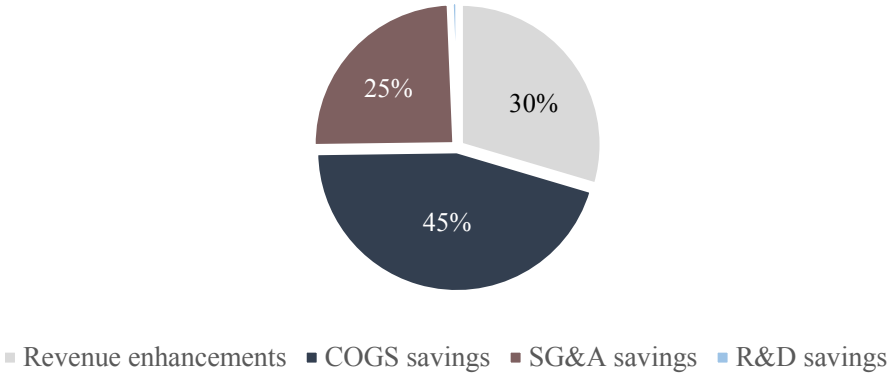

Figure 13 – PV of transaction synergies divided by categories, in percentage

6.3.2. Transaction and integration fees

To save on investment banking fees[79], PepsiCo may perform its own valuation and buyer due diligence. Nonetheless, both transaction and integration costs are assumed to be 1% of Mondelēz's EV – transaction fees are incurred in 2019 and integration fees are dispersed among the first three years after the deal, as expressed in Appendix 20.

6.3.3. Discount rate

The discount rate used is based upon the assumptions announced in both stand-alone cases. The only amendment made relates to the computation of the pro-forma unlevered beta, which takes into account PepsiCo and Mondelēz's EVs. Hence, the inputs are materialized into a WACC[80] of 5.37%.

[77] As well as from increased leverage – WACC only varies around 9 basis points
[78] Appendix 19 provides a detailed synergies' forecast, commonly appreciated by the market (BCG, 2018)
[79] Often 1% of the transaction price plus reimbursement of expenses – Lehman formula for small deals
[80] The APV method was disregarded because the pro-forma capital structure does not change significantly

As a remark, this discount rate[81], as well as a perpetuity growth rate of 2%, were utilized to compute the PV of the net synergies.

6.3.4. Valuation results

The consolidated valuation model estimates that the merged firm will display an EV of USD 354,412 million – Figure 14 reflects the EV creation of the combined company.

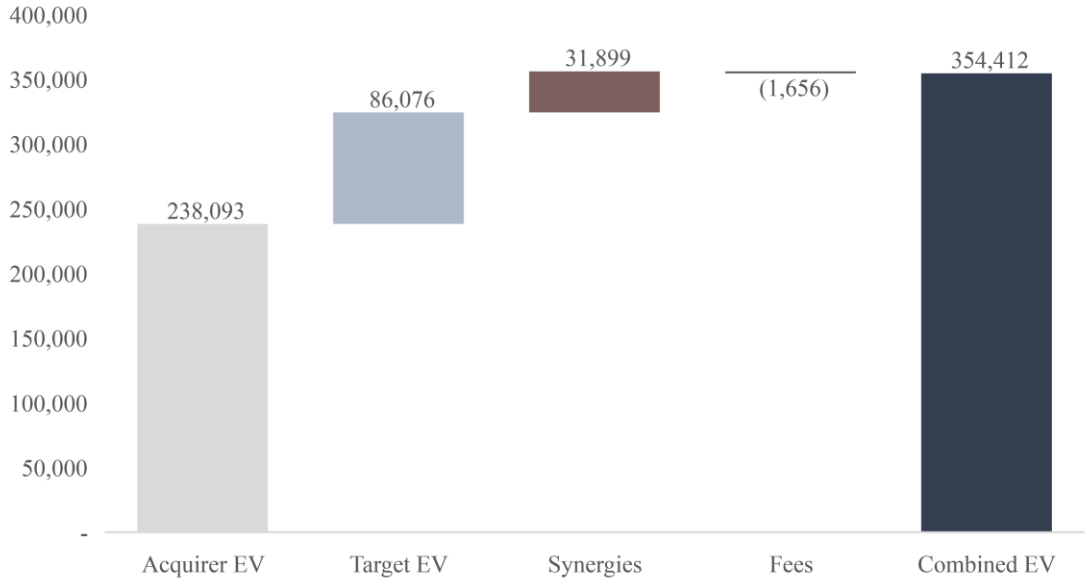

Figure 14 – EV of the combined corporation, in USD millions

Aligned with a BCG research (2018), acquirers are capturing lower levels of synergy value as a consequence of share price increments near the announcement date – on average 46%. Thereupon, this F&B deal is expected to extract synergies of USD 14,673 million to PepsiCo and USD 17,225 million to Mondelēz.

6.3.5. Synergies sensitivity analysis

Lastly, from the sensitivity analysis one concludes that synergies via revenue enhancements are the most sensitive sources of value – an improvement of 1% (0.35 basis points) produces an increase of the synergy value in USD 94 million[82].

[81] The pro-forma inputs are displayed in Appendix 21
[82] Additional sensitivity information on transaction synergies is specified in Appendix 22

7. Transaction issues

In the aftermath of the deal structure, there are terms that still need to be discussed, namely the takeover approach, bid price breakdown, sources of funds, accretion/dilution analysis, acquisition risks and integration process.

7.1. Takeover methodology

Taking all circumstances into account, this transaction should be tied to a friendly approach. Along with the creation of the larger F&B company in the consumer staples sector, the deal value lies on massive growth and complementarity. In an ideal situation, having the target management consent avoids unnecessary expenses associated with takeover defenses. Moreover, it also involves greater value delivery, due to both parties' engagement, and a shared mission statement, whose purpose is to *deliver smiles through delicious high-quality products and unique brand experiences*[83].

7.2. Premium analysis

Once computed the PV of the synergies and total fees, one may show evidence of the maximum premium that the acquirer is willing to offer in order to proceed with the deal.

Still, considering the DCF valuation base-case scenario, Mondelēz's fair equity value is lower than its market value, a factor that suggests that the target's share price might be overvalued. In this sense, PepsiCo's bid price needs to be equal, or higher, than the target market value. Thus, despite of taking into account the target's intrinsic EV, the implied premium analysis should be centered on Mondelēz's current share price. Table 24 expresses the maximum transaction premium computation.

[83] Combination of PepsiCo and Mondelēz's missions, or purposes

USD 000,000's

Mondelēz's EV	**86,076**
PV of transaction synergies	31,899
PV of transaction and integration fees	(1,656)
Market value of debt	(16,802)
Equity value plus PV of net synergies	**99,516**
Shares outstanding	1,440
Maximum bid price (USD)	**69.09**
Implied premium over current share price (%)	*33%*

Table 24 – Maximum bid price and transaction premium, in USD millions

Accordingly, the acquirer's bid price should range from USD 52.13 to USD 69.09 per share. However, to create net value, the premium offered is obliged to be less than 33%.

Recent deals in the consumer staples sector impose premiums between 9%, Dr Pepper Snapple Group, Inc. acquisition of Keurig Green Mountain, Inc., and 100%[84], The Coca-Cola Company acquisition of Costa Ltd.[85]. Considering that the transaction is assumed to be based upon a friendly approach, a purchase premium of 25% appears to be a fair solution. This premium level will prompt a purchase price of USD 93,862 million, or USD 65.16 per share, and will create a synergy value of USD 5,654 million[86].

7.3. Form of payment

If possible, and in line with empirical research, PepsiCo's purchase of Mondelēz's operations should be financed with cash. Yet after funding the deal with the excess cash of 2018, USD 8,993 million, the acquirer still need to issue, roughly, USD 84,869 million in debt. Then, this acquisition would be connected to an LBO – which traditionally relates to a hostile takeover.

