Católica Lisbon School of Business & Economics

Equity Valuation: Whole Foods Market, INC

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Abstract

Whole Foods Market Inc. is a natural and organic foods supermarket that was founded in Austin, Texas in 1980. The firm is one of the largest food retailers in the United States and designates itself to be America's Healthiest Grocery Store. The purpose of this dissertation, is to value the company according to suitable methodologies that are duly discussed in the Literature Review. Furthermore, in order to obtain fitting results, the company, its peers and the organic and food industry as a whole were analyzed in-depth.

Additionally, Whole Foods Market is valued using a Discounted Cash Flow methodology and then complemented with a Relative Valuation. These valuations led to a target price of **$31.84** per share which reflects an upside potential of 11.4%. As a result of these findings, I come to the conclusion that investors should buy the stock. Finally, my personal valuation and final recommendations, are compared with the results obtained by a Morgan Stanley & Co. equity report and its differences are then discussed in detail.

A Whole Foods Market Inc. é uma cadeia de supermercados que se foca maioritariamente na venda de produtos naturais e organicos e que foi fundada em 1980 em Austin no Texas. A empresa é uma das maiores a operar no sector do retalho e considera-se como a cadeia alimentar mais saudável dos Estados Unidos. O objectivo desta tese é avaliar a empresa com base nos métodos de avaliação considerados mais apropriados que são devidamente discutidos na revisão de literatura. De forma a obter a resultados mais acertados, a empresa, os seus concorrentes e a industria alimentar como um todo foram analisados ao pormenor.

Em seguida, a Whole Foods foi avaliada com base nos seus fluxos de caixa descontados e depois complementada com uma avaliação relativa. Estas avaliações, resultaram num preço-alvo de **$31.84** por acção que reflecte um potencial de valorização de 11.4%. Desta forma, eu recomendo aos investidores que invistam na Whole Foods. Por fim, a avaliação obtida e as recomendações finais foram comparadas com as que foram obtidas num relatório de avaliação pelo Morgan Stanley & Co bem como as diferenças discutadas ao pormenor.

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Lastly, I am very grateful for all the support I received from my family and friends. They were essential in keeping me focused and motivated over the course of the last few months.

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1. Introduction

The purpose of this dissertation, is to value Whole Foods Market and to determine its fair share price according to suitable methodologies. In order to determine what methods were more appropriate for its respective valuation, a review of pertinent literature in the state of the art of valuation was discussed. Further ahead, the industry in which the company operates was analyzed, to better comprehend possible trends and future perspectives, as well as the company's history, business model and past performance to provide a clear image of its background.

The valuation methods are then presented and discussed in detail, according to the information gathered until the 31st of October of 2016, and are then compared to the results obtained on an equity report by Morgan Stanley & Co.

2. Literature Review

2.1 Overview of Valuation Methods

Within the financial markets, there are many different methods to estimate value. All of these methodologies use different assumptions to determine value, however, they all have similar beliefs and can be comparable amongst each other. According to Benjamin Graham "The underlying principles of sound investment should not alter from decade to decade, but the application of these principles must be adapted to significant changes in the financial mechanisms and climate". With this, I would like to note that in fact, the fundamentals of valuation should work under the same rationale over time, but should adapt to current market conditions.

From a general point of view, a company's value has always been estimated based on its capacity to grow, to produce cash flows and ultimately to deliver returns for its shareholders. When doing so, it is also very important to take into consideration its surrounding environment as well as the firm's conditions. Regardless of their many differences, most valuations tend to apply a certain theory and formerly a model so that a correct analysis of the business is made and finally, a consensus on its fair value can be reached. Among the wide ranging studies and different approaches to valuation, Damodaran categorizes them into four major methods:

Discounted Cash Flow Models value a company by summing the future cash flows that are available to investors at the cost of capital. There are different ways of applying such models: Enterprise Models consider the cash flow available to all investors; Equity Valuation Models only consider the cash flows available to equity holders - and therefore disregards the remaining amount - or the Adjusted Present Value, that distinguishes Debt and Equity apart and values the company as it was all equity financed. Despite their many differences, all models should lead to comparable results. These methods are amongst the most commonly used when performing a valuation and are still considered to be very effective as they rely on intrinsic data and not on comparable. Therefore, a DCF valuation will be discussed and performed further ahead.

Relative Valuation Methods are also very common for investors as they assume that the value of a certain business can derive from the value of a comparable company. These models work under the assumption that similar traded companies, that will provide similar cash flows in the future, should be trading at the same level or multiple of its revenues, earnings or book value. The challenge of this model lies in choosing an appropriate Peer Group that will represent an appropriate average multiple of comparable companies for valuation, however this method will be discussed and analyzed in more detail throughout this Thesis.

Asset based Valuation Models like the Liquidation Cost Model or the Replacement Cost Model are not so common methods used when valuing a company but their focus lies on estimating the net market value of the company's assets, claiming that a business is worth the value of its assets net of its liabilities. These kind of models tend to be far away from the fair value of a company since they ignore many other variables that affect value and they are best when bankruptcy or closing is likely to occur. Since this doesn't seem to be the case of Whole Foods Markets, I will not consider these models further ahead.

Contingent Claim Valuation which use options pricing models to measure the value of assets that share option characteristics. The essential feature of such model is the derivation of risk neutral valuation relationships for contingent claims (Brennan, 1979).

Despite their differences, all valuations have different assumptions and different ways of reasoning that will determine the valuations final result. When choosing what technique to use, it is always necessary to take into consideration the business structure, the industry and the profitability of the business being analyzed because not all models fit every different type of business and market condition.

In this thesis, and taking into consideration Whole Foods Market structure and Business Model, I will focus on two different methods. To begin with, I will perform a Discounted Cash Flow valuation (WACC based) because it has the prospective of being more accurate and perceptive of the firm's true value. The model considers company specific information regarding profitability, cost of capital or future growth potential so that it can correctly forecast the future Cash Flows. Furthermore, I will compute a Relative Valuation (Multiples) since the model takes into consideration the market's assessment of the value of other firms with similar future prospects. Besides its simplicity, it also has the advantage of considering current prices of other companies rather than estimated values of future cash flows (Berk De Marzo, 2007)

2.2 Discounted Cash Flow

Like previously mentioned, the Discounted Cash Flow is one of the most common methods used to assess the value of a business. It has been around for more than four decades and it is considered to be one of the most solid methodologies used when valuing corporate assets. These kind of models assume that value comes from the sum of all future cash flows, discounted to the present at the Cost of Capital. Additionally, the DCF can be computed as WACC based if discounted at the **W**eighted **A**verage **C**ost of **C**apital or APV based when assuming that the company is all equity financed and therefore the Cost of Capital is its equity cost.

The rationale behind this model, is that an asset is based on a function of its expected cash flows and not on what someone perceives it to be worth. This means that assets with high and predictable cash flows should be worth more than assets with low and volatile cash flows (Damodaran, 2006). To build a DCF model, it is necessary to project the company's cash flows to the future which requires detailed analysis regarding its financial statements and some assumptions that will be crucial for a proper valuation.

2.2.1 FCFF / FCFE

Free Cash Flow is the cash a company is able to produce after deducting the amount required to run its operations as well as investments. Keeping in mind that not all of this FCF is available to Shareholders -

once we still need to compensate Debt Holders - we must differentiate between Free Cash Flow to the Firm (FCFF - all of the amount) and Free Cash Flow to Equity (FCFE - the amount available to equity holders).

To compute the FCFE we need to adjust our Free Cash Flow for interest payments, debt issuance and debt repayment and then make a valuation based on these cash flows (instead of the amount as a whole) discounting them by the cost of equity (Berk De Marzo, 2007).

Despite their difference, the value of the equity obtained from the firm valuation and from the equity valuation should be the same if we make consistent assumptions about the financial leverage of the company (Damodaran, 2006).

2.2.2 WACC

In order to properly understand the concept and purpose of the Weighted Average Cost of Capital, it is first necessary to mention the studies of Modigliani and Miller (1958 and 1963). They analyzed and concluded that in Perfect Capital Markets, the value of a business should not be affected by the way it chooses to finance its investments but rather by the content of the investments made, the riskiness of its assets and ultimately its profitability. (Pablo Fernandez)

They began by concluding that in Perfect Markets, where taxes and bankruptcy costs are not considered, the value of a company is independent of its debt, meaning that ***Equity (E) + Debt (D) = Value (V)***. This is, the total value of the company is equal to the total market value of its assets disregarding if they are levered or unlevered. (Berk de Marzo, 2007) However, keeping in mind that markets are not perfect, they conclude that the effect of leverage provides benefits for the firm because the interest paid on debt is tax deductible and therefore it creates a **Tax Shield**. With this in mind, we can denote that our WACC is calculated as follows:

$$WACC = \frac{E}{D+E}\ (Ke) + \frac{D}{D+E}\ (Kd)(1-t)$$

Formula 1 – WACC

2.2.3 Cost of Capital

The Modern Portfolio Theory, developed by Harry Markowitz in 1952, claimed that a diversified investor could choose an efficient portfolio that would give him the maximum amount of return with the lowest amount of risk possible. These set of efficient portfolios were called the efficient frontier. (Fama French, 2004)

After Markowitz theory, Sharpe (1964) and Lintner (1965) created the Capital Asset Pricing Model (CAPM). By using Markowitz model and assuming that the assets used to test it followed a joint distribution, that there is lending and borrowing in the market at a risk free rate and that each investor sees the same opportunity in the market, they were able to conclude that the expected return (cost of equity; Ke) can be given by:

$$Ke = Rf + Be\ (ERM - Rf)$$

Formula 2 – Cost of Equity

- The Risk Free rate (**Rf)** is the rate of return of an investment that theoretically presents no risk (such as an US Treasury Bill).
- The Equity Beta **(Be)** is the measure of volatility or risk of a certain security.
- The Equity Risk Premium **(ERM – Rf)** is the surplus of anticipated return in relation to the risk free rate.

