CATÓLICA LISBON
SCHOOL OF BUSINESS & ECONOMICS

ADIDAS GROUP Equity Valuation Thesis

By

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29th November 2015

Dissertation submitted in partial fulfillment of requirements for the degree Master in Management with Major in Corporate Finance, at the Universidade Católica Portuguesa, date 2015.

Executive Summary – Adidas Group

The Adidas Group has the brands Adidas, TaylorMade and Reebok, and it designs, produces and sells a wide variety of sporting goods, for casual clothing and for many different sports.

Adidas is in the top 2 of the biggest sporting goods company in the world. In Europe has the biggest slice of the market in the industry, followed by Nike its biggest competitor.

Despite the whole world panorama, the crisis that we still live in, they have been increasing their sales and growing considerably over the last few years.

The changing in the tendencies, the new era of sporting clothes, not only for sport and the biggest tendency of the gyms and some sports, have been the major contributor to the expansion of the firm. Also the good job of the board and the chosen markets have shown to be fundamental in the growing process.

It is expected to assist to a continuing process of growth also because Adidas intends to enter new markets in Asian countries where the opportunities are enormous and where the market is growing faster.

Recommendation:

Neutral

Current Price (29/11/15):

89,47€

Price Target:

94€

Company information

Equity Value:

5.674 million euros

Shares Outstanding:

200 millions

J.P. Morgan Valuation (5/11/2015):

Price Target:

85€

Share Price Performance

Source: Bloomberg

Equity Valuation of Adidas Group

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Abstract

This dissertation has the purpose of valuating Adidas Group, a German company, listed on the DAX30, which has three main brands, Adidas, Reebok and TaylorMade.
To reach a value for the share of the company, taking in consideration the future of the group, it has been used different methods. The Discounted Cash Flow (DCF), considered by many analysts the most accurate method is the process of valuating Adidas explained more detailed in this Thesis, which allowed us to get to a value of 18.799,44M€ for the Equity which means a value of 94€ per share. The relative valuation method, considered as a good complement to the DCF was used as it was the Dividend Discount Model (DDM), based on the dividends that will be distributed to the shareholders in the next years. Bearing this in mind many forecasts and assumptions about several items of the financial statements have been made in order to get to the fair value of the share. To reach an accurate range of values for the Adidas share price it has been done a sensitivity analysis due to some factors used related to the market, to the industry and to the company that can vary from the ones assumed and computed because of the uncertainty. Ultimately, a comparison with the target price of the report made by J.P. Morgan, published in November 2015, was done, where they reached a value of 85€ per share.

Abstrato

Esta tese tem como objectivo fazer uma avaliação do Grupo Adidas, uma empresa Alemã, que está listada no Índice Alemão DAX30. Esta empresa tem três marcas, Adidas, Reebok e TaylorMade.
De forma a chegar a um valor por ação da empresa, foram usados diferentes métodos. O primeiro método foi o Discounted Cash Flow (DCF), considerado por muitos analistas como o modelo mais exato para fazer uma avaliação pelo qual foi obtido um valor de 18.799,44M€ para o Capital Próprio e de 94€ por ação. Seguidamente também foram usados os métodos dos múltiplos, considerado como um bom complemente ao método do DCF, e o método do Dividend Discount Model (DDM), que atualiza os dividendos futuros a serem distribuídos aos acionistas da empresa nos próximos anos. Assim, foram feitas previsões e foram assumidos certos comportamentos para as rubricas das diversas demonstrações financeiras. Foi também feita uma análise de mercado para dois fatores que estão ligados à incerteza da indústria, do mercado e da empresa, o Weighted Average Cost of Capital (WACC) e o crescimento de longo prazo, de forma a chegar a um intervalo de valores para a ação. Por fim, foi feita uma comparação entre o preço avaliado pela J.P. Morgan num relatório publicado em Novembro de 2015, onde obtiveram um valor de 85€ por ação.

Acknowledgments

Deciding to do the Master in Management with major in Corporate Finance in Católica Lisbon School was definitely the right path to follow after doing my bachelor in Economics. I needed some management theory that was missing from the bachelor, but I wanted something more than just management concepts, that is why I chose the major in Corporate Finance. Thus, this thesis was the correct way of ending this Master and a way of increasing my knowledge in the financial area.