[84] Process improvements explain high premia (Eccles et al., 1999)
[85] Appendix 23 illustrates the most recent and larger comparable deals in the consumer staples sector
[86] Appendix 24 indicates the true value of Mondelēz's acquisition

Although there is evidence that the company might be undervalued, these deals tend to require an equity issuance – as stated by Bruner (2004), larger M&A deals linked to friendly takeovers, whereby acquirers have decentralized control, typically involve a stock issuance.

Therefore, this transaction is expected to be funded with 55% of stock and 45% of cash. Whilst the former comprises a stock consideration of USD 51,624 million, the latter encompasses USD 7,356 million of excess cash from the combined firm[87] and USD 34,882 million of cash via debt issuance. To grasp if the acquirer has the ability to issue such amount of debt in 2019, a new ICR was computed – assuming a pro-forma cost of debt of 3.17%. From this analysis, one projects an ICR of 5.76 in 2019, meaning that the company should not decrease, tremendously, its credit rating.

Under the scope of the stock component, to reach the abovementioned consideration of USD 51,624 million, PepsiCo needs to issue around 399 million new shares. This factor implies a share exchange ratio of approximately 0.5032[88] and, presumably, a loss of USD 5,001 million in value[89]. Table 25 specifies the pro-forma FD shares outstanding.

USD 000,000's	
Acquirer share price (USD)	129.50
Stock consideration	51,624
Stock issued	**399**
Acquirer FD shares outstanding	**1,402**
Pro-forma FD shares outstanding	**1,800**

Table 25 – Stock issuance and pro-forma FD shares outstanding, in USD millions

7.4. Accretion/dilution analysis

To examine whether the deal entails an increase of post-transaction EPS, it was conducted an accretion/dilution analysis[90]. Table 26 displays the results obtained, which, due to their pleasing nature, postulate the implementation of the merger between PepsiCo and Mondelēz.

[87] The remaining USD 3,000 million cash is intended to cover issuance fees and miscellaneous expenses
[88] Considering PepsiCo's share price as of May 2019
[89] Loss on account of issuing undervalued stock, despite of being offset by potential future earnings
[90] The pro-forma income statement forecasts are disclosed in Appendix 25

USD 000,000's	**2019E**	**2020E**	**2021E**	**2022E**	**2023E**	**2024E**	**2025E**
Acquirer Net Income	7,291	7,808	8,320	8,585	8,849	9,112	9,374
Pro-forma Net Income	9,413	11,655	12,913	13,675	14,146	14,620	15,097
Acquirer FD shares outstanding	1,402	1,402	1,402	1,402	1,402	1,402	1,402
Pro-forma FD shares outstanding	1,800	1,800	1,800	1,800	1,800	1,800	1,800
Acquirer EPS	5.20	5.57	5.94	6.12	6.31	6.50	6.69
Pro-forma EPS	5.23	6.47	7.17	7.60	7.86	8.12	8.38
Accretion/dilution (%)	**0.53%**	**16.22%**	**20.83%**	**24.02%**	**24.47%**	**24.93%**	**25.40%**

Table 26 – Accretion/dilution analysis, in USD millions and percentage

Even though there is a small accretion of 0.53% in 2019, once the synergies increase, the transaction creates distinguished shareholder value and the accretion becomes considerably significant, ranging from 16.22% in 2020 to 25.40% in 2025[91].

7.5. Acquisition risks and integration

Notwithstanding the financial evidence of a promising transaction, one must bear in mind that the deal acceptance also depends on the magnitude of the acquisition risks. The latent risks with greater impact on the execution of the deal relate to: misleading statements in terms of financial modelling and synergies estimation; ability to reach an acquisition agreement for both parties; integration issues, which may comprehend cultural clashes and lack of transparency.

Joint ventures occasionally precede acquisitions in a difficult scenario and might represent an effective temporary solution. However, assuming that this business arrangement does not need to be implemented, after consummating the deal and receiving Mondelēz's shareholders' approval to proceed with the transaction, PepsiCo needs to define incentive mechanisms – in essence to monitor quality and heighten integration. In conclusion, factors like a seamless strategy, ongoing cooperation and streamlined governance are vital to the target incorporation and to the achievement of goals delineated toward the consolidated company.

[91] After defining the debt arrangement conditions, notably with respect to debt maturity and interest expenses of the USD 34,882 million debt, a new accretion/dilution analysis should be established

8. Conclusion

The aim of this dissertation is to duly address the principal research question: *should PepsiCo, Inc. start bargaining the acquisition of Mondelēz International, Inc. on the 27th of May 2019?*

Initially, one concludes that, within the F&B business sector, M&A activity remains solid. In fact, in this industry, buyers with strategic interests, like PepsiCo, Inc., close the bulk of the deals, being the Keurig Green Mountain, Inc. acquisition of Dr Pepper Snapple Group, Inc. the largest and most recent deal of 2018 – USD 18.7 billion.

Then, after stipulating that the global confectionery leading player is an optimal target, it was calculated PepsiCo, Inc. and Mondelēz International, Inc.'s fair value on the 24th of May 2019. In accordance with a DCF base-case scenario, the former presents an intrinsic EV of USD 238,093 million, while the latter reflects an intrinsic EV of USD 86,076 million.

Once the transaction is going to be based upon a friendly approach, it was proposed a purchase premium of 25% on Mondelēz International, Inc. market share price, which leads to a bid price of USD 65.16 per share, or a total purchase price of USD 93,862 million. Parallelly, a synergy value, net of transaction and integration fees, of USD 5,654 million is captured. Hence, in spite the fact that PepsiCo might be undervalued, the megadeal funding consist of 55% stock and 45% cash. This decision will trigger an indispensable potential loss of USD 5,001 million to pursue the deal.

Finally, it becomes clear that the accretion/dilution analysis signals shareholder value creation, with substantial YOY accretions, varying from 0.53% in 2019 to 25.40% in 2025, offsetting the abovementioned loss. Nonetheless, there are some inherent acquisition risks, namely the ability to reach an acquisition agreement, that need to be managed in order to implement this transaction and foster Mondelēz International, Inc. rapid integration.

Overall, considering the aforementioned conclusions, this dissertation intends to recommend PepsiCo, Inc. start bargaining the acquisition of Mondelēz International, Inc. on the 27th of May 2019. Limitations of this report involve a more thorough analysis in terms of sources of funds, which, in turn, affect the newly-formed company probability of default and its accretion/dilution analysis.

Appendices

Appendix 1 – Global M&A motivations and recent volumes

As stated by J.P. Morgan (2019), the global M&A key drivers in 2018 were similar to the ones from previous years – as well as consistent with the aforesaid motives. Thus, positive global growth, strong CFs and balance sheets, low cost of debt, innovation, CEO confidence and investor support continued to increase M&A activity, which reached a global volume in 2018 of USD 4.1 trillion (J.P. Morgan, 2019) – Figure 15. During this year, the novel driver was the implementation of the tax reform in the United States (J.P. Morgan, 2019).

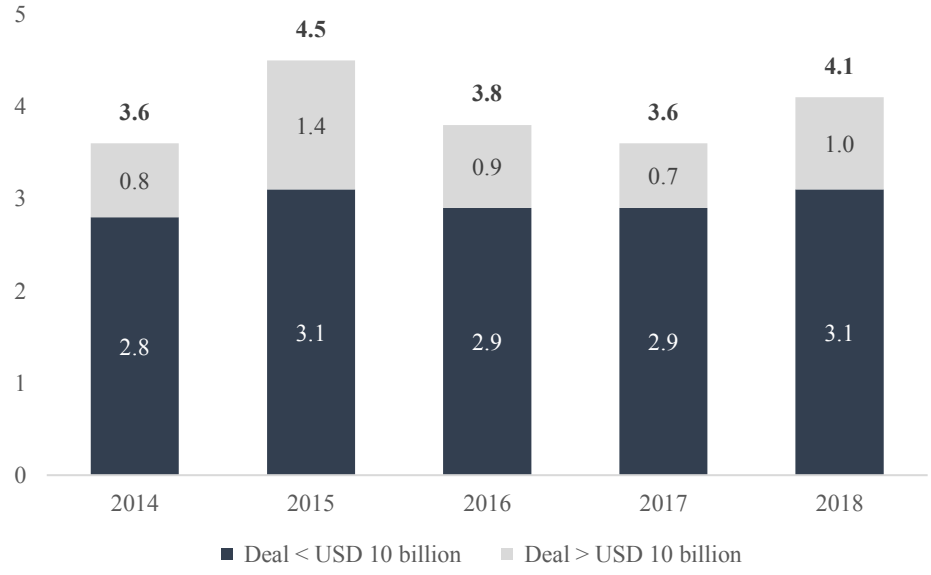

Figure 15 – Global M&A volumes between 2014-2018, in USD trillions

Figure 15 suggests that volumes from deals of less than USD 10 billion in 2018 achieved a 5-year high of USD 3.1 trillion, while megadeals reached a 3-year maximum of USD 1 trillion and keep on being a strong M&A driver.