Additionally, the cost of debt (Kd) can be obtained by using the yield to maturity of the company's long-term, option free bonds (Corporate Valuation – McKinsey) for investment grade companies based on their risk of default. This means that the cost of debt of the company will depend on the interest rate, on its rating and on the riskiness of its cash flows.

There are however some companies that do not have publicly traded bonds meaning that there is no public yield to maturity available. In such cases, one should calculate the company's coverage ratio by comparing its earnings with its interest expenses and then associate it to an according rating.

2.2.3.1 Risk Free

For the risk free rate, one should use the rate of return of an investment that theoretically presents no risk. There is a general consensus in the market to use Treasury note securities of a strong economy due to the fact that they are widely regarded as being risk free because there should be no chance that the government would fail to pay the interest and consequently default on these kind of bonds (Berk De Marzo, 2007). Therefore, when we refer to the "risk-free interest rate," we mean the rate on - this case - the U.S. Treasuries. Additionally, Damodaran points to the fact that these treasury notes should have a long term maturity and should pay in the same currency as the equity being valued (Damodaran 2002).

2.2.3.2 Equity Beta

According to Fama French the market asset beta is the covariance of its return (Ri) with the market return (RM) divided by the variance of the market return and so it measures the sensitivity of the asset's return to changes in the overall market return. It is a measure of security or systematic risk of the equity.

$$\beta_{\mathrm{i,\,M}} = \frac{cov\ (R_{\mathrm{i}}, R_{\mathrm{M}})}{\sigma^2(R_{\mathrm{M}})}$$

Formula 3 –Equity Beta

Damodaran (2002) argues that using historical market data can be very straightforward for some firms, however, there are some cases where using this beta can present some limitations. For instance, when using firms that have recently changed their capital structure or firms that are private and closely held, we may not have enough information or we may be understating the associated risk for the company. These limitations and flaws requires us to carefully consider multiple aspects such as the period of regression that will be taken into consideration, since a larger number of observations may reflect different characteristics of the firm - which will ultimately influence our beta - as well as the firm's leverage used since an average of the capital structure may not properly reflect the current one.

Damodaran then adds that there is empirical evidence that shows that the betas of many companies tend to move towards the average beta which is one and as such, we can use the adjusted beta that can be computed as follows;

$$Adjusted\ Beta = Raw\ Beta\ (0.67) + 1.00\ (0.33)$$

Formula 4 –Adjusted Beta

It is also possible to compute an unlevered beta obtained from a comparable peer group which can be helpful in cases where there is few information regarding previous returns or to simply adjust for the leverage of different companies. To do so, we should combine different estimates of unlevered betas from firms operating in similar industries and business activity, compute an average of the group and then adapt to our equity by adding leverage. De Marzo even claims that doing so is very helpful since it allows to reduce the risk of our estimation error and improve the accuracy of the estimated beta.

2.2.3.3 Equity Risk Premium

As previously mentioned, the Equity Risk Premium is the surplus of the anticipated return of the market compared to the risk free rate and should be seen as a benefit for investors when they take the risk of investing on an equity.

Despite the fact that there seems to be a general consensus that risk is seen as the variance from actual and expected returns and that it "is only the additional risk added by an investment in relation to a diversified portfolio that should be measured" (Damodaran, 2011), there are still different market views on how to compute this risk.

Typically, the historical risk premium is widely used amongst investors and risk analysts, however there are substantial differences and discussions regarding the time frame that is considered. Some use shorter periods of time with the goal of reflecting current market conditions and investors risk preferences, however, Damodaran seems to discuss that this method presents high standard errors and as a consequence it offsets the advantages of reflecting more recent time periods. Additionally, De Marzo noted that one should use many years of data to obtain acceptable estimates but that very old data was not that relevant since it doesn't reflect investor's prospects of the equity risk premium today. In sum, it seems that there is not a general and clear agreement on what period of time to think through but that a short leads to high standard errors.

2.2.4 Terminal Value

Finally, when the company reaches its steady state and its growth rates are believed to be stabilized, an estimation of its continuation value should be done. This is a crucial part of the valuation since it hugely impacts our final value since we are forecasting cash flows to Perpetuity. In order to have a solid valuation, the growth rates and the cost of capital should be as accurate as possible and multiple scenarios should be taken into consideration.

Moreover, it is common practice to use a multiples approach to estimate a company's terminal value. As De Marzo believes, "multiples are likely to be relatively homogeneous across firms. Thus, applying a multiple is potentially as reliable as estimating the value based on an explicit forecast of distant cash flows".

2.3 Dividend Discount Model

Like de Marzo claims, an investor can obtain cash flows deriving from owning a stock in two ways, he can either decide to sell the shock at some date in the future and make some profit or the company can pay out dividends to its shareholders which will also result in a flow of cash for the investor. The Dividend Discount Model rationale takes that into consideration since we care about upcoming cash flows when valuing an equity. The Model works under similar assumptions as the DCF and it values a stock by discounting the present value of the expected future dividends. According to James Farrell the value of the common stock can in fact be defined as the future dividend stream in perpetuity assuming that the company will have a perpetual life. Consequently and according to Gordon's growth model (1962), the dividend discount model can be computed as the following;

$$Stock\ Value \ = \ \frac{Dividend\ per\ Share}{Ke - g}$$

Formula 5 –DDM

Each input contributes to the Stock Value in a different way. The Dividends per Share are the projected dividends to be paid in the future which are assumed to grow at a constant rate. The Cost of Equity (Ke), as mentioned before, is the required rate of return required by shareholders since this cash flow is only paid to equity holders. Finally the growth rate (g) to be considered and discounted by, should

be the same as the one computed in the terminal value of the DCF and should be kept constant overtime (Damodaran 2002).

The model presents multiple advantages since it is rather straightforward as well as it doesn't take into account market conditions, therefore it becomes easier to make comparisons between firms with different fundamentals such as size and profitability. However, it presents some limitations as it assumes a constant dividend growth rate in perpetuity, which may not be the case since there is some uncertainty regarding a firm's future dividend. Moreover, the decision to pay dividends to its shareholders can be very strategic and ultimately lead to incorrect valuations about the company's true value. Since Whole Foods tends to pay very low dividends to its shareholders, a Dividend Discount Model will not be taken into consideration on this Thesis.

2.4 APV

The Adjusted Present Value approach evaluates a company as it was all equity financed and then sums the benefits of the tax shields that come with debt financing. This is a more suitable approach when the capital structure of the company is constantly changing because unlike the WACC based method, the cost of capital will not seriously impact the final valuation.

On this methodology, we start by considering the value of the firm without debt and then consider the net effect of the benefits or costs of borrowing as we add debt to the firm (Damodaran 2006). By adding debt to its structure, a firm generates tax benefits because interest expenses are tax deductible, however, there may also be a negative effect because bankruptcy risk increase.

Whole Foods Market may increase its debt level in a foreseeable future, however, the company doesn't expect to increase it significantly and since this will not highly affect its relative capital structure, I will not consider an APV approach for my final valuation.

2.5 Relative Valuation

Like previously mentioned, the theory of Multiples approach works under the assumption that similar traded companies, that will provide similar cash flows in the future, should be trading at the same

level or multiple of certain metrics like revenues, earnings or book value. As such, an investor will take into consideration the stock prices of companies that look alike to decide on the fair value of an investment.

Damodaran mentions that there are three crucial steps for Multiples Valuation (Damodaran 2006). The first is to find comparable assets that are priced by the market which involves choosing an appropriate Peer Group by analyzing the company, its competitors and its industry along with other internal and external factors. The second step is to scale the market prices to a common variable in order to obtain identical prices that this way become comparable. Lastly, the third step is to adjust for differences across assets. This becomes necessary when there are certain differences on a company's characteristics, such as size, that can influence its multiple and therefore need to be adjusted.

When computing our multiples we can use trailing or forward looking multiples. Trailing looking multiples use past data to compute their average multiple while forward looking use forecasted data which may lead to significant different results. According to diverse studies (Henschke &Homburg, 2009; Berk de Marzo, 2007), forward-looking multiples (such as forecasted earnings) typically perform better than trailing multiples (like reported earnings) and are more adequate since we are more concerned about the company's performance in the future.

There are many different kinds of multiples that can be used to estimate value, however, there are ones that are more appropriate than others depending on the company's fundamentals and intrinsic characteristics. It is quite common to use earnings as a measure such as a Price to Earnings ratio (P/E) keeping in mind that when an investor buys a stock he is in a sense buying a portion of the company's future earnings (Berk De Marzo, 2007). However, it is important to bear in mind that it can be, in a way, distorted by capital structure and non-operating gains and losses (Valuation, McKinsey & Co). It is also very common to use valuation multiples based on the Enterprise Value of a firm and dividing it by a measure of earnings or cash flows such as Sales EBIT or EBITDA. These kind of ratios are widely used amongst investors and they present a very important advantage, they consider the entire value of the firm before the firm pays its debt and, as such, are not subject to differences in capital structure. Several other ratios can also be used such as Price to Book Value, however, the accounting estimate of book value is based on accounting rules and is heavily influenced by the original price paid for assets.

3. Company Overview

3.1 Whole Foods Story

Whole Foods Market is a natural and organic foods supermarket that was founded in Austin, Texas in 1980. The company was formed by a merger of two smaller grocery stores; Saferway, created in 1978 by John Mackey and Renee Lawson with a Clarksville Natural Grocery Store.