To write this thesis all courses I took during the Master year were important but one in particular, Firm Valuation. It was this course that allowed me to comprehend all the equity valuation concepts in order to be able to do a valuation of a company, in this case.

The Seminar I attended with Professor José Carlos Tudela Martins was of a major importance also, because it was in those classes that I was able to expose my doubts and to clear them, and also, not less important, I could listen to my colleagues' doubts and to Professor's explanation. Thus, I see myself in need of expressing my real appreciation to the Professor and also to my Seminar colleagues.

I also want to use this section to thank to the Investor Relations of Adidas AG, although they could not answer all my questions, they represented an important part in this period I have been writing my Thesis.

Last but no least, I want to mention the importance of my family, in particular to my parents and my sister, my colleagues and all my friends that made this process easier, giving me words of trust and giving all the support I needed to perform cohesive work.

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1. Introduction

In order to know how the performance of a company is we can do a valuation. This performance, whether it is good or bad, will be translated into a value for the equity of a company and afterwards a value for the share. So, this is the aim of this Thesis, to know the value today of Adidas Group taking into account the historical and forecasted performance.

Adidas is a mature firm and it is in the market doing business for a long time now. So, this is not a company in a high growth stage, but a stable one. Thus, for the valuation we only forecasted five years and then used a terminal value from then on.

Regarding the subject, equity valuation is a really discussed theme among analysts, authors, investors and other people in the financial, and not only, area. This way, the literature review, was the base for the work, where we analyzed many concepts that we used in the valuation and that are fundamental. This literature review was based in some papers of the financial area, written by the ones that know the most about the equity valuation.

Then, a valuation was performed using three different methods, the first used was the Free Cash Flow to the Firm (FCFF) to arrive to the value of equity, the second used the dividends distributed to shareholders and the third used companies from the same industry and quite similar to Adidas. We also performed a sensitivity analysis using the variables that can most probably change with time and with the assumptions made.

In order to compare our valuation with another for the same company, we used the J.P. Morgan report about Adidas and their target price. In this comparison, we tried to conclude where did the differences in the price target come from, analyzing their assumptions, comparing with ours, trying to explain why we think ours are more reasonable.

2. Literature Review

2.1 Valuation

> "Today valuation is the financial analytical skill that general managers want to learn and master more than any other." (Luehman, 1997)

That is why valuation is a hot topic nowadays, very discussed through investors and finance people. This is due to the fact of the existence of more than one method to do the so-called valuation. These discussions are quite often about the ideal process to use in each case although it is of general consensus that if using the same assumptions to develop the model, it will have to produce equal results regardless the model used.

According to Chan, Lakonishok & Sougiannis (2001), the result of the valuation of a firm is the value that net assets are worth and will be as more accurate as the accuracy of the forecasts it depends of, as defended by Goedhart, Koller & Wessels (2005).

The choice between the various models that exist should rely on the "most robust to data imperfections" (Young, Sullivan, Nokhasteh & Holt, 1999)

To Young et al. (1999), there is not only one model, which is correct and though more reliable every time. The imperfections of the data should be the drivers to choose the correct approach to use.

2.1.1 Valuation methods

2.1.1.1 Discounted Cash Flow (DCF)

According to Luehman (1997), this valuation method was considered to be the best way of doing valuations in the decade of 70. Following this idea and this type of valuation, to get to the value we have to discount the future cash flows to the present by using the WACC (Weighted Average Cost of Capital that will be explained in 2.3 section).

The Discounted Cash Flow valuation method is used as one of the ways of valuing a company. It is probably the most used method when performing a valuation and it uses the future free cash-flows (these cash-flows are estimated, according to different factors, like

growth), discounts them based on the cost of capital of the firm and so, reaches an estimate present value.

So, simplifying, this method is intended to generate a value of the company for today taking in consideration the future projections of incoming revenues.

This is the way it is calculated:

$$\text{DCF} = \frac{CF1}{(1+WACC)} + \frac{CF2}{(1+WACC)^2} + \cdots + \frac{CFn}{(1+WACC)^n}$$

The DCF model actually is a very important way of valuing a company once it requires the analyst to take in consideration all the factors, which can affect the firm, like the growth of the sales, the margins, the discount rate, the cost of capital, among others.