Appendix 2 – True value of an acquisition

The purchase price will be almost always higher than the intrinsic value of the target firm, therefore acquirers need to assure that there are enough operational and financial synergies that justify the premia paid (Eccles et al., 1999). Figure 16 shows relevant concepts of value (Eccles et al., 1999).

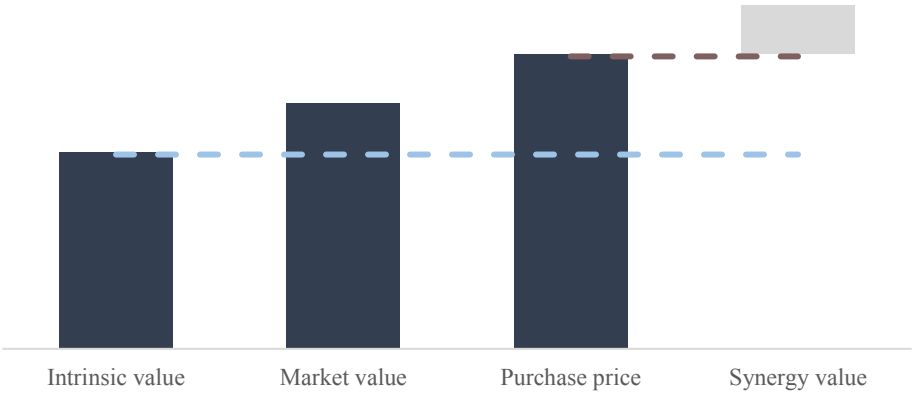

Figure 16 – True value of an acquisition

In accordance with Figure 16, the market value, or market capitalization, of one company is higher than its intrinsic value. This phenomenon happens due to a premium that reproduces the likelihood of an offer being made (Eccles et al., 1999). Consequently, the purchase price has to be higher than the market value of the company to generate gains for target shareholders. The difference between the purchase price, dashed brown line, and the intrinsic value, dashed blue line, is the value gap (Eccles et al., 1999). Finally, the value that acquirer shareholders receive from the deal is derived from the synergy value, grey column, which represents improvements made when both companies are combined (Eccles et al., 1999).

Appendix 3 – Porter's five forces

Michael Porter developed a strategic model with the goal of identifying five competitive forces that characterize one market. Thus, in accordance with MarketLine, Table 27 and Figure 17 sum up the global carbonated soft drinks and global confectionery segments strengths and weaknesses.

Porter's five forces	Carbonated soft drinks	Confectionery
Bargaining power of buyers	Moderate: segment with low switching costs in which brands highly demanded by consumers stimulate retailers and distributors' interest	Moderate: multinational supermarket and hypermarket chains are influenced by brand reputation and consumer demand
Bargaining power of suppliers	Moderate: external sources are crucial to maintain product quality of some leading companies, but changing suppliers is fairly simple due to a lack of differentiation in raw materials	Moderate: ingredient manufacturers, farmers and equipment producers have their own values and limitations, like ethical principles, geographic locations and products offered
Threat of new entrants	Moderate: though fair capital investments allow new firms to achieve success by emphasizing nutritional benefits or exclusive production methods, establishing scalable businesses is challengeable	Moderate: as in the carbonated soft drinks case, new corporations may reach small-scale success, but brand power along with heavy operating and entrance costs increase the barriers to entry
Threat of substitute products	Moderate: 100% juices, fruit-based drinks, ready-to-drink ice teas and coffee segments are not considered a significant threat	High: apart from the possible storage space disadvantage for retailers, there is a vast variety of alternative products available
Competition in the industry	Moderate: while the substantial amount of capital needed to sustain high fixed costs rises rivalry, the historical unremarkable market growth reduces the power of this force	High: despite of key players being less affected, the market's moderate growth rate and the companies' dependence on food market producers intensify competition

Table 27 – Porter's five forces in the global carbonated soft drinks and global confectionery segments

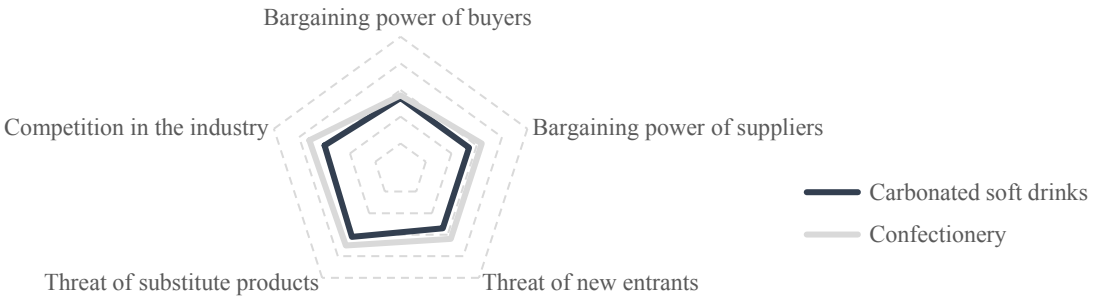

Figure 17 – Radar chart of Porter's five forces in the global carbonated soft drinks and global confectionery segments

Appendix 4 – SWOT analysis

To examine a corporation's competitive landscape, one should develop a SWOT analysis, which consists of a strategic plan based on internal and external factors. According to MarketLine, Figure 18 and Figure 19 demonstrate PepsiCo and Mondelēz SWOT analyses.

Strengths	Weaknesses
Notable market position, serving a large customer base	Brand image and cost structure affected by lawsuits
Solid R&D activities that improve the firm's competitiveness	Product recalls with adverse impact on firm's reputation along with possible health risks for intolerant consumers
Strong financial position due to constant reinvestments	
Opportunities	**Threats**
Rising global demand for soft drinks	Health consequences and taxes in sugar-based drinks
Focus on refranchising strategies in several territories	Competitive pressure
Growing global demand in the savory snacks segment	Volatile prices of raw materials

Figure 18 – PepsiCo SWOT analysis

Strengths	Weaknesses
Diversified portfolio of products	Lack of liquidity, which compromises the firm's operations growth and upcoming expansion plans
Strong and widely known brands	
Powerful global distribution network	
Opportunities	**Threats**
Positive predictions for confectionery and biscuits segments	Higher labor costs in the United States
Possibility of developing expansion initiatives to improve companies' brand image and overall position in several emerging markets	Increasing number of counterfeit products
	Severe national and international competition

Figure 19 – Mondelēz SWOT analysis

Appendix 5 – Historical normalized EBITDA

A normalized or adjusted EBITDA standardizes EBITDA by removing income and expenses irregularities. According to Thomson Reuters fundamentals, normalized EBITDA represents the sum of the following components:

Normalized EBIT
+ Depreciation
+ Amortization of acquisition costs
+ Amortization of intangibles
= Normalized EBITDA

Table 28 – Normalized EBITDA

As a matter of fact, the normalized EBIT element is composed by countless adjustments, such as restructuring charges, litigation, impairment of assets, gains/losses on sale of assets, among others. PepsiCo and Mondelēz normalized EBITDA and normalized EBITDA margins, for historical purposes, are stated in Table 29 (Thomson Reuters, 2019).