Some years later in 1984, Whole Foods started its expansion out of Austin by opening new stores in several different states in the US. Despite the high increase in their number of brand new stores, they were also acquiring plenty of other natural food stores which powered their rapid growth throughout the 90's. In 2001, the company moved to New York which was an important milestone as it generated a lot of interest from the media and financial institutions. One year later they expanded to Canada and in 2004 they arrived to the UK. Nowadays, Whole Foods Market is the leading natural and organic foods supermarket uniquely positioned as America's Healthiest Grocery Store.

3.2 Business Model

Whole Foods is a mission driven company with the ultimate goal of setting quality standards in the industry of food retailing. The company has one single operating segment - natural and organic foods supermarket – and they focus on excelling their knowledge to create value and deliver on returns. As of September 2015, Whole Foods was operating 412 stores in the U.S., 10 in Canada and 9 In the United Kingdom. Most of its revenue comes from its domestic market, as we can see in the figure below, due to the relatively small proportion of stores abroad.

Sales	2011A	2012A	2013A	2014A	2015A
United States	96,9%	96,8%	96,7%	96,7%	96,9%
Canada and United Kingdom	3,1%	3,2%	3,3%	3,3%	3,1%

Figure 1 – Geographical Revenue

Each store varies in size and staff however, there are approximately between 55 and 650 people per store which are then divided in teams. Each team is responsible for a product offering and they opt

for a decentralized operations approach meaning that there are certain decisions that are made by teams at an individual store level. This comes in line with the emphasis that the company gives to empowering its own employees in order to obtain team members satisfaction.

3.3 Exclusive Brands

Whole Foods has an exclusive brands program that generated approximately $2.1 billion in revenue in the FY of 2015 and plays a huge role in their product innovation and differentiation strategy. This is composed mainly by the *365 Everyday Value* brand that focuses on delivering high quality products at an affordable price and is perceived to be one of their most successful private label brands. Almost all of the products that are part of this label are certified as purely organic and tend to have the highest standards of the organic and natural products industry. Furthermore, the exclusive brands programs also include: the *Allegro Coffee,* that concentrates on selling fresh and organic coffee; *Whole Paws,* that retails premium pet food also made with organic and natural products; *Engine 2 Product* that covers more of products with plants that adhere healthy guidelines such as no animal products, minimal added sugar or no added oils; amongst other private label brands that also contribute to the diversified portfolio of the company's exclusive brands. Currently, they are focusing more on the development of the *365 by Whole Foods* that is expected to be a success due to its new and innovative features.

3.4 Growth Prospects

The growth strategy that the company is targeting, is to expand mainly through new store openings and possibly a few acquisitions of smaller chains that offer a desirable geographic area, including national and international locations.

Additionally, in the year of 2015 the company decided to launch a second store format, "365 by Whole Foods Market". Their goal is to launch smaller stores with a shopper friendly layout, less variety but more affordable prices and full of high tech features so that they are able to target different customers highly focusing on the millennial generation. As they claim, their mission is "to bring fresh, healthy and affordable food to more people in more places every day". The firm believes there is a potential to expand their growth opportunity to more than 1200 stores, particularly keeping in mind that the industry is

growing and that no market is saturated. As for the short / medium term, Whole Foods plans to have more than 500 stores in 2017.

It is also important to bear in mind that the company tends to maintain updated and innovative seeking for a better customer experience and a higher work efficiency. This is extremely important keeping in mind the increase in competition over the last few years. Whole Foods also claims to be currently leveraging on technology advances to deliver on a better customer shopping experience. They recently implemented a new human resources management system, they developed a new mobile app focusing on shopping utility and they made a partnership with apple pay to facilitate customer's experience on each store.

3.5 Share Price Performance

Throughout the past 5 years, Whole Foods share has traded between levels of a minimum fixed at $22.15 on the close of 6th of January of 2011 and a maximum of $62.62 on the 13th of October of 2013. The firm had been performing extremely well since 2010 due to its high increases in sales and rapid expansion, however, it suffered a slight downturn for the past few years as a result of its decrease in sales as well as the noticeable increase of competition.

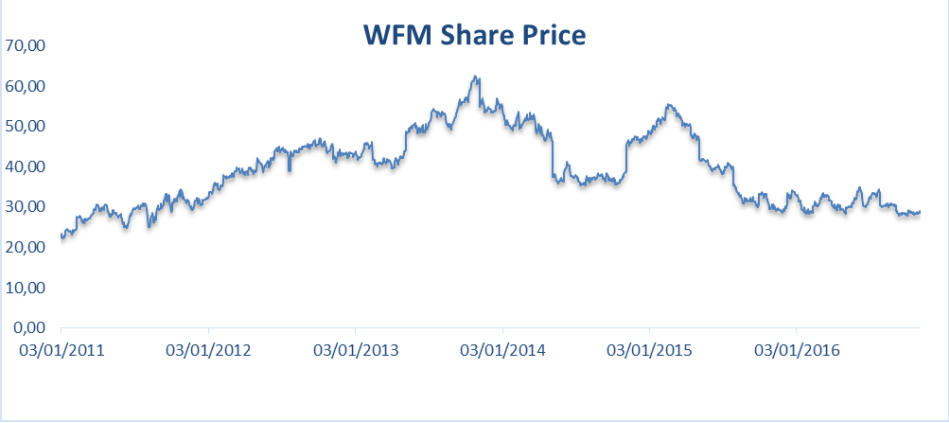

Figure 2 – Share Price Performance

4. Industry Overview

The environmental setting that surrounds a company's business has a huge impact on its valuation since it will highly affect its fundamentals, therefore, it is necessary to properly understand and identify the macroeconomic factors that are most likely to cause that same impact. By analyzing and comprehending the current economic situation of the countries where the company operates, along with its industry and sector of activity, we are able to define patterns of expansion or contraction that will ultimately better support our predictions.

4.1 United States Economy

Throughout the years, the economy of the United States has been able to grow at moderate levels, particularly if we take into consideration the social and economic conjuncture that the world faces today. Even though there was a slight contraction of the economy in 2009, following the financial crisis of 2008, the U.S. were able to grow at levels of about 2% per year thereafter. With a moderate expansion in growth which is even more visible in the Organic Food Sector, as we will see further ahead, the current situation of the economy may be seen as a positive externality for Whole Foods Business.

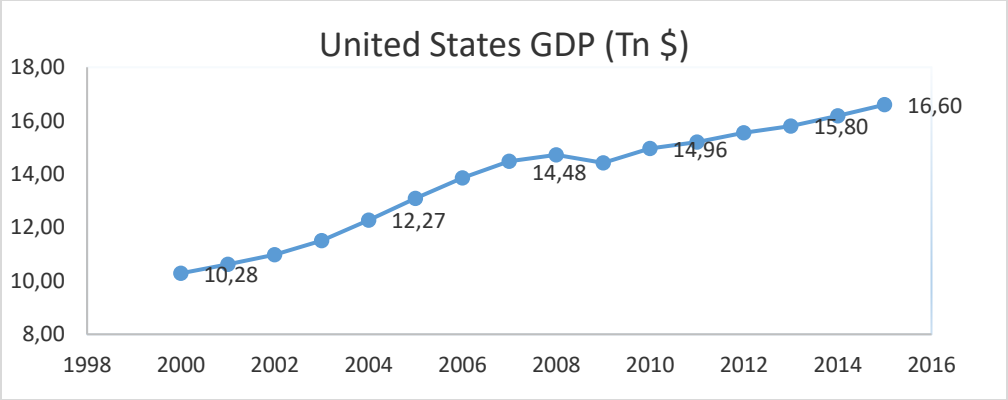

Figure 3 – United States GDP (Source: Reuters)

Moreover, besides the continuous increase in GDP, the unemployment rate of the United States is now below the 5.0% rate, compared to levels of around 9.3% about 5 years ago (United States Department of Labor), the deficit is decreasing continuously, since the huge increase in 2009, and the US Government Spending department predicts that it will continue to decrease at least until the year of 2018.

Nevertheless, it is important to note that even though the economic growth increased, it has not accelerated so far, inflation has not picked up and public debt has increased substantially. Therefore, even though the economy shows to be strengthening since 2009, there are still some issues to take into consideration when analyzing the U.S. economy.

Demographically speaking, it is also relevant to state that the population is increasing year by year around 1% and that the median age is about 38 years. This can also be interpreted as a positive sign because besides the increase in population, the working class continues to be relatively high, unlike countries within the European Union where there is almost no increase (or even a decrease) in population and the median age is higher, as well as in Asia (like China) where the population growth is a problem and there are even control sanctions implemented to prevent and control excessive growth.

Despite the increase and strengthening of the American Economy, it is also important to bear in mind that there is a currency risk associated with the fact that the company is also present in the Canadian and in the UK Market. Although the U.S dollar is strengthening towards other currencies (like the Euro for the past few years) the company does not hedge against the risk of exchange fluctuation in the forex market which could have a negative impact. However, Whole Foods claims that as of 27 of September2015, a "hypothetical 10% change in Value of the U.S Dollar relative to the Canadian dollar or to Great Britain pound sterling would not have materially affected their consolidated financial statements". For these reasons and, taking into consideration that these levels have not been breached and that the fraction of revenue coming from these markets is relatively small, this risk will be disregarded.

4.2 Organic Food Sector

The industry of food retailing in the United States is the largest retailer category of the country. With more than $600bn in sales, the industry is extremely competitive as there are many strong players in the market within different sectors that compete amongst themselves.