Although the DCF method has many advantages like using free cash flows which are a trustworthy measure, it also have some disadvantages such us the fact of relying on assumptions made that can mislead the whole valuation when not being correct. It also uses WACC to discount to the present the future cash flows, what immediately creates a considerable limitation, the fact that, doing that, we are assuming that the company will keep the same structure of the capital for the rest of the time.

Summing up, the whole idea of this method is to get to the amount that the firm is worth today measuring the future cash flows and discount them at the correct rate.

In this valuation of Adidas Group this is a model we will use, once we can estimate future cash flows of the firm with solid assumptions based on previous numbers from the past years. Thus, this method will be the principal valuation method.

2.1.1.2 Adjusted Present Value (APV)

"Today's better alternative for valuing a business operation is to apply the basic DCF relationship to each of a business's various kinds of cash flow and then add up the present values. This approach is most often called *adjusted present value,* or APV." (Luehman, 1997)

According to Luehman (1997), this method in analysis is aimed to value assets, which will originate cash flows in the upcoming periods. Managers usually like this type of valuation because it reveals, "not only how much an asset is worth but also where the value comes from." (Luehman, 1997)

It is calculated by:

$$APV = PV_{\text{of cash flows from assets}} + PV_{\text{of side effects associated with the financing (such as interest tax shield)}}$$

APV method splits the financing and investment decisions by separating the usual discounted cash flow method in two fragments.

This "method is helpful not only to analysts in indicating the impact different financing alternatives may have on a company's value, but also to managers of businesses in determining the incremental impact of different managerial decisions, such as better working capital management or better asset management on value" (Zyla, 2002).

This way of valuing is often compared with WACC, but in its favor, this method always works while WACC sometimes does not.

To sum up, when the structure of the capital is not constant throughout the periods, this method "is a more flexible way to estimate value" (Zyla, 2002). According to Luehman (1997), APV method is extremely transparent as you can see all components of value in the analysis, "none are buried." Thus, as we are assuming that Adidas capital structure will remain constant over time also because this is not a highly leverage company, so they do not have the need to reduce the debt level over time, neither have operating losses carrying through the years. Having this in consideration APV will not be a model used to value Adidas Group.

2.1.1.3 Option Pricing Model

"Recognizing real options can help decision makers assess the profitability of new projects and understand whether and when to proceed with the later phases of projects that have already been initiated, particularly when they are close." (Copeland & Keenan, 1998)

The majority of authors in the financial area consider this model as a really important complement to the Discounted Cash Flow method explained above, but not a total substitute as some think. The main advantage of this type of valuation is the flexibility it allows.

When compared to DCF model, option pricing model, according to Trigeorgis (1993), allows us to adjust decisions when there are developments or changes in the market that were not previously expected. This is not so rare as the market is characterized by lots of uncertainty factors.

The negative side of this theory lays on the fact of being not so easy to find or being not so specific when found, some inputs necessary to calculate the valuation.
Although this theory is considered to be a good valuation method, still there are still some issues that made us not use the option pricing theory in this valuation of Adidas and which make it a methodology not so commonly appropriate, like for example when there are "... active competitors, uncertainties that do not fit near probability distributions, and the sheer number of relevant variables" (Luehrman, 1997).

2.1.1.4 Dividend Discount Model (DDM)

According to Damodaran (2006) "the oldest discounted cash flow models in practice tend to be dividend discount models".
It is known that investors have expectations not only for the end price but also for dividends during the period they invest in the firm. This model, as the DCF method, is based on expected cash flows, in this case, future dividends.
So, according to the Dividend Discount Model, the value of a firm is the present value of all its future dividends.
The way it is calculated is:

$$\text{Value per share of stock} = \sum_{t=1}^{t=\infty} \frac{E(DPSt)}{(1+ke)^t}$$

$E(DPS_t)$ = Expected dividends per share in period t
K_e = Cost of equity (explained below in the section 2.4)