USD 000,000's	**2014**	**2015**	**2016**	**2017**	**2018**	**CAGR** (2014-2018)
PepsiCo normalized EBITDA	12,624	12,344	12,416	12,859	12,865	0.47%
Mondelēz normalized EBITDA	4,497	4,385	4,609	5,607	4,813	1.71%
PepsiCo normalized EBITDA margin	18.93%	19.58%	19.77%	20.24%	19.90%	1.25%
Mondelēz normalized EBITDA margin	13.13%	14.80%	17.78%	21.65%	18.56%	9.03%

Table 29 – PepsiCo and Mondelēz normalized EBITDA and margins between 2014 and 2018, in USD millions and percentage

Appendix 6 – PepsiCo's forecasted income statement

USD 000,000's	**2017**	**2018**	**2019E**	**2020E**	**2021E**	**2022E**	**2023E**	**2024E**	**2025E**
Revenue	**63,525**	**64,661**	**66,268**	**68,828**	**71,551**	**72,308**	**73,073**	**73,845**	**74,626**
COGS	(28,796)	(29,378)	(29,879)	(30,796)	(31,771)	(31,862)	(31,954)	(32,046)	(32,138)
Gross profit	**34,729**	**35,283**	**36,389**	**38,031**	**39,780**	**40,446**	**41,119**	**41,800**	**42,488**
SG&A expenses	(23,716)	(24,493)	(25,102)	(26,071)	(27,103)	(27,390)	(27,679)	(27,972)	(28,268)
R&D expenses	(737)	(680)	(697)	(724)	(752)	(760)	(768)	(777)	(785)
EBIT	**10,276**	**10,110**	**10,591**	**11,236**	**11,925**	**12,296**	**12,671**	**13,051**	**13,436**
Other non-operating income	233	298	171	171	171	171	171	171	171
Net interest expenses	(907)	(1,219)	(999)	(956)	(963)	(981)	(1,006)	(1,036)	(1,072)
EBT	**9,602**	**9,189**	**9,762**	**10,451**	**11,132**	**11,485**	**11,836**	**12,186**	**12,534**
Taxes	(2,194)	3,342	(2,427)	(2,599)	(2,768)	(2,856)	(2,943)	(3,030)	(3,117)
Net Income	**7,408**	**12,531**	**7,335**	**7,852**	**8,364**	**8,629**	**8,893**	**9,156**	**9,418**
Minority interests	(51)	(44)	(44)	(44)	(44)	(44)	(44)	(44)	(44)
Extraordinary items	(2,500)	28	-	-	-	-	-	-	-
Net Income attributable to PepsiCo	**4,857**	**12,515**	**7,291**	**7,808**	**8,320**	**8,585**	**8,849**	**9,112**	**9,374**

Table 30 – PepsiCo's historical and forecasted income statement, in USD millions

Appendix 7 – PepsiCo's forecasted balance sheet

USD 000,000's	**2017**	**2018**	**2019E**	**2020E**	**2021E**	**2022E**	**2023E**	**2024E**	**2025E**
Cash and ST investments	19,510	8,993	7,707	7,310	7,482	7,767	8,397	9,354	10,623
Accounts receivable	7,024	7,142	7,319	7,602	7,903	7,987	8,071	8,156	8,243
Inventory	2,947	3,128	3,181	3,279	3,383	3,393	3,402	3,412	3,422
Prepaid expenses and other current assets	1,546	2,630	1,871	1,943	2,020	2,042	2,063	2,085	2,107
Current Assets	**31,027**	**21,893**	**20,079**	**20,135**	**20,788**	**21,188**	**21,934**	**23,008**	**24,395**
PP&E	17,240	17,589	18,575	19,558	20,547	21,440	22,251	22,992	23,673
Goodwill	14,744	14,808	14,808	14,808	14,808	14,808	14,808	14,808	14,808
Intangibles	13,838	15,825	15,746	15,668	15,589	15,512	15,434	15,357	15,281
LT investments	2,042	2,409	2,678	2,976	3,308	3,677	4,086	4,542	5,048
Note receivable	59	86	97	97	97	97	97	97	97
Other LT assets	854	5,038	1,560	1,560	1,560	1,560	1,560	1,560	1,560
Total Assets	**79,804**	**77,648**	**73,543**	**74,801**	**76,697**	**78,281**	**80,171**	**82,364**	**84,862**
Accounts payable	6,727	7,213	7,336	7,561	7,801	7,823	7,845	7,868	7,891
Accrued expenses	4,175	4,296	4,403	4,573	4,754	4,804	4,855	4,906	4,958
ST debt obligations and current portion of LT debt	5,485	4,026	4,026	4,026	4,026	4,026	4,026	4,026	4,026
Other current liabilities	4,115	6,603	4,624	4,803	4,993	5,046	5,099	5,153	5,208
Current Liabilities	**20,502**	**22,138**	**20,389**	**20,963**	**21,573**	**21,699**	**21,826**	**21,953**	**22,082**

USD 000,000's	**2017**	**2018**	**2019E**	**2020E**	**2021E**	**2022E**	**2023E**	**2024E**	**2025E**
LT debt	33,796	28,295	27,036	27,375	28,103	29,031	30,160	31,489	33,017
Deferred income tax	3,242	3,499	4,426	4,597	4,779	4,829	4,880	4,932	4,984
Other liabilities	11,283	9,114	7,739	7,739	7,739	7,739	7,739	7,739	7,739
Total Liabilities	**68,823**	**63,046**	**59,590**	**60,674**	**62,194**	**63,299**	**64,606**	**66,114**	**67,823**
Non-redeemable preferred stock	(156)	-	-	-	-	-	-	-	-
Common stock	24	23	23	23	23	23	23	23	23
Additional paid-in capital	3,996	3,953	3,953	3,953	3,953	3,953	3,953	3,953	3,953
Retained earnings	52,839	59,947	62,282	65,386	68,690	72,099	75,610	79,225	82,942
Common treasury stock	(32,757)	(34,286)	(37,286)	(40,215)	(43,144)	(46,073)	(49,002)	(51,931)	(54,860)
Other comprehensive income	(13,057)	(15,119)	(15,119)	(15,119)	(15,119)	(15,119)	(15,119)	(15,119)	(15,119)
Minority interest	92	84	99	99	99	99	99	99	99
Total Equity	**10,981**	**14,602**	**13,952**	**14,127**	**14,503**	**14,982**	**15,565**	**16,250**	**17,039**
Total Liabilities and Shareholder Equity	**79,804**	**77,648**	**73,543**	**74,801**	**76,697**	**78,281**	**80,171**	**82,364**	**84,862**

Table 31 – PepsiCo's historical and forecasted balance sheet, in USD millions

Appendix 8 – PepsiCo's forecasted cash flow statement

USD 000,000's	**2019E**	**2020E**	**2021E**	**2022E**	**2023E**	**2024E**	**2025E**
Net Income and extraordinary items	7,335	7,852	8,364	8,629	8,893	9,156	9,418
Depreciation expenses	2,377	2,510	2,643	2,777	2,898	3,007	3,107
Amortization expenses	79	79	78	78	77	77	77
Changes in WC	(1,221)	121	129	11	11	11	11
Cash from operations	**8,570**	**10,562**	**11,215**	**11,495**	**11,879**	**12,251**	**12,613**
CAPEX	(3,364)	(3,493)	(3,632)	(3,670)	(3,709)	(3,748)	(3,788)
Increases in all other LT assets	3,199	(298)	(332)	(369)	(410)	(456)	(506)
Cash from investing	**(165)**	**(3,792)**	**(3,963)**	**(4,039)**	**(4,119)**	**(4,204)**	**(4,294)**
Increase in LT debt	(1,259)	339	728	929	1,129	1,329	1,528
Increase in deferred income tax	927	171	182	51	51	52	52
Increase in other liabilities	(1,375)	-	-	-	-	-	-
Increase in common treasury stock	(3,000)	(2,929)	(2,929)	(2,929)	(2,929)	(2,929)	(2,929)
Minority interest	15	-	-	-	-	-	-
Common and preferred dividends paid	(5,000)	(4,748)	(5,060)	(5,221)	(5,381)	(5,541)	(5,700)
Cash from financing	**(9,691)**	**(7,167)**	**(7,079)**	**(7,170)**	**(7,130)**	**(7,090)**	**(7,049)**
Beginning of period cash and ST investments balance	8,993	7,707	7,310	7,482	7,767	8,397	9,354
Total change in cash and ST investments	(1,286)	(397)	172	285	630	957	1,269
End of period cash and ST investments balance	**7,707**	**7,310**	**7,482**	**7,767**	**8,397**	**9,354**	**10,623**

Table 32 – PepsiCo's forecasted cash flow statement, in USD millions

Appendix 9 – PepsiCo and Mondelēz's unlevered betas

In light of Damodaran's research, betas were estimated according to a methodology which span multiple steps.