In the industry of food retailing, there are different market sectors and different forms of operating that each company focuses on, however, it is important to bear in mind that the industry continues to grow as a whole. In fact, according to Nielsen TDLinx and Progressive Grocer, "the U.S. supermarket industry, which includes conventional supermarkets, supercenters, warehouse grocery stores, military commissaries and limited-assortment and natural/gourmet-positioned supermarkets, had approximately *$638.3* billion in sales in 2014, a 3% increase over the prior year". If we go into further detail

we can realize that the Organic Food Sector in specific is growing at a fast pace. According to the Organic Trade Association, sales in organic products this year reached up to $43.3 billion which means that "the industry saw its largest dollar gain ever, adding $4.2 billion in sales in 2015, up from the $39.1 billion recorded in 2014". This means that it is the fourth consecutive year that the industry sees growth in the double digits level at 10.8% and that until now it has shown continuous and constant gains since the financial crisis of 2009. Additionally, it is worth mentioning that its growth rate is well beyond that of the overall food market at 3.3% in 2015. In fact, market forecasts of numerous institutions such as the Washington Times or the Business Wire predict that the industry will have a compounded growth of 14% until the year of 2021.

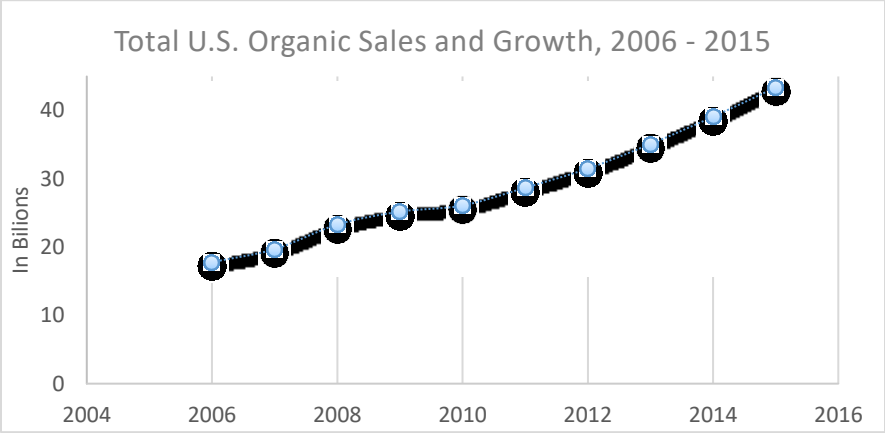

Figure 4 – Organic Sales and Growth (Source: Organic Trade Association)

As we can see, the industry of organic food retailing and consequently the market that Whole Food's Market operates in, is at the moment considered a bullish market. There is a positive trend in this market and organic food is becoming increasingly popular worldwide. In fact, nowadays people are highly concerned about the environment, about their health and about their nutrition habits.

Organic products must comply with specific requirements to be categorized as organic. They are grown and processed in a certain type of way that does not jeopardize the environment, they must be grown in safe soil, have no modifications and be as natural as possible. Additionally, for their live-stock, farmers cannot use many type of pesticides (synthetic or petroleum based for example), antibiotics, growth hormones and they must have outdoor access and be given organic feed.

Consequently, like previously mentioned, organic products present several benefits not only for the environment but also for the health of its consumers. This is also a strong tailwind for this industry

because there is a growing concern towards the environment, animals and personal health which is highly popular amongst millennials which ultimately reflect a lifetime of consumers for Organic Retailing.

4.3 Competition

Despite the growth in economy as well as in its industry, one of the main issues for WFM is that competition grew in the past years. While the company dominated the market, their financial performance and growth seemed to be unquestionable, they created and were pioneers on a growing trending market. However, as soon as competition came through and other big retailers decided to enter the market, Whole Foods performance decreased as growth and revenues slowed down, meaning that the increase in sales of the industry is going to other conventional players like Costco, Kroger and even Wal-Mart.

In fact, a recent article posted on the Seattle times mentioned that in 2015 “Costco Wholesale seemed to have quietly surpassed Whole Foods to become the biggest organic grocer” with sales that exceed $4bn annually on organic products (an increase from the previous year estimate of $3bn). The article even mentions that Costco is more popular amongst millennials, since they target a younger demographic generation, which can be of great value in the long run and that they estimate that 1 out of 10 dollars in organic sales are made at Costco. Additionally, it indicates that Wal-Mart is also pursuing this path and that it “increased its organic offerings by 20%”. Another article published in Bloomberg comments that Wal-Mart is vending a bunch of products from organic chia seeds to wild oats and organic marinara sauce - which reflect their strong bet on this most recent trend - and that the chain has even more than 2000 stores with an “organic products only” section. Moreover, there are numerous competitors in the market like Kroger – that according to Bloomberg has become a $1bn a year brand - or Trader’s Joe that are growing rapidly and, as such, are causing WFM to decrease its revenues and ultimately jeopardize its performance.

Another problem with this is that Whole Foods Market tended to demand high prices for their products. When the market was small this was not so noticeable but as soon as consumer’s options increased, it became easy to realize that they were overcharging their customers which didn’t end well for them. In fact, there was an investigation by the New York City’s department of consumer affairs claiming that WFM overcharged their consumers for prepackaged food and that they had found thousands of potential violations. The case went on for a while but eventually the organic food retailer reached an agreement with the DCA and ended up paying a $500,000 fine, claiming however that there was no “systematic or intentional misconduct” and that they wanted to put this issue behind them. To fight this

scandal as well as gain consumers trust, the company is currently implementing several measures such as cost cutting or opening a new line of stores called “365 by Whole Foods” to offer more attractive prices and ultimately fight competition. One of WFM co executive chief officers, Mr. Walter Robb even said that the company is starting to “get its pricing right” and that he believed they were taking the necessary steps to position themselves on the longer term.

4.4 Market Projections

As mentioned above, the industry of food retailing in the U.S. had approximately$ 638.3 billion in sales in the year of 2014 and had an increase of around 2% the year thereafter. With the continuous increase in population, it is normal to assume that this volume will continue to increase, however, it seems to have an even higher upsurge in natural and organic products. According to the Natural Food Merchandise association, natural product sales were approximately $98.6 billion, which represents a growth of about 9% over the prior year, while Organic products reached the $43.4 billion milestone which symbolizes an increase of more than 11%.

The industry of Food Retail has plenty of companies operating in different segments, even so, if we take into consideration the market as a whole, we can assume that Whole Foods Market has approximately a 2% market share. Going into further detail and analyzing the industry of Natural Products, their share increases to estimated values of around 15% which becomes quite relevant given its increasing market projections.

5. DCF Valuation

5.1 Forecasts

5.1.1 Sales Growth

In order to predict the growth trend for Whole Foods Market in the coming years, I focused on research regarding its country, its industry and on company specific information. The company expects sales to grow between 2.5% and 4.5%, which seems to be an adequate range keeping in mind the recent decrease in sales. This is greatly reflected by the increase in competition and customer awareness

regarding prices. However, due to the predictions of an increase of the American economy's GDP along with the market forecasts for the Natural Products Industry and the introduction of the new 365 stores, I expect this level to be closer to the highest mark.

The increase in sales is also highly correlated with the number of stores openings which has followed a steady and consistent path for the last years. In the FY of 2016, WFM opened slightly less stores in comparison with previous years – which also led to the decrease in sales – however, it expects to make up for this reduction in the coming years. Jim Sud, the company's Executive Vice President in charge for growth and business development, even claimed that the firm expected to cross the 500 mark of number of stores by the end of 2017. Due to the minor slowdown in 2016, I expect Whole Foods to be precisely close to this mile by this year but, to cross it only on 2018. As for the long term, I believe the firm will continue to expand at moderate levels and to eventually reach growth rates similar to the United States GDP which, according to the World Bank of Development, are currently expected to be 2.4%.

Ultimately, I decided to predict the next five years of Whole Foods Sales and consequently of its fundamentals as I believe it is the required time for the company to reach its steady state. This is mainly due to the recent turnaround if its profitability margins as well as the new store layout and strategy. From there on, I assume the company will maintain its levels rather steady.

5.1.2 COGS and SGA's

For Whole Foods Market the Cost of Goods Sold include the cost of inventory sold, distribution and food preparation costs, and shipping and handling costs during the period. Since they are directly tied to the production and handling of the product they will be deducted from Revenue which will give us the Gross Margin. The company's profit margins, as in the proportion of the COGS or SGA's towards revenues, have been relatively stable overtime, however, with strong new competition in the retail and more concretely in the organic food sector along with the recent claims that prices were too high, the company will have to adjust its current market prices.

As more companies began to compete in the industry, consumer awareness towards prices increased significantly which eventually forced Whole Foods to react in order to remain competitive. The company even suffered some accusations which ended up in a lawsuit, after an investigation found that several stores were overcharging their customers. The story had some exposure as some inspectors started mentioning that this was "the worst case of overcharging" that they had ever seen which even led

some critics to nickname the company "Whole Paycheck". For all these reasons, I expect COGS to increase to levels of **65.5%** of sales which was already perceivable in 2016, year which I believe represents best the current profitability margins for the firm. The same line of reasoning is applicable for the SGA's, (which also followed a decreasing trend in the preceding year) and, as such, are expected to maintain levels of **28.5%** towards sales in the foreseeable future. Below, I selected a sample where we can see the trend of both cost accounts for the past years and the forecasts for the next years.