Again as stated in the previous model, DCF, there is the need of making several assumptions as we are dealing with unknown future cash flows.
Comparing with the previous model, the advantage of the Dividend Discounted Model is the fact that it is needed less assumptions to find the forecasted value of the dividends than the forecasted value of the free cash flows to the firm.
As always it has some pros and cons. According to Damodaran (2006), the loyalty that this model has to dividends creates a serious issue. Some companies choose not to distribute the cash they have available to their stockholders. Thus, the Free Cash Flow to the Equity (FCFE) in these companies becomes larger than dividends and are created big cash balances. Using

this model, when there are big cash balances, the estimation for these companies is under the proper value. They also state that there is the other side, the companies which pay greater amounts in dividends when compared to the values they have in cash flows. When this happens they feel the urge to issue new equity or new debt, to cover the difference. In these cases, this method may create estimations for the value of the company too positive due to the fact of being assumed that companies are able to remain drawing on funding from the exterior in order to keep balancing the dividend insufficiencies.

This is a model that can be used more when it is not easy to predict future cash flows or it is even impossible.

In a nutshell, "even the conventional wisdom that the dividend discount model cannot be used to value a stock that pays low or no dividends is wrong. If the dividend payout ratio is adjusted to reflect changes in the expected growth rate, a reasonable value can be obtained even for non-dividend paying firms. Thus, a high-growth firm, paying no dividends currently, can still be valued based upon dividends that it is expected to pay out when the growth rate declines" (Damodaran, 2006).

In the valuation of the Adidas Group we will be using this model as they have a politic of distributing dividends to shareholders every year.

2.1.1.5 Economic Value Added (EVA)

EVA as it is commonly abbreviated is a way of calculating the value creation to the shareholders. Although this is the meaning of this performance measure, it is different from other more conventional financial performance measures, like for example earnings per share. It is calculated:

1st – Net Operating Profit After Tax (NOPAT)
2nd – Total invested capital (TC)
3rd – Weighted Average Cost of Capital (WACC)
4th – EVA = NOPAT – WACC (%) x TC

The EVA is an indicator that has the purpose of helping identifying which are the investments we should opt for regardless the others we have, this means, firms that create further wealth in comparison with the others.

Although this is true, it also a fact that, when comparing the EVA of a company with the EVA from another, we have to bear in mind the change in this indicator for the rest of the period, once a positive EVA now that is going to become less positive or even negative can be worst than a negative EVA now that will become positive in a near future.
In the case of Adidas Group valuation we will not be using this method.

2.1.1.6 Multiples

This type of valuation can or cannot rely on cash flows, whether it is price-to-cash-flow ratio (rely on cash flow) or whether it is price-to-earnings ratio, price-to-sales ratio, price-to-book ratios, among others, for example.
"A properly executed multiples analysis can make financial forecasts more accurate" according to Goedhart et al. (2005). These authors also agree that "four basic principles can help companies apply multiples properly: the use of peers with similar ROIC and growth projection, of forward-looking multiples, and of enterprise-value multiples for non operating items."
In the case of Adidas, the peer group will be composed by companies from the same industry, similar sizes, similar operations and similar places where they do business. Thus, having as a base the peer group suggested by Adidas in their investment relations page, we will use just three of them, although they are somehow different in terms of sizes, because the other company was much more different, so it would only bias our analysis. Therefore the peer will be composed by Nike, Puma and Under Armour, which are the biggest players in the market, where Adidas is included also.
To Ferris & Petitt (2013), "a multiple is a ratio between two financial variables. In most cases, the numerator of the multiple is either the company's market price (in the case of price multiples) or its enterprise value (in the case of enterprise value multiples)… The denominator of the multiple is an accounting metric, such as the company's earnings, sales, or book value."

2.2 Terminal Value

The terminal value appears with the need of forecasting cash flows. So, after doing the estimation of the cash flows for the forecasting period, we have to generate a value for the

cash flows after the last year of the period forecasted, when the firm is considered to be in steady state. Otherwise, if we just computed the cash flows for the forecasting period we would be automatically saying that, after the last year, the company would stop operating and would be closed.
Though, to calculate the terminal value we need to create some assumptions based on real data, because otherwise it would be impossible to calculate an accurate value.

It may sound a bit limited to be restricted to the terminal value however, according to Young et al. (1999), they consider the terminal value to be the essential part of every valuation.