Initially, one regresses PepsiCo's competitors 5-years monthly returns on S&P 500 index[92]. On the one hand, returns interval and time period were chosen in this way because assets do not trade on a continuous basis – factor that biases correlation with the market index – and companies' capital structure, as well as restructured operations, tend to fluctuate over time (Damodaran, 1999). On the other hand, the use of the S&P 500 benchmark came as a result of being a market weighted index that encompasses the largest 500 United States publicly traded firms (Damodaran, 1999).

Hereinafter, the levered betas were converted to unlevered via bottom-up approach, taking into consideration the underlying market capitalization as of December 2018, total debt as of December 2018 and the corporate tax rate, which, as stated by KPMG (2019), is assumed to be 27% in the United States from 2018 onwards[93].

Then, it was computed a 5-year median unlevered beta in order to exclude outliers. After, the beta was adapted to the company's capital structure, in terms of market values, and adjusted to smooth market tendencies, as displayed in Formula 15 (Koller et al., 2010).

$$Adjusted\ \beta_L = \frac{2}{3} .\ \beta_L + \frac{1}{3}$$

Formula 15 – Unlevered beta smoothing process

At the end, PepsiCo and Mondelēz present adjusted unlevered betas of 0.70 and 0.72 respectively. Table 33 and 34 complement the aforementioned methodology.

[92] The Kraft Heinz Company's β_L were managed differentially, since the company was restructured in 2015

[93] Companies that do not release results in USD and are not from the United States, like Danone S.A. and Nestlé S.A., were excluded

USD 000,000's	**5-year monthly β_L**	**Market cap 2018**	**Total debt 2018**	**D/E ratio**	**Tax rate**	**5-year monthly β_U**
Campbell Soup Company	0.44	9,963	9,894	0.99	27.00%	0.26
Conagra Brands, Inc.	0.90	8,694	3,816	0.44	27.00%	0.68
Kellogg Company	0.54	19,839	8,893	0.45	27.00%	0.41
Keurig Dr Pepper Inc.	0.52	28,142	15,990	0.57	27.00%	0.37
Mondelēz International, Inc.	0.91	59,485	18,372	0.31	27.00%	0.74
Monster Beverage Corporation	1.50	27,772	-	0.00	27.00%	1.50
PepsiCo, Inc.	0.67	157,434	32,321	0.21	27.00%	0.58
The Coca-Cola Company	0.52	203,558	43,555	0.21	27.00%	0.45
The Kraft Heinz Company	0.71	52,466	30,873	0.59	27.00%	0.50
Median, excluding PepsiCo	**0.63**	**-**	**-**	**0.44**	**-**	**-**
PepsiCo adjusted β_L			**0.70**			

Table 33 – PepsiCo's adjusted unlevered beta, in USD millions and percentage

USD 000,000's	**5-year monthly β_L**	**Market cap 2018**	**Total debt 2018**	**D/E ratio**	**Tax rate**	**5-year monthly β_U**
Campbell Soup Company	0.44	9,963	9,894	0.99	27.00%	0.26
Colgate-Palmolive Company	0.78	51,961	6,366	0.12	27.00%	0.72
General Mills, Inc.	0.77	22,819	15,819	0.69	27.00%	0.51
Kellogg Company	0.54	19,839	8,893	0.45	27.00%	0.41
Mondelēz International, Inc.	0.91	59,485	18,372	0.31	27.00%	0.74
PepsiCo, Inc.	0.67	157,434	32,321	0.21	27.00%	0.58
The Coca-Cola Company	0.52	203,558	43,555	0.21	27.00%	0.45
The Hershey Company	0.15	22,615	4,458	0.20	27.00%	0.13
The Kraft Heinz Company	0.71	52,466	30,873	0.59	27.00%	0.50
The Procter & Gamble Company	0.37	244,231	31,286	0.13	27.00%	0.34
Median, excluding Mondelēz	**0.54**	**-**	**-**	**0.21**	**-**	**-**
Mondelēz adjusted β_L			**0.72**			

Table 34 – Mondelēz's adjusted unlevered beta, in USD millions and percentage

Appendix 10 – PepsiCo and Mondelēz's terminal value growth rates

According to IMF (2019), the United States real GDP growth rate and inflation rate will be 1.60% and 2.20% in 2024. From the available inputs, future United States nominal GDP growth rate is computed according to Formula 16.

$$Nominal\ GDP\ growth\ rate_t = (1 + Real\ GDP\ growth\ rate_t)\ .\ (1 + Inflation\ rate_t) - 1$$

Formula 16 – Nominal GDP growth rate

However, in perpetuity, mature companies like PepsiCo and Mondelēz should have lower growth rates than the economy in which both operate. Therefore, and to ensure consistency with the discount rates used, the risk-free rate was assumed as a decent proxy of the nominal GDP growth rate – it includes the effect of expected inflation and real economic growth (Damodaran, 2008). Considering a risk-free rate of 2.50%, it was defined that PepsiCo and Mondelēz grow 2% in perpetuity. Table 35 displays this viewpoint.

USD 000,000's	**2019E**	**2020E**	**2021E**	**2022E**	**2023E**	**2024E**
United States real GDP growth rate	2.30%	1.90%	1.80%	1.60%	1.60%	1.60%
United States inflation rate	2.00%	2.70%	2.30%	2.20%	2.20%	2.20%
United States nominal GDP growth rate	**4.35%**	**4.65%**	**4.14%**	**3.84%**	**3.84%**	**3.84%**
United States r_f	**2.50%**	**-**	**-**	**-**	**-**	**-**
PepsiCo and Mondelēz growth rate in perpetuity	**2.00%**					

Table 35 – PepsiCo and Mondelēz growth rate in perpetuity, in percentage

Appendix 11 – PepsiCo's share price

USD 000,000's		**2019E**	**2020E**	**2021E**	**2022E**	**2023E**	**2024E**	**2025E**
r_f	2.50%							
β_L	0.54							
Adjusted β_L	0.70							
MRP	5.21%							
k_e according to CAPM	**6.13%**							
k_d	3.05%							
t	27.00%							
After-tax k_d	**2.23%**							
Debt/(Equity+Debt)	0.20							
Equity/(Equity+Debt)	0.80							
WACC	**5.35%**							
PepsiCo's FCFF		**8,045**	**7,177**	**7,666**	**8,149**	**8,505**	**8,852**	**9,193**
Growth rate of FCFF		*-*	*-11%*	*7%*	*6%*	*4%*	*4%*	*4%*
PV of PepsiCo's FCFF		**7,838**	**6,637**	**6,729**	**6,790**	**6,726**	**6,645**	-
Terminal value	205,723							
Excess cash	8,993							
Enterprise value	**238,093**							
Market value of debt	38,971							
Equity value	**199,122**							
Shares outstanding	1,402							
Value per share (USD)	**142.05**							

Table 36 – PepsiCo's WACC, FCFF and value per share, in USD millions and percentage

Appendix 12 – PepsiCo's sensitivity analysis on share price

		Perpetuity growth rate				
		1.80%	1.90%	**2.00%**	2.10%	2.20%
WACC	4.35%	199.23	207.50	216.48	226.25	236.94
	4.85%	161.15	166.75	172.74	179.17	186.08
	5.35%	133.79	137.80	**142.05**	146.55	151.35
	5.85%	113.18	116.17	119.32	122.63	126.13
	6.35%	97.10	99.41	101.82	104.34	106.98

Table 37 – PepsiCo share value sensitivity analysis, in USD and percentage

Appendix 13 – PepsiCo and Mondelēz's relative valuation and cluster allocation

The peer group selection of PepsiCo and Mondelēz was centered on a k-means cluster analysis, a statistical tool that enables one to create sets of companies with similar features, by taking into account only numerical attributes. Thereby, the variables used to proceed with this algorithm are associated with firms' size, profitability and leverage – market capitalization, revenue, EPS without extraordinary items, net debt and debt-to-equity ratio. Additionally, all the underlying variables were normalized, and it was defined a total of three centroids to segregate the peer group in three different clusters.