	2014A	*2015A*	*2016A*	*2017E*	*2018E*	*2019E*
Sales	14194	15724	15724	16353	17040	17636
COGS	9150	10313	10313	10711	11161	11552
Cogs as a % of Sales	**64,5%**	**64,8%**	**65,6%**	**65,5%**	**65,5%**	**65,5%**
SGA	4032	4471	4477	4661	4856	5026
SGA as a % of Sales	**28,4%**	**29,1%**	**28,5%**	**28,5%**	**28,5%**	**28,5%**

Figure 5 – Profitability Margins

5.1.3 Tax Rate and Deferred Taxes

The Tax Rate for Whole Foods Market has been relatively stable throughout time. For the past few years, it was precisely close to 38.5% nevertheless, there may exist small differences from year to year. There are many reasons for this to take place but they are mostly reflected by a shift in the level of earnings throughout the jurisdictions in which the company operates. However, since this is not predictable, I used an effective tax rate that is representative of the past years given its consistency.

As for the deferred Tax Assets (current and non-current), they ascend from situations where the company may have overpaid taxes or even paid beforehand and, therefore, are perceived to be an asset for the firm. Since a benefit from a tax relief will eventually take place, there will be an increase of the Free Cash Flow. In order to forecast these accounts for the coming years I computed their historic correlation with Net Income and Long Term Assets.

	2013A	*2014A*	*2015A*	*2016A*	*2017E*	*2018E*	*2019E*	*2020E*
Taxes as a % of Adj. EBIT	38,4%	38,8%	39,0%	38,7%	38,5%	38,5%	38,5%	38,5%

Figure 6: Tax Rates

5.1.4 Depreciations, Amortizations and Capex

Depreciation is not an actual cash expense that the firm pays; it is a way of recognizing that buildings and equipment wear out and thus become less valuable the older they get (Berk De Marzo, 2007). Therefore, they will positively contribute for the computation of our Free Cash Flow because when the company purchases Buildings, Stores or even Machinery the costs are capitalized and the expenses are incurred over a period of time but actual cash is spent to buy the initial asset. For these reasons, it is necessary to properly forecast the Depreciations & Amortizations that the company will incur in the future.

The company provides depreciations over equipment over their estimated useful life (usually 3 to 5 years), amortization of leasehold improvements and real estate assets under capital leases, depreciation of buildings over their estimated useful lives (generally 20 to 50 years) and for definite-lived intangible assets (such as favorable lease assets, trade names or brand names) using a straight line basis method. Given its consistency in depreciating assets under a fixed period of time and consequently renewing them once done, I computed the average of D&A over Property & Equipment, Intangible Assets and Long Term Investments for the past 5 years. Since these levels were quite consistent and stable over time, I fixed a ratio of D&A of **12.8%** over the mentioned assets.

	2012A	***2013A***	***2014A***	***2015A***	***2016A***	***2017E***	***2018E***	***2019E***	***2020E***
Operating Income	743	883	934	861	857	888	935	976	1007
D&A	312	339	377	439	498	463	600	627	652
D&A / Long Term Assets	**12,6%**	**12,1%**	**12,1%**	**13,3%**	**14,2%**	**12,8%**	**12,8%**	**12,8%**	**12,8%**

Figure 7 – Depreciations & Amortizations

As for Capital Expenditures, Whole Foods Market has maintained relatively similar levels throughout the former years. The range tended to be approximately 4%-5% of sales which would vary according to the development of new locations, remodels and other property and equipment expenditures. Additionally, the company claimed that they target a capex of 4% to sales over the coming years. However, in order to be consistent with the number of store openings, I predict that they will achieve levels of 4.5% and 4.2% in 2017 and 2018 respectively and only thereon maintain consistent levels of 4%.

5.1.5 Net Working Capital

Changes in Net Working Capital have a huge impact on the computation of the Free Cash Flow and ultimately on the Company's DCF valuation. The metric should be perceived and calculated as the capital that the company needs to run its day-to-day operations. For that reason, I added the Current Liabilities that Whole Foods is required to fulfill, more explicitly the Accounts Payable, the Accrued Payroll Bonus or Other benefits and the Other Current Liabilities accounts and then deducted its Current Assets including Accounts Receivables, Merchandise Inventories, Prepaid Expenses and Restricted Cash.

The forecast of the preceding accounts were calculated based on their historic ratios towards Sales, COGS or Property Plant and Equipment given their high correlation, steadiness and direct association amongst them.

	2011A	2012A	2013A	2014A	2015A	2016A	2017E	2018E	2019E	2020E	2021E
NWC	-3481	-4113	-4357	-4232	-3906	-4132	-4179	-4414	-4666	-4694	-4881
Variation	-3716	-632	-244	125	326	-226	-47	-235	-252	-28	-186

Figure 8 – NWC

5.1.6 Non-Cash Items

At last, since Non-Cash items are mainly expenses that are accounting entries rather than actual movements of cash - like a capital depreciation or an investment gain - I predicted their progression for the next years in order to include them on the computation of the Free Cash Flow. The account is associated mainly with deferred lease liabilities and an accretion of premium or discount on sales of marketable securities such as Asset Backed Securities, Municipal Bonds and Corporate Bonds. Since its development has been highly consistent overtime I fixed them at a rate of approximately 1% of Sales.

	2014A	*2015A*	*2016A*	*2017E*	*2018E*	*2019E*
Non-Cash Items	150	156	98	130	135	140
As (%) of Sales	**1%**	**1%**	**1%**	**1%**	**1%**	**1%**

Figure 9: Non-Cash Items

5.2 Cost of Capital

5.2.1 Risk Free Rate and Equity Risk Premium

Like previously mentioned, in order to reflect the risk free rate we should use the rate of return of an investment that theoretically presents no risk. Since this investment should have a long term maturity and should pay in the same currency as the underlying equity, I took into consideration the fixed coupon United States Government Bond with maturity on the 30th of November, 2026 whose current yield was 1.84%.

As for the Equity Risk Premium, I took into consideration the difference between the annualized average of the daily returns of the S&P 500 with the same annualized average of the 10 Year United States Government Bond since 1996 which led me to a value of 6.02%. My ultimate goal, as previously mentioned on the literature review, was to use considerable series of data to obtain acceptable estimates whilst at the same time paying special attention not to reflect periods of time which are not relevant for investors today.

5.2.2 Beta

In order to compute the Beta, and as mentioned on the literature review, I applied the CAPM regression of Whole Foods returns against the returns of the S&P 500 over a 5 year period, since 10 Nov 2011. Consequently, I obtained a raw beta of 0.83 and an adjusted beta of 0.88 which is comparable with the ranges given by Reuters as well as the ranges from its peers.

5 Year Period	5 Year Period
Raw Beta	Adjusted Beta
0,8266	0,8844

Figure 10 – Computed Betas

5.2.3 Cost of Equity and Cost of Debt

Like previously discussed on the Literature Review, I calculated the Cost of Equity using the Capital Asset Pricing Model developed by Sharpe (1964) and Lintner (1965) and based on Markowitz's model. As such, I added the Risk Free Rate with the Market Risk Premium multiplied by the adjusted Beta and obtained a Cost of Equity of 7.16%.

RF	Beta	MRP	Ke
1,84%	**0,884**	**6,02%**	**7,16%**

Figure 11 – Cost of Equity

Regarding the Cost of Debt, I used the bonds that Whole Foods issued on the 3rd of December 2015 and maturing on the 3rd of December 2025. The corresponding yield of those bonds on the date of the data extraction was 4.5% which will be the assumed to be the cost of debt for Whole Foods throughout this dissertation.

5.2.4 Capital Structure

The capital structure of Whole Foods has been very stable overtime. As being very conservative based, the company has historically traded at very low or no leverage at all providing relatively low dividends and consequentially having very healthy cash flows. John Mackey and Walter Rob, Whole Foods co CEO's, believe that this way they are taking the appropriate steps to reposition the company to produce the returns that the investment community expects.

Most recently however, the company announced a new capital allocation strategy by issuing approximately $1 billion in bonds. This goes in line with their initial plans of buying back $1 billion of their own shares while paying off their investors and at the same time reducing their cost of capital. Additionally, I believe the company decided to pursue this allocation for the reason that they believe their shares are undervalued. Despite this increase in leverage and taking into consideration that the company has plenty of Free Cash Flow and cash on hand with healthy Working Capital levels, I believe that Whole Foods will remain this capital allocation strategy in a foreseeable future. Moreover, this goes in line with the company's beliefs and historic guidance. As such, for computation I used a Debt to Enterprise Value of approximately 10% and, as a contrast, an Equity to Enterprise Value of approximately 90%.

5.2.5 WACC

Once all necessary inputs to calculate the Weighted Average Cost of Capital are available and in line with the literature review, I multiplied each cost by its proportional weight taking into consideration the deduction of the tax rate on the debt portion and arrived to a Cost of Capital of 6.69%.

	2017E	2018E	2019E	2020E	2021E
Tax Rate	38,5%	38,5%	38,5%	38,5%	38,5%
D/V	10,6%	10,6%	10,6%	10,6%	10,6%
E/V	89,4%	89,4%	89,4%	89,4%	89,4%
Cost of Debt	4,50%	4,50%	4,50%	4,50%	4,50%
Equity Beta	0,884	0,884	0,884	0,884	0,884
Risk free rate	1,84%	1,84%	1,84%	1,84%	1,84%
Market Risk premium	6,02%	6,02%	6,02%	6,02%	6,02%
Cost of Equity	7,16%	7,16%	7,16%	7,16%	7,16%
WACC	**6,69%**	**6,69%**	**6,69%**	**6,69%**	**6,69%**

Figure 12 – WACC

6. Sensitivity Analysis

Keeping in mind that the outputs of the applied valuation models can easily change due to fluctuation of the different fundamentals, it becomes important to perform a sensitivity analysis where we consider diverse and possible scenarios. The main goal is to understand the range of fluctuation of the target price (initially **$31.84**) under these opposing scenarios making our valuation more complete.