"One practical drawback common to all present value models is that they are highly sensitive to things we do not know. More specifically, the terminal value is usually by far the most important element in any valuation estimate and yet it is extraordinarily difficult to estimate it with any degree of accuracy." (Young et al., 1999).
It is calculated:

$$TV_t = \frac{Cash\ flow\ (t+1)}{r-g\ (stable)}$$

2.3 Weighted Average Cost of Capital (WACC)

The weighted average cost of capital is the "required return for the equity holders and debt holders taking into account the proportion in which way the company is financed and embedded in this rate are the tax benefits of the debt." (Miles & Ezzell, 1980).
It is calculated:

$$WACC = \frac{E}{V} \text{ x } R_e + \frac{D}{V} \text{ x } R_d \text{ x } (1 - Tc)$$

R_e – cost of equity
R_d – cost of debt
E – equity's market value
D – debt's market value
V = E + D – total market value
Tc – tax rate

The weighted average cost of capital of a firm is considered to be a function of the combination of equity and debt and their respective cost. On one side, the responsibles for the reduction of firm's WACC that we have been assisting, were the interest rates that decreased. Apart from that, the disasters of corporations have been the responsible for the increasing in the apparent risk that equity investments involve.
According to Luehman (1997), this cost of capital is a discount rate that has in consideration the tax. Thus, in the DCF valuation, this weighted average cost of capital has the obligation to have in consideration the benefit linked to the corporate borrowing.

2.4 Cost of equity

Equity has no fixed cost for firms to pay on the contrary of debt, nevertheless there is a cost of the equity, due to the fact of the investors expecting some return on their investments. Thus, for the firm side this is seen as a cost because it can be considered as an obligation, although it is not in fact, once otherwise equity holder can make the price to decrease by selling the part they own of the company. It is like a reward for the risk of investing in that firm.
It can be calculated:

$$R_e = r_f + (r_m - r_f) \times \beta$$

R_e – required rate of return on equity
r_f – risk free rate
$r_m - r_f$ – market risk premium
β - beta

2.5 Cost of debt

In some firms there is the need to finance investments and the daily operations with debt. Most of the times the cost of debt is the same as the market rate the firm is paying on the debt. So, the cost of the debt is the rate in effective terms that the firm pays on the debt.
To calculate the cost of debt we have to have in consideration the tax once we need to take from the interest paid the savings from the taxes that outcome from the interested payment

that is deductible.

So it is calculated:

$$R_d (1 - t_c) = \text{After tax cost of debt}$$

2.6 Risk free rate

This is the rate that is possible to earn when investing in the so-called, risk free securities, as for example the government bonds from the developed countries. So, we consider the risk free rate as the gain from investing in a project without risk. Most of the times we use US Treasury Bills interest rate as the risk free rate because they are considered to be the investment with less risk in the world due to the fact of having the U.S. Government supporting them. In this valuation, as Adidas is an European company, more specifically a German company, we will be using 10 years German Government Bonds as risk free rate, due to the same reasons as the Treasury Bills, but in this case because of the German Government instead of the U.S. Government.
This is all in theory, because in real life there is no such thing as no risk, there is always the presence of some risk in every investment.

2.7 Beta

It is the measure of the fluctuation of the share price in relation to the market. A beta equal to one means that the share price of the firm moves in the same way as the market. When the beta is higher than one the share price is moving faster than the market and when it is less than one, means that the share price tends to be less volatile than the market.
However it is important to remember that beta is a historical measurement so it cannot predict the future. So beta is a useful measure because it helps to create a portfolio that matches the risk tolerance.

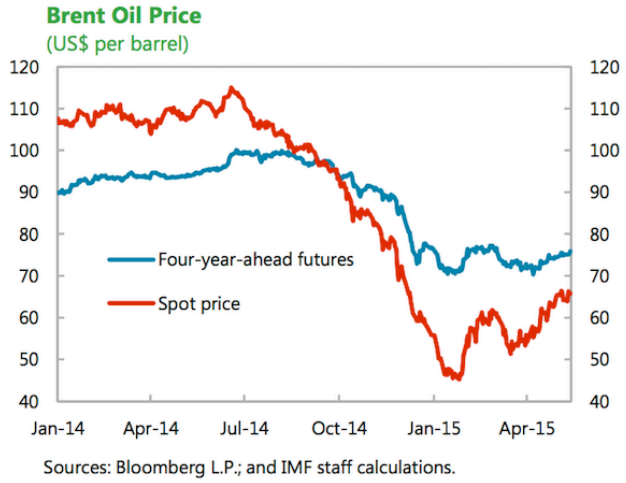
2.8 Market Risk Premium

When investing in the stock market, investors expect a higher return, different from the risk free rate, which will reimburse the fact that their investment has now more risk. So it is the market rate less the risk free rate.