Each centroid was calculated as the average of the corresponding variable, and after a few iterations, the centroids became stable, being possible to detect the clusters of PepsiCo and Mondelēz. Finally, the current and future EV/EBITDA and EV/EBIT multiples were computed for each pear group to reach the companies' share price, which are detailed in Table 38 and 39.

	Cluster	EV/EBITDA 2019E	EV/EBITDA 2018	EV/EBIT 2019E	EV/EBIT 2018
Campbell Soup Company	1	11.30	10.53	15.19	41.50
Conagra Brands, Inc.	1	12.37	8.06	15.01	11.95
Kellogg Company	1	11.55	12.88	14.89	16.65
Keurig Dr Pepper Inc.	1	15.62	25.63	17.80	35.64
Mondelēz International, Inc.	1	20.65	19.21	25.48	24.12
Monster Beverage Corporation	1	19.76	19.62	20.57	20.88
PepsiCo, Inc.	2	-	-	-	-
The Coca-Cola Company	2	19.09	21.24	19.43	31.63
The Kraft Heinz Company	3	11.28	13.61	13.37	(8.07)
Cluster median excluding PepsiCo		**19.09**	**21.24**	**19.43**	**31.63**
PepsiCo value per share (USD)		**149.86**	**161.69**	**119.03**	**200.34**

Table 38 – PepsiCo relative valuation

	Cluster	EV/EBITDA 2019E	EV/EBITDA 2018	EV/EBIT 2019E	EV/EBIT 2018
Campbell Soup Company	1	11.31	10.53	15.19	41.50
Colgate-Palmolive Company	1	13.29	13.25	15.10	15.63
General Mills, Inc.	1	12.75	11.36	15.63	15.24
Kellogg Company	1	11.55	12.88	14.89	16.65
The Hershey Company	1	15.31	12.78	17.82	16.84
Mondelēz International, Inc.	2	-	-	-	-
The Coca-Cola Company	2	19.09	21.24	19.43	31.63
The Kraft Heinz Company	2	11.28	13.61	13.37	(8.07)
PepsiCo, Inc.	3	18.25	14.45	22.48	17.88
The Procter & Gamble Company	3	17.01	14.97	20.31	19.23
Cluster median excluding Mondelēz		**15.18**	**17.42**	**16.40**	**11.78**
Mondelēz value per share (USD)		**32.28**	**36.51**	**26.80**	**14.29**

Table 39 – Mondelēz relative valuation

Appendix 14 – Mondelēz's forecasted income statement

USD 000,000's	**2017**	**2018**	**2019E**	**2020E**	**2021E**	**2022E**	**2023E**	**2024E**	**2025E**
Revenue	**25,896**	**25,938**	**26,013**	**26,751**	**27,455**	**27,774**	**28,097**	**28,424**	**28,755**
COGS	(15,862)	(15,586)	(15,434)	(15,672)	(15,882)	(15,865)	(15,847)	(15,829)	(15,812)
Gross profit	**10,034**	**10,352**	**10,579**	**11,079**	**11,573**	**11,910**	**12,250**	**12,595**	**12,943**
SG&A expenses	(6,217)	(6,818)	(6,838)	(7,032)	(7,217)	(7,301)	(7,386)	(7,472)	(7,558)
R&D expenses	(366)	(362)	(363)	(373)	(383)	(388)	(392)	(397)	(401)
EBIT	**3,451**	**3,172**	**3,378**	**3,674**	**3,973**	**4,222**	**4,473**	**4,727**	**4,983**
Other non-operating income	58	28	7	7	7	7	7	7	7
Net interest expenses	(385)	(358)	(373)	(377)	(390)	(402)	(415)	(426)	(4369)
EBT	**3,124**	**2,842**	**3,013**	**3,304**	**3,590**	**3,827**	**4,065**	**4,308**	**4,554**
Taxes	(710)	(754)	(473)	(518)	(563)	(600)	(638)	(676)	(715)
Net Income	**2,414**	**2,088**	**2,540**	**2,786**	**3,027**	**3,227**	**3,428**	**3,632**	**3,840**
Minority interests	(14)	(14)	(14)	(14)	(14)	(14)	(14)	(14)	(14)
Equity in affiliates	384	1,326	672	672	672	672	672	672	672
Extraordinary items	44	(19)	-	-	-	-	-	-	-
Net Income attributable to Mondelēz	**2,828**	**3,381**	**3,198**	**3,444**	**3,685**	**3,884**	**4,085**	**4,290**	**4,498**

Table 40 – Mondelēz's historical and forecasted income statement, in USD millions

Appendix 15 – Mondelēz's forecasted balance sheet

USD 000,000's	**2017**	**2018**	**2019E**	**2020E**	**2021E**	**2022E**	**2023E**	**2024E**	**2025E**
Cash and ST investments	925	1,363	925	925	925	925	925	925	925
Accounts receivable	3,526	3,006	3,405	3,501	3,593	3,635	3,678	3,720	3,764
Inventory	2,557	2,592	2,567	2,606	2,641	2,638	2,635	2,632	2,630
Prepaid expenses and other current assets	512	643	645	663	681	689	697	705	713
Current Assets	**7,520**	**7,604**	**7,541**	**7,696**	**7,841**	**7,887**	**7,934**	**7,982**	**8,031**
PP&E	8,677	8,482	8,959	9,433	9,902	10,350	10,778	11,190	11,585
Goodwill	21,085	20,725	20,725	20,725	20,725	20,725	20,725	20,725	20,725
Intangibles	18,639	18,002	17,832	17,664	17,497	17,332	17,168	17,006	16,845
LT investments	6,193	7,123	7,637	8,189	8,780	9,414	10,094	10,822	11,604
Other LT assets	843	793	944	944	944	944	944	944	944
Total Assets	**62,957**	**62,729**	**63,639**	**64,651**	**65,688**	**66,652**	**67,644**	**68,669**	**69,734**
Accounts payable	5,705	5,794	5,738	5,826	5,904	5,898	5,891	5,884	5,878
Accrued expenses	2,449	2,457	2,464	2,534	2,601	2,631	2,662	2,693	2,724
ST debt obligations and current portion of LT debt	4,680	5,840	6,091	6,743	7,267	7,790	8,193	8,479	8,650
Other current liabilities	2,959	2,646	2,654	2,729	2,801	2,833	2,866	2,900	2,933
Current Liabilities	**15,793**	**16,737**	**16,946**	**17,832**	**18,573**	**19,152**	**19,612**	**19,956**	**20,185**

USD 000,000's	**2017**	**2018**	**2019E**	**2020E**	**2021E**	**2022E**	**2023E**	**2024E**	**2025E**
LT debt	12,972	12,532	12,479	12,483	12,545	12,655	12,813	13,020	13,277
Deferred income tax	3,341	3,552	4,002	4,116	4,224	4,273	4,323	4,373	4,424
Other liabilities	4,777	4,195	4,606	4,606	4,606	4,606	4,606	4,606	4,606
Total Liabilities	**36,883**	**37,016**	**38,034**	**39,038**	**39,948**	**40,687**	**41,354**	**41,955**	**42,493**
Additional paid-in capital	31,915	31,961	31,961	31,961	31,961	31,961	31,961	31,961	31,961
Retained earnings	22,631	24,491	26,078	27,787	29,614	31,539	33,563	35,688	37,915
Common treasury stock	(18,555)	(20,185)	(21,885)	(23,585)	(25,285)	(26,985)	(28,685)	(30,385)	(32,085)
Other comprehensive income	(9,997)	(10,630)	(10,630)	(10,630)	(10,630)	(10,630)	(10,630)	(10,630)	(10,630)
Minority interest	80	76	80	80	80	80	80	80	80
Total Equity	**26,074**	**25,713**	**25,605**	**25,613**	**25,740**	**25,965**	**26,289**	**26,714**	**27,241**
Total Liabilities and Shareholder Equity	**62,957**	**62,729**	**63,639**	**64,651**	**65,688**	**66,652**	**67,644**	**68,669**	**69,734**