6.1 Growth Rate and WACC

To start with, I began by analyzing the growth rate to perpetuity and the final weighted average cost of capital due to their high impact on the Terminal Value. I computed multiples simulations where the WACC would increase 20 basis points each time while the final growth would only increase 10 basis points. As we can see below, I focused on each variable individually to understand their separate impact on the

final valuation, however, I also computed mixed scenarios. The worst case scenario was when the growth rate was low – 2.1% - and the WACC was high – 7.29% - leading to a target price of **$25.79.** As a contrast**,** when growth rate was high – 2.7% - and the WACC was low – 6.09% - the share price was **$41.55.**

WACC Simulations

Up	Down	Price/Share when WACC increases		Price/Share when WACC decreases	
6,89%	6,49%	$	30,22	$	33,95
7,09%	6,29%	$	28,61	$	36,12
7,29%	6,09%	$	27,13	$	38,52

Growth Simulations

Up	Down	Price/Share when Growth increases		Price/Share when Growth decreases	
2,50%	2,30%	$	32,66	$	31,36
2,60%	2,20%	$	33,36	$	30,76
2,70%	2,10%	$	34,09	$	30,18

Figure 13 – WACC and Growth Simulations

6.2 Sales and Profitability Margins

I then computed other scenarios where the profitability margins and the increase of sales would change. These can occur due to several factors such as increase or decrease in demand, changes in efficiency or intensification of competition, therefore, they should be considered for comparability and completeness purposes. In line with the previous analysis, I began by considering each case individually. I computed an increase and decrease of sales by 1%, 3% and 5% but the impact was rather small. In fact, the range was between **$31.36** in the case of a decrease of sales of 200 basis points and **$33.23** in the case of an increase of 500 basis points. For these reasons, I considered more relevant to focus mostly on the change of the profitability margins.

For these, I considered a potential increase of profitability margins – meaning that the percentage of COGS and SGA towards sales would decrease – and a potential decrease – meaning that this same percentage of costs would increase. I quickly concluded that the impact of a small change in margins is quite relevant for Whole Foods Share price. In fact, a change of only 0.3% leads to a variation of about $3 meaning that this is a severe risk to take into consideration.

Profitability Margins					
Profitability up by 0.3%	$	35,26	Profitability down by 0.3%	$	28,42
Profitability up by 0.6%	$	38,67	Profitability down by 0.6%	$	25,00
Profitability up by 0.9%	$	42,09	Profitability down by 0.9%	$	21,58

Figure 14 – Profitability Margins Simulations

6.3 D&A and Capex

Following, I calculated the new share price with base on scenarios where the D&A and Capex values would change. Whilst the deviation of Depreciations & Amortizations - if not extreme - would not significantly affect the final valuation of Whole Foods share price, the Capex on the other hand, can cause a greater change. By simulating an upward or downward movement of the capital expenditures, the share price could increase or decrease by up to $6.

Capex Simulations					
CAPEX up by 0.2%	$	29,92	CAPEX down by 0.2%	$	33,76
CAPEX up by 0.4%	$	27,99	CAPEX down by 0.4%	$	35,68
CAPEX up by 0.6%	$	26,07	CAPEX down by 0.6%	$	37,61

Figure 15 – Capex Simulations

Ultimately, there are many cases where different variables may deviate from the pre assumed values, which ultimately can lead to a change of the valued share price. As such, on this chapter I highlighted the cases which I assumed as being more probable and that, in case of occurrence, would lead to a high fluctuation. Nevertheless, there may be some additional cases such as a change of the tax rate or a higher exposure abroad that could also lead to different valuations.

7. Relative Valuation

7.1 Peer Group

As previously stated, the choice of the peer group is particularly important when applying a Multiple Valuation since we take into consideration ratios from comparable firms rather than our own. If the model works under the assumption that similar companies should trade at similar values, the chosen group should reflect the same characteristics that impact the value of that same multiple.

In order to select my Peer Group, I began by picking American companies operating on the Food & Retail Distribution Sector. From there, I began by excluding the ones that had a higher international exposure, taking into consideration that most of Whole Foods revenue comes from the U.S, and as soon as I had a considerable group I began analyzing their fundamentals. I focused mainly on firms that had comparable sized revenues, similar profitability margins, estimated revenue growth and Return on Invested Capital (ROIC). I also took into consideration some external factors, such as the specific sector in which they operate, and their capital structure for multiples that required such in depth analysis.

7.2 Multiple Valuation

After having an adequate peer group selected, and as mentioned on the literature review, I decided to focus my attention on forward looking multiples. Not only do they tend to outperform trailing multiples but they also reflect the company's future performance rather than the past. Subsequently, I decided to use the following multiples; EV/EBITDA and EV/EBIT - since they consider the entire value of the firm and are not subject to differences in capital structure - and Price to Earnings Ratio – given the fact that they reflect the portion of future earnings that an investor may earn in the future.

As we can see below, I used the same group for multiples that are based on Enterprise Value but I made some modifications for the Price Earnings Ratio in order to properly reflect the capital structure. I also computed the median and the average of each ratio to get a sense of the data's distribution but I used the median for valuation purposes so that I can eliminate the effect of outliers.

Company	EV / EBITDA	Company	EV / EBIT	Company	PER
US Foods Holding Corp	9,71	US Foods Holding Corp	15,32	United Natural Foods	18,06
United Natural Foods	7,89	United Natural Foods	18,06	Sprouts Farm. Market	24,13
Sprouts Farm. Market	11,21	Sprouts Farm. Market	24,13	Supervalu	7,24
Supervalu	4,60	Supervalu	7,24	Casey's General Stores	21,73
Average	**8,36**		**16,19**		**17,79**
Median	**8,80**		**16,69**		**19,90**

Figure 16 – Multiples Valuation

After obtaining the appropriate values for each multiple, I applied them to Whole Foods respective fundamentals and obtained a Share Price range between $31.32 and $43.37. Despite the upper range – that concerns the EV/EBIT multiple - being slightly above the initial target price, the remaining multiples are very close to it with values of $34.02 for EV/EBITDA and of $31.32 for Price to Earnings.

8. Investment Bank Comparison

Ultimately, I would like to compare the results that I obtained throughout this thesis with the ones obtained on a report developed by a leading Investment Bank. I selected a Research Note produced by Morgan Stanley & Co on July 27, 2016 due to its thorough attention to detail, due to the clarity of the gathered information and finally due to the solid reputation that the Bank holds within the industry. Morgan Stanley recommends a Target Price of 32$ a Share with a Bull market view of 40$/share and a Bear of 20$/share. The recommendation values under the base case are very similar, however, there are some discrepancies in both valuations.

On my valuation, I forecasted Whole Foods Fundamentals for the next five years while the research note predicted essentially until the Year of 2030. In my line of reasoning I wanted to make sure the effect of the new 365 stores and the current profitability margins were stabilized before assuming the company had in fact reached its steady state. Morgan Stanley on the other hand, predicts similar store growth and sales on the short term as I did, but increases them for the coming years before reaching its steady state. For the reasons I mentioned before regarding increased players in the market and steadiness of sales, I followed a more conservative view.

Regarding the Equity Beta, Morgan Stanley assumes that the value is 1.1 while I assume a value of 0.88. The report doesn't go into thorough detail to support its assumptions, however - and as previously mentioned - I computed my calculations with market data I assumed was appropriate and cross checked with the firms I assumed as comparable. Since their Risk Free Rate is also above the one I use - 2.5% compared to 2.14% - their Cost of Equity becomes higher. Additionally, they also use a cost of debt which is 1% higher than the one I use which ultimately results on a WACC of 8.3% compared to the 6.5% used throughout this dissertation. Keeping in mind that Whole Foods has stated that their true weighted cost of capital is around 6%, I believe it supports my assumptions.

Despite the considerable differences on the cost of capital, Morgan Stanley uses a higher growth rate to perpetuity than the one I use - 2.5% vs 2.4%. I decided to use the growth rate that is given by the World Data Bank as I assumed to be more appropriate and then confirmed with the one that was given by Reuters (which was slightly lower). This fact will eventually mitigate the effects coming from the previous differences due to its high impact on the Terminal Value.

9. Conclusion

As previously mentioned, the aim of this dissertation was to determine the fair value of Whole Foods Market. To do so, the methods that were considered appropriate for such valuation were a Discounted Cash Flow methodology and a Relative Valuation based on multiples. Subsequently, these valuations led me to determine a target price of **$31.84** which represents an upside potential of 11.4%. Despite the fact that there were some differences between this valuation and the one obtained on the report by Morgan Stanley, they were mainly due to valuation inputs rather than fair value itself. Therefore, for all of the results obtained throughout this dissertation, I recommend investors to buy the stock of Whole Foods Market.

10. References

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11. Appendix

I. Peer Group Report

US Foods Holding Corp*:* One of USA's leading foodservice distributors. It has $23 billion in annual revenue and it was the 10th largest private company in America until its recent IPO. Like Whole Foods, the company focuses on premium and fresh products

United Natural Foods Inc*.:* Provides natural organic and fresh foods, specialty foods, and similar products in the United States and Canada. The company retails mainly to grocery and natural food stores and is a primary distributor to Whole Foods Market

Sprouts Farmers Market Inc.: Is an American health retailer that offers natural and organic foods at an affordable price in the United States. The company sells a variety of products including fresh products, vitamins and supplements, packaged groceries or meat and seafood.

Supervalu Inc.**:** Is a grocery industry leader, serving customers through a network of over 2000 owned, franchised and affiliated stores across the United States. With more than $19bn in revenue, they are the fifth-largest food retailing company in the country and they focus mainly on supply and wholesale distribution.

Casey's General Stores Inc.: is a chain of convenience stores in the Midwestern United States. The company has more than $7bn in revenue and counts with more than 14,500 employees.

II. Income Statement Forecast

INCOME STATEMENT (In millions)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
	2011A	2012A	2013A	2014A	2015A	2016A	2017E	2018E	2019E	2020E	2021E
Sales	**10107,8**	**11698,8**	**12917,0**	**14194,0**	**15388,0**	**15724,00**	**16 352,96**	**17 039,78**	**17 636,18**	**18 218,17**	**18 764,72**
Sales Growth	10,9%	15,7%	10,4%	9,9%	8,4%	2,2%	4,0%	4,2%	3,5%	3,3%	3,0%
COGS	**6571,2**	**7543,1**	**8288,0**	**9150,0**	**9973,0**	**10 313,00**	**10 711,19**	**11 161,06**	**11 551,70**	**11 932,90**	**12 290,89**
Cogs as a % of Sales	65,0%	64,5%	64,2%	64,5%	64,8%	65,6%	65,5%	65,5%	65,5%	65,5%	65,5%
Gross Profit	**3536,5**	**4155,8**	**4629,0**	**5044,0**	**5415,0**	**5 411,00**	**5 641,77**	**5 878,73**	**6 084,48**	**6 285,27**	**6 473,83**
GP as a % of Sales	35,0%	35,5%	35,8%	35,5%	35,2%	34,4%	34,5%	34,5%	34,5%	34,5%	34,5%
SGA	**2939,7**	**3355,5**	**3682,0**	**4032,0**	**4471,0**	**4 477,00**	**4 660,59**	**4 856,34**	**5 026,31**	**5 192,18**	**5 347,94**
SGA as a % of Sales	29,1%	28,7%	28,5%	28,4%	29,1%	28,5%	28,5%	28,5%	28,5%	28,5%	28,5%
Pre-opening expenses	**40,9**	**46,9**	**52,0**	**67,0**	**67,0**	**64,0**	**73,0**	**64,9**	**60,8**	**60,8**	**60,8**
Relocation / Store Closure	8	10	12	11	16	13	15	13	13	13	13
Operating Income (EBIT)	**548,0**	**743,4**	**883,0**	**934,0**	**861,0**	**857,0**	**893,1**	**944,1**	**984,8**	**1019,7**	**1052,5**
	5,4%	6,4%	6,8%	6,6%	5,6%	5,5%	5,5%	5,5%	5,6%	5,6%	5,6%
Investment / Income (non operating)	**4,1**	**8,5**	**11,0**	**12,0**	**17,0**	**-30,0**	11	11	11	11	11
Net Income before taxes	**552,1**	**761,9**	**894,0**	**946,0**	**878,0**	**827,0**	904,1	955,1	995,8	1030,7	1063,5
Provision for income taxes	**209,1**	**286,0**	**343,0**	**367,0**	**342,0**	**320,0**	348,1	367,7	383,4	396,8	409,4
Taxes as a % of Adj. EBIT	38%	38%	38%	39%	39%	39%	39%	39%	39%	39%	39%
Net Income	**343,0**	**475,9**	**551,0**	**579,0**	**536,0**	**507,0**	556,0	587,4	612,4	633,9	654,0
	3,4%	4,1%	4,3%	4,1%	3,5%	3,2%	3,4%	3,4%	3,5%	3,5%	3,5%

III. Balance Sheet - Assets

Balance Sheet (In millions)

	2011A	2012A	2013A	2014A	2015A	2016A	2017E	2018E	2019E	2020E	2021E
ASSETS											
Current Assets:											
Cash and Cash equivalents	212	89	290	190	237	351	280	280	260	260	260
Short term Investments	442	1131	733	553	155	379	360	400	450	470	470
Restricted Cash	92	103	111	109	127	122	134	142	149	157	164
	4,6%	4,7%	4,6%	3,7%	4,0%	3,5%	3,8%	3,8%	3,8%	3,8%	3,8%
Accounts receivable	175	197	188	198	218	242	245	256	265	273	281
	1,7%	1,7%	1,5%	1,4%	1,4%	1,5%	1,5%	1,5%	1,5%	1,5%	1,5%
Merchandise inventories	337	374	414	441	500	517	536	558	578	597	615
	5,1%	5,0%	5,0%	4,8%	5,0%	5,0%	5,0%	5,0%	5,0%	5,0%	5,0%
Prepaid expenses	74	77	93	97	108	167	118	123	127	131	135
	1,1%	1,0%	1,1%	1,1%	1,1%	1,6%	1,1%	1,1%	1,1%	1,1%	1,1%
Deferred income taxes	121	132	151	168	199	197	181	191	199	206	213
	21,3%	17,3%	16,9%	17,8%	22,7%	23,8%	20,0%	20,0%	20,0%	20,0%	20,0%
Total Current Assets	1453	2103	1980	1756	1544	1975	1854	1949	2028	2094	2138
	14%	18%	15%	12%	10%	13%	11%	11%	11%	11%	11%
Property and equipment	1997	2193	2428	2923	3163	3442	3535,2	3729,6	3931,2	4125,6	4320
(PPE / Nr of stores)	6,42	6,55	6,71	7,33	7,34	7,52	7,20	7,20	7,20	7,20	7,20
Long term investments	53	221	302	120	63	0	0	0	0	0	0
Goodwill	663	663	679	708	710	710	710	710	710	710	710
Intangible Assets	67	62	65	81	79	74	70	70	70	70	70
Deferred income taxes	50	43	72	132	144	100	118	121	126	132	137
		1,5%	2,3%	3,7%	3,6%	2,4%	2,7%	2,7%	2,7%	2,7%	2,7%
Other assets	9	9	12	24	38	40	40	40	40	40	40
Lont Term Assets	2839	3191	3558	3988	4197	4366	4473,1	4670,4	4877,3	5077,3	5277,1
	28%	27%	28%	28%	27%	28%	27%	27%	28%	28%	28%
Total Assets	4292	5294	5538	5744	5741	6341	6327	6620	6905	7171	7415

IV. Balance Sheet – Liabilities and Shareholders' Equity

Liabilities and Shareholder's Equity											
Current Liabilities											
Current Installments of capital lease	0	1	1	2	3	3	3	3	3	3	3
Accounts Payable	237	247	247	276	295	307	319	333	344	356	366
	3,6%	3,3%	3,0%	3,0%	3,0%	3,0%	3%	3%	3%	3%	3%
Accrued payroll bonus and other benefits	282	307	367	379	436	407	463	482	499	338	348
	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%	3%
Dividends payable	18	26	37	43	45	43	44	44	44	44	44
Other current liabilities	343	396	436	557	473	581	568	592	612	632	651
	5%	5%	5%	6%	5%	5%	5%	5%	5%	5%	5%
Total current liabilities	880	977	1088	1257	1252	1341	1397	1453	1503	1373	1413
Long term debt and capital leases less current instalments	17	23	26	60	62	1048	1046	1094	1141	1185	1226
Defered lease liabilities	354	441	500	548	587	640	639	668	697	724	748
Other long term liabilities	50	51	46	66	71	88	88	92	96	100	103
Total long term liabilities	421	515	572	674	720	1776	1772	1854	1934	2009	2077
Total Liabilities	1301	1492	1660	1931	1972	3117	3169	3307	3437	3381	3489
Shareholder's equity	2121	2592	2765	2863	2904	2933	2926	3062	3194	3317	3430
Common stock in treasury	0	-28	-153	-711	-1124	-2026	-2037	-2080	-2112	-2154	-2194
Accumulated other comprehensive loss	0	5	1	-7	-28	-32	-37	-36	-18	-22	-22
Retained earnings	870	1233	1265	1668	2017	2349	2306	2366	2405	2649	2712
Total Shareholder's equity	2991	3802	3878	3813	3769	3224	3158	3312	3469	3790	3926
Total Liabilities and Shareholder's Equity	4292	5294	5538	5744	5741	6341	6327	6620	6905	7171	7415

V. Cash Flow

	2011A	2012A	2013A	2014A	2015A	2016A
Operating Income (EBIT)	548	743	883	934	861	857
EBIT(1-t)	334	453	539	570	525	523
D&A	287	312	339	377	439	498
Change in NWC	28	15	45	123	-116	-4
Capex	365	456	537	710	851	716
Deferred Tax Assets	20	-4	-48	-77	-43	46
Non-Cash Items	77	85	113	150	156	98
Free Cash Flow Firm	**381**	**405**	**451**	**433**	**110**	**445**

	2017E	2018E	2019E	2020E	2021E
Operating Income (EBIT)	893	944	985	1020	1052
EBIT(1-t)	545	576	601	622	642
D&A	461	598	624	650	675
Change in NWC	70	12	9	-169	2
Capex	736	716	705	729	751
Deferred Tax Assets	-2	-13	-13	-13	-12
Non-Cash Items	131	136	141	146	150
Free Cash Flow Firm	**469**	**593**	**656**	**507**	**707**

VI. Store Locations

Location	Number of stores	Location	Number of stores	Location	Number of stores
Alabama	2	Kansas	4	New York	16
Arizona	11	Kentucky	2	North Carolina	12
Arkansas	1	Louisiana	5	Ohio	9
California	80	Maine	1	Oklahoma	3
Canada	10	Maryland	9	Oregon	8
Colorado	20	Massachusetts	30	Pennsylvania	10
Connecticut	9	Michigan	6	Rhode Island	3
District of Columbia	4	Minnesota	6	South Carolina	4
Florida	24	Mississippi	1	Tennessee	6
Georgia	10	Missouri	2	Texas	28
Hawaii	3	Nebraska	2	United Kingdom	9
Idaho	1	Nevada	5	Utah	5
Illinois	25	New Hampshire	1	Virginia	11
Indiana	4	New Jersey	14	Washington	8
Iowa	1	New Mexico	4	Wisconsin	2