Table 41 – Mondelēz's historical and forecasted balance sheet, in USD millions

Appendix 16 – Mondelēz's forecasted cash flow statement

USD 000,000's	**2019E**	**2020E**	**2021E**	**2022E**	**2023E**	**2024E**	**2025E**
Net Income and extraordinary items	3,212	3,458	3,699	3,898	4,099	4,304	4,512
Depreciation expenses	621	656	690	725	757	789	819
Amortization expenses	170	168	167	165	164	162	161
Changes in WC	(417)	79	72	10	10	10	10
Cash from operations	**3,585**	**4,361**	**4,628**	**4,798**	**5,030**	**5,264**	**5,501**
CAPEX	(1,098)	(1,129)	(1,159)	(1,173)	(1,186)	(1,200)	(1,214)
Increases in all other LT assets	(666)	(551)	(591)	(634)	(680)	(729)	(781)
Cash from investing	**(1,764)**	**(1,681)**	**(1,750)**	**(1,806)**	**(1,866)**	**(1,929)**	**(1,995)**
Increase in ST debt obligations	251	652	524	523	403	286	171
Increase in LT debt	(53)	4	62	110	158	207	257
Increase in deferred income tax	450	114	108	49	50	50	51
Increase in other liabilities	411	-	-	-	-	-	-
Increase in common treasury stock	(1,700)	(1,700)	(1,700)	(1,700)	(1,700)	(1,700)	(1,700)
Minority interest	4	-	-	-	-	-	-
Common and preferred dividends paid	(1,624)	(1,749)	(1,872)	(1,973)	(2,075)	(2,179)	(2,285)
Cash from financing	**(2,260)**	**(2,680)**	**(2,877)**	**(2,991)**	**(3,164)**	**(3,336)**	**(3,506)**
Beginning of period cash and ST investments balance	1,363	925	925	925	925	925	925
Total change in cash and ST investments	(438)	1	-	-	-	-	-
End of period cash and ST investments balance	**925**	**925**	**925**	**925**	**925**	**925**	**925**

Table 42 – Mondelēz's forecasted cash flow statement, in USD millions

Appendix 17 – Mondelēz's share price

USD 000,000's		**2019E**	**2020E**	**2021E**	**2022E**	**2023E**	**2024E**	**2025E**
r_f	2.50%							
β_L	0.58							
Adjusted β_L	0.72							
MRP	5.21%							
k_e according to CAPM	**6.24%**							
k_d	3.61%							
t	27.00%							
After-tax k_d	**2.64%**							
Debt/(Equity+Debt)	0.22							
Equity/(Equity+Debt)	0.78							
WACC	**5.45%**							
Mondelēz's FCFF		**2,575**	**2,297**	**2,526**	**2,790**	**2,990**	**3,192**	**3,393**
Growth rate of FCFF		*-*	*-11%*	*10%*	*10%*	*7%*	*7%*	*6%*
PV of Mondelēz's FCFF		**2,508**	**2,122**	**2,213**	**2,317**	**2,355**	**2,384**	-
Terminal value	73,540							
Excess cash	1,363							
Enterprise value	**86,076**							
Market value of debt	16,802							
Equity value	**69,274**							
Shares outstanding	1,440							
Value per share (USD)	**48.09**							

Table 43 – Mondelēz's WACC, FCFF and value per share, in USD millions and percentage

Appendix 18 – Mondelēz's sensitivity analysis on share price

		Perpetuity growth rate				
		1.80%	1.90%	**2.00%**	2.10%	2.20%
WACC	4.45%	67.38	70.13	73.11	76.34	79.86
	4.95%	54.58	56.46	58.48	60.63	62.94
	5.45%	45.29	46.65	**48.09**	49.62	51.24
	5.95%	38.25	39.27	40.34	41.47	42.66
	6.45%	32.72	33.51	34.34	35.20	36.11

Table 44 – Mondelēz share value sensitivity analysis, in USD and percentage

Appendix 19 – Estimation of synergies

USD 000,000's	**2019E**	**2020E**	**2021E**	**2022E**	**2023E**	**2024E**	**2025E**
Revenue enhancements	97	201	312	350	354	358	362
Synergy relization (%)	*30.00%*	*60.00%*	*90.00%*	*100.00%*	*100.00%*	*100.00%*	*100.00%*
COGS savings	135	302	445	555	555	554	553
Synergy realization (%)	*25.00%*	*55.00%*	*80.00%*	*100.00%*	*100.00%*	*100.00%*	*100.00%*
SG&A savings	68	155	231	292	295	299	302
Synergy realization (%)	*25.00%*	*55.00%*	*80.00%*	*100.00%*	*100.00%*	*100.00%*	*100.00%*
R&D savings	2	4	6	8	8	8	8
Synergy realization (%)	*25.00%*	*55.00%*	*80.00%*	*100.00%*	*100.00%*	*100.00%*	*100.00%*
Total synergies	**302**	**661**	**994**	**1,205**	**1,212**	**1,219**	**1,226**
PV of total synergies	**294**	**611**	**872**	**1,004**	**958**	**914**	**27,246**

Table 45 – Transaction synergies estimation, in USD millions and percentage

Appendix 20 – Fees forecast

USD 000,000's	**2019E**	**2020E**	**2021E**
Integration fees	516	258	86
Fees distribution (%)	*60.00%*	*30.00%*	*10.00%*
Transaction fees	861	-	-
Total fees	**1,377**	**258**	**86**
PV of total fees	**1,342**	**239**	**76**

Table 46 – Integration and transaction fees forecast, in USD millions and percentage

Appendix 21 – Discount rate of the merged entity

USD 000,000's			
PepsiCo β_U	0.4734	r_f	2.50%
PepsiCo's EV	238,093	β_L	0.55
Mondelēz β_U	0.4703	Adjusted β_L	0.70
Mondelēz's EV	86,076	MRP	5.21%
Pro-forma β_U	**0.47**	**k_e according to CAPM**	**6.16%**
PepsiCo and Mondelēz Debt	50,693	k_d	3.17%
PepsiCo and Mondelēz Equity	216,919	*t*	27.00%
Pro-forma β_L	**0.55**	**After-tax k_d**	**2.31%**
		Debt/(Equity+Debt)	0.20
		Equity/(Equity+Debt)	0.80
		WACC	**5.37%**

Table 47 – Pro-forma WACC, in USD millions and percentage

Appendix 22 – Synergies' sensitivity analysis

Revenue enhancements

COGS savings	0.15%	0.25%	**0.35%**	0.45%	0.55%
2.50%	22,386	25,083	27,779	30,475	33,172
3.00%	24,446	27,143	29,839	32,535	35,232
3.50%	26,506	29,202	**31,899**	34,595	37,292
4.00%	28,566	31,262	33,959	36,655	39,351
4.50%	30,626	33,322	36,019	38,715	41,411

SG&A savings

R&D savings	3.00%	3.50%	**4.00%**	4.50%	5.00%
1.50%	29,888	30,868	31,847	32,826	33,805
1.75%	29,914	30,894	31,873	32,852	33,831
2.00%	29,940	30,920	**31,899**	32,878	33,857
2.25%	29,966	30,946	31,925	32,904	33,883
2.50%	29,992	30,972	31,951	32,930	33,909

Table 48 – Synergies sensitivity analysis, in USD and percentage

Appendix 23 – Recent deals in the consumer staples sector

Announcement date	Acquirer	Target	Deal value	Premium
August 2018	The Coca-Cola Company	Costa Ltd.	USD 5.1 billion	100%
August 2018	PepsiCo, Inc.	SodaStream International Ltd.	USD 3.2 billion	11%
April 2018	Conagra Brands, Inc.	Pinnacle Foods, Inc.	USD 8.1 billion	23%
January 2018	Keurig Green Mountain, Inc.	Dr Pepper Snapple Group, Inc.	USD 18.7 billion	9%
June 2017	Amazon.com, Inc.	Whole Foods Market, Inc.	USD 13.7 billion	27%

Table 49 – Most recent and larger comparable deals in the consumer staples sector

Note: According to Credit Suisse estimates, The Coca-Cola Company acquired the privately held firm Costa Limited, also known as Costa Coffee, through a 100% premium over a 10x EBITDA 2019E multiple

Appendix 24 – True value of Mondelēz's acquisition

When applied the true value of an acquisition (Eccles et al., 1999), described in Appendix 2, to Mondelēz's case, one identifies the following concepts of value.