VII. Number of Stores

Nº of Stores / Country	2011A	2012A	2013A	2014A	2015A	2016A	**2017E**	**2018E**	**2019E**	**2020E**	**2021E**
Stores at beginning	299	311	335	362	399	431	458	491	518	546	573
Stores Opened	18	25	26	34	38	28	36	32	30	30	30
Acquired Stores			6	4							
Relocated Stores	-6	-1	-5	-1	-6	-1	-3	-5	-2	-3	-3
Stores at end of fiscal year	311	335	362	399	431	458	491	518	546	573	600
Change in stores		24	27	37	32	27	33	27	28	27	27

VIII. Capex Evolution

Capex	2011A	2012A	2013A	2014A	2015A	2016A
Development cost of new locations	203,00	262,00	339,00	447,00	516,00	395,00
	56%	57%	63%	63%	61%	55%
Other property & equip. expenditures	162,00	194,00	198,00	263,00	335,00	321,00
	44%	43%	37%	37%	39%	45%
Capex	365,00	456,00	537,00	710,00	851,00	716,00
	3,6%	3,9%	4,2%	5,0%	5,5%	4,6%

Capex	2017E	2018E	2019E	2020E	2021E
Development cost of new locations	441,53	429,40	423,27	437,24	450,35
	60%	60%	60%	60%	60%
Other property & equip. expenditures	294,35	286,27	282,18	291,49	300,24
	40%	40%	40%	40%	40%
Capex	735,88	715,67	705,45	728,73	750,59
	4,5%	**4,2%**	**4,0%**	**4,0%**	**4,0%**

IX. DCF Valuation

WACC	6,69%	**Long Term Growth**	2,4%
Cost of Equity	6,88%		

DCF - FCFF

							1	2	3	4	5
	2011A	**2012A**	**2013A**	**2014A**	**2015A**	**2016A**	**2017E**	**2018E**	**2019E**	**2020E**	**2021E**
FCFF	381,46	405,37	450,63	432,74	110,21	444,77	**469,16**	**592,82**	**655,97**	**507,14**	**707,40**
DCF							**439,72**	**520,76**	**540,09**	**391,36**	**511,64**

Sum of DCFS	**2 403,58**
Disc. Term. FCFF	**523,92**
Terminal Value	**8 825,04**
Enterprise Value	**11 228,61**
Net Debt	**1 078,19**
	10 150 422
Equity Value	561,78
Number of shares	318 814 485,00
P/Share	**$ 31,84**

Potential:	**11,4%**

X. Group Peer Analysis

Company	Growth	ROIC	Profitability Margins	Revenues	Capital Structure	External Factors (Cycle / Business Line / Others)
US Foods Holding Corp	5	5	3	5	1	4
United Natural Foods	5	4	3	5	4	5
Kroger Co	5	5	4	1	1	4
Sprouts Farmers Market Inc	2	4	5	3	5	5
Supervalu Inc	4	4	3	5	4	4
Chefs Warehouse Inc	5	3	5	2	2	3
Sysco Corp	5	3	4	3	2	3
Performance Food Group Co	5	5	2	5	2	2
Caseys General Stores	2	5	4	4	3	3
Wal Mart Stores Inc	3	5	5	1	4	2
SpartanNash Co	5	4	2	4	4	3
Ingles Markets Inc	4	1	5	3	1	3
Smart & Final Stores Inc	3	4	3	3	3	3
Weis Markets Inc	-	-	4	2	5	3
Core-Mark Holding Company Inc	5	1	1	5	5	4
GNC Holdings Inc	1	4	3	2	1	4
Village Super Market	-	-	3	2	5	2
Diplomat Pharmacy Inc	1	2	2	3	5	3
Glacier Water Services	1	1	3	1	4	2

XI. Multiples Valuation

	EV / EBITDA	EV / EBIT	PER
Enterprise Value	11 923 293 395,92	14 906 326 858,80	11 062 402 506,09
Net Debt	1 078 190 582,40	1 078 190 582,40	1 078 190 582,40
Nº of Shares	318 814 485,00	318 814 485,00	318 814 485,00
Price Per Share	**$ 34,02**	**$ 43,37**	**$ 31,32**

XII. Morgan's Stanley Equity Research Note – Valuation

($ millions except per-share data) Discounted Cash Flow Analysis	2014	2015	2016E	2017E	2018E	2019E	2020E	2021E...	...2028E	2029E	2030E
Store Count	399	431	458	487	518	551	584	616	847	847	847
YoY Growth	*10.2%*	*8.0%*	*6.3%*	*6.3%*	*6.4%*	*6.4%*	*6.0%*	*5.5%*	*4.0%*	*0.0%*	*0.0%*
Sales per Average Store	35.6	35.7	34.3	33.3	33.1	32.9	33.6	34.2	39.3	40.1	40.9
YoY Growth	*4.3%*	*2.5%*	*(2.3%)*	*(0.1%)*	*2.0%*	*2.0%*	*2.0%*	*2.0%*	*2.0%*	*2.0%*	*2.0%*
Sales	14,194.0	15,388.0	15,709.5	16,216.4	17,132.2	18,129.5	19,601.6	21,093.2	33,286.3	33,952.0	34,631.0
YoY Growth	*9.9%*	*8.4%*	*2.1%*	*3.2%*	*5.6%*	*5.8%*	*8.1%*	*7.6%*	*6.1%*	*2.0%*	*2.0%*
COGS	9,150.0	9,973.0	10,328.3	10,710.2	11,366.4	12,073.4	13,073.4	14,089.3	22,233.7	22,678.4	23,132.0
% of Sales	*64.5%*	*64.8%*	*65.7%*	*66.0%*	*66.3%*	*66.6%*	*66.7%*	*66.8%*	*66.8%*	*66.8%*	*66.8%*
SG&A	4,110.0	4,474.0	4,551.8	4,682.4	4,929.7	5,198.6	5,620.7	6,048.4	9,544.7	9,735.6	9,930.3
% of Sales	*29.0%*	*29.1%*	*29.0%*	*28.9%*	*28.8%*	*28.7%*	*28.7%*	*28.7%*	*28.7%*	*28.7%*	*28.7%*
EBIT	**934.0**	**941.0**	**829.4**	**823.8**	**836.0**	**857.5**	**907.5**	**955.5**	**1,507.8**	**1,538.0**	**1,568.7**
YoY Growth	*5.8%*	*0.7%*	*(11.9%)*	*(0.7%)*	*1.5%*	*2.6%*	*5.8%*	*5.3%*	*6.1%*	*2.0%*	*2.0%*
Less: Tax Effect	**(362.3)**	**(363.4)**	**(319.3)**	**(317.2)**	**(321.9)**	**(330.1)**	**(349.4)**	**(367.9)**	**(580.5)**	**(592.1)**	**(604.0)**
Tax Rate	*38.8%*	*38.6%*	*38.5%*	*38.5%*	*38.5%*	*38.5%*	*38.5%*	*38.5%*	*38.5%*	*38.5%*	*38.5%*
Plus: Depreciation & Amortization	**377.0**	**439.0**	**475.0**	**521.7**	**565.1**	**608.9**	**645.4**	**680.9**	**935.4**	**935.4**	**682.9**
YoY Growth	*11.2%*	*16.4%*	*8.2%*	*9.8%*	*8.3%*	*7.7%*	*6.0%*	*5.5%*	*4.0%*	*0.0%*	*(27.0%)*
Less: Increases in Net Working Capital	**60.0**	**41.0**	**38.1**	**16.0**	**29.5**	**32.3**	**34.9**	**37.6**	**59.3**	**60.5**	**61.7**
YoY Growth	*5.3%*	*(31.7%)*	*(7.2%)*	*(57.9%)*	*84.6%*	*9.4%*	*8.1%*	*7.6%*	*6.1%*	*2.0%*	*2.0%*
Less: Capital Expenditures	**(710.0)**	**(851.0)**	**(785.5)**	**(810.8)**	**(856.6)**	**(906.5)**	**(882.1)**	**(738.3)**	**(1,165.0)**	**(679.0)**	**(692.6)**
CapEx as % of Sales	*(5.0%)*	*(5.5%)*	*(5.0%)*	*(5.0%)*	*(5.0%)*	*(5.0%)*	*(4.5%)*	*(3.5%)*	*(3.5%)*	*(2.0%)*	*(2.0%)*
Free Cash Flow	**298.7**	**206.6**	**237.7**	**233.5**	**252.2**	**262.1**	**356.4**	**567.9**	**757.1**	**1,262.8**	**1,016.8**
Growth Rate	*(26.0%)*	*(30.8%)*	*15.1%*	*(1.8%)*	*8.0%*	*3.9%*	*36.0%*	*59.3%*	*3.5%*	*66.8%*	*(19.5%)*
PV of FCF to Firm			*228.5*	*207.2*	*206.6*	*198.3*	*249.0*	*366.4*	*279.7*	*430.8*	*320.3*
Total PV of FCF to Firm											*4,435.7*
Growing Perpetuity											*17,991.1*
PV of Growing Perpetuity											*5,667.2*

Valuation	
WACC	8.3%
FCF Growth Into Perpetuity	2.5%
Present Value of Future Cash Flows	4,436
PV of Perpetuity Cash Flow	5,667
Total EV	10,103
Less: Net Debt	(478)
Equity Value	9,625
Share Count	327
Per Share Fair Value (T+12 Mos.)	**$32**

Cost of Capital	
Equity Beta	1.1
Risk Free Rate	2.5%
Market Risk Premium	6.0%
Tax Rate	38.5%
Ke	8.9%
Kd	5.2%
We	90%
Wd	10%
WACC	8.3%