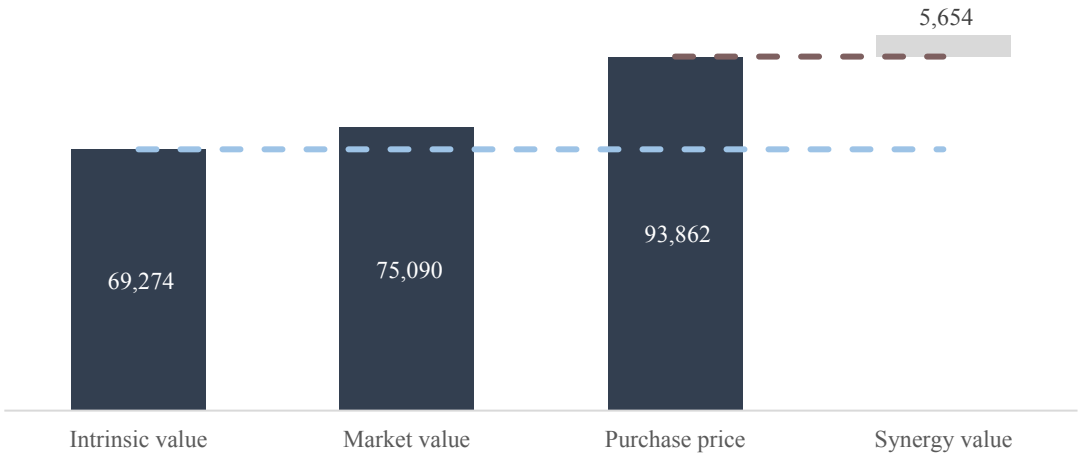

Figure 20 – True value of Mondelēz's acquisition, in USD millions

Appendix 25 – Pro-forma income statement forecast

USD 000,000's	**2019E**	**2020E**	**2021E**	**2022E**	**2023E**	**2024E**	**2025E**
Revenue	**92,378**	**95,779**	**99,318**	**100,433**	**101,524**	**102,628**	**103,743**
COGS	(45,178)	(46,167)	(47,208)	(47,172)	(47,246)	(47,321)	(47,396)
Gross profit	**47,200**	**49,613**	**52,110**	**53,261**	**54,278**	**55,306**	**56,347**
SG&A expenses	(31,871)	(32,948)	(34,089)	(34,398)	(34,769)	(35,145)	(35,524)
R&D expenses	(1,058)	(1,093)	(1,130)	(1,140)	(1,153)	(1,165)	(1,178)
EBIT	**14,271**	**15,571**	**16,891**	**17,722**	**18,356**	**18,996**	**19,645**
Other non-operating income	178	178	178	178	178	178	178
Net interest expenses	(1,372)	(1,333)	(1,353)	(1,383)	(1,420)	(1,462)	(1,508)
EBT	**13,077**	**14,416**	**15,716**	**16,517**	**17,113**	**17,712**	**18,314**
Taxes	(2,900)	(3,117)	(3,331)	(3,456)	(3,581)	(3,706)	(3,831)
Net Income	**10,177**	**11,299**	**12,385**	**13,061**	**13,532**	**14,006**	**14,483**
Minority interests	(58)	(58)	(58)	(58)	(58)	(58)	(58)
Equity in affiliates	672	672	672	672	672	672	672
Extraordinary items	(1,377)	(258)	(86)	-	-	-	-
Net Income attributable to PepsiCo	**9,413**	**11,655**	**12,913**	**13,675**	**14,146**	**14,620**	**15,097**

Table 50 – Pro-forma forecasted income statement, in USD millions

Glossary

Accretion – shareholder value created in a certain deal.

Acquisition – process in which one company purchases a controlling ownership interest in another one.

Acquisition premium – difference between the market value of a company and the price paid.

Agency problem – conflict of interests between the company's stakeholders, usually between the company's management and the company's shareholders.

Basis point – financial terminology for 0.01%.

Bond – debt obligation or fixed income security which represents a loan made by an investor to a borrower.

Buyback – share repurchase, occurs when a company buys its outstanding stock.

Collar – protective device used to hedge uncertainty in regard to acquirer's stock price, common in option trading.

Consumer staples – sector that comprises a range of essential and non-cyclical products, or goods that consumers are willing to continue to buy.

Credit rating – assessment tool usually allocated by a rating agency to a bond that specifies the level of creditworthiness of a borrower.

Default – failure to make a required interest, or principal payment on debt when due, or violation of a debt covenant.

Dilution – shareholder value destroyed in a certain deal.

Earnout – compensation given to the seller in the future whether the company achieves certain goals, usually associated with profits or revenues.

Financial distress – condition in which a company has difficulties in meeting its debt obligations.

Friendly takeover – occurs when the target company's board of directors agree to merge or be acquired by the acquirer company and recommend shareholder and United States DOJ approval.

Hostile takeover – occurs when the acquirer company tries to assume control of the target company without the board of directors' agreement.

Hubris – tendency to overpay as a result of excessive confidence in managing the acquisition and optimism about the value of a deal's inherent synergies.

Interest coverage ratio – liquidity ratio that involves a company's EBIT and interest expenses, utilized to control the ability to pay interests on outstanding debt.

Interest tax shield – decrease taxable income as a result of the tax deductibility of interest' expenses.

Investment grade – credit rating given to municipal or company bonds with low probability of default, or high bond's credit quality.

Joint venture – partnership or business arrangement that encompasses two or more companies sharing resources and capital in order to achieve a particular goal or develop a novel project.

Leverage – investment strategy of using borrowed money that expects greater profits, or amount of debt utilized to finance assets.

Leveraged buyout – acquisition of a company financed mainly by debt or borrowed money.

Megadeal – deal with a value in size greater than USD 10 billion.

Merger – combination of two companies whereby one legally dematerializes itself.

Net borrowing – difference between new debt issues and debt repayments to debtholders.

One-time event – gain, loss or expense that is not a recurring item of a company's operations.

Opportunity cost – missed opportunity or the return that one expects to earn through an alternative investment.

Organic revenue – sales generated from a company's current operations.

Peer group – group of companies from a certain industry with similar features.

Premiumization – process of attempting to enhance brand or product value and exclusivity to consumers.

Pricing power – effect that a change in price has on demand.

Private equity – alternative investment class represented by institutional and accredited investors, with capital not listed on a public exchange, that invest in private companies and buyouts of public companies.

Return on equity – ratio of financial performance that involves a company's net income and average total equity.

Return on invested capital – ratio of financial efficiency of a company at allocating available resources to its investments.

Risk-free rate of return – rate of return of an investment with no risk, with a guaranteed return.

Share exchange ratio – relative number of new shares that the target shareholders are going to receive as a result of a merger or acquisition.

Shark repellant – one of a wide range of takeover defenses adopted by making special amendments to its charter or bylaws that become active.

Systematic risk – market risk or undiversifiable risk.

Tender offer – offer to purchase shareholders' shares in another company, usually through cash, securities, or both.

Volatility – statistical tool that measures the risk or the dispersion of the returns of one security.

Working capital – difference between a company's current assets and current liabilities.

Write-down – loss or reduction in the book value of assets.

Yield to maturity – estimated return on a bond if it is held until maturity.

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