3. World Economic Overview

The global growth in 2015 is going to be quite the same as 2014. This is not bad but it is not a really good notice. On one hand, behind this global growth there are the advanced economies that are doing better than last year, on the other hand, developing and emerging markets are doing somehow a bit worst.

On the base of this growth there are the interest rates really low, leading to higher debt, not only public but also household, corporate and bank. Not all countries are affected by all these factors but in most countries there is at least one level of debt that is high, leading to less spending, less investment, stowing down the recovery of the global economy. And it takes quite a while to all of this to go away. Another factor that is affecting the global growth is the decrease in the oil prices. We have to distinguish between the importers and the exporters. For the countries included in the first group this decrease is positive, paying less for oil means they have an increase in income, reverting the situation above, consumers can spend more in other things, firms can invest more, and so on. On the other side, for the exporters, obviously it is not positive, but most have built many large buffers in the past so they can adjust to it, just some of them are in trouble. In the overall this price change has been positive.



Graph 1 – Oil Price
Source: IMF

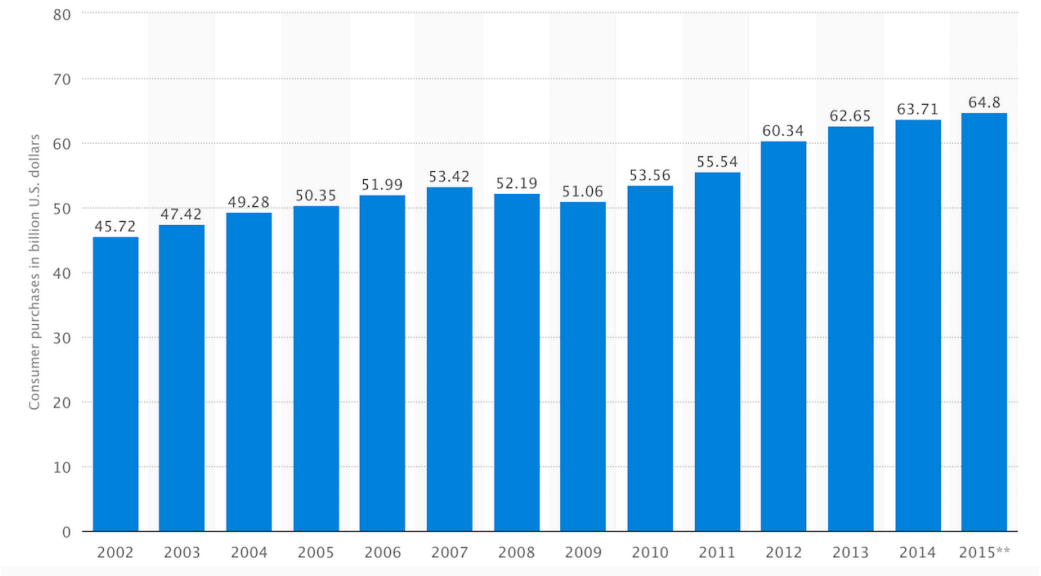
The other important influence for the global growth is the fact that the U.S. dollar is strengthening, which is also in global terms a positive fact.

4. Industry Overview

Adidas Group belongs to the sporting goods industry, so we will use this section to analyze this industry.

This industry is considered to be a billion dollar industry. It contains all type of sporting goods, such as apparel and footwear, for every type of sport like ball sports or even adventure sports.

According to the research *Global Retail Sporting Goods Industry Analysis 2012-2017: Industry Trends, Profit and Forecast Analysis*, released by Reuters, there are lots of opportunities in this market because the demand for sports apparel, sports footwear and sports equipment is huge. The forecasted value for this market, according to this research, is $266 billion in 2017. This market includes the manufacturing and retailing of sporting goods and it is affected considerably by the demographic factor and the consumer spending. Considering the consumer purchases of sporting goods, just in the United States, as an example of a sample in the world, in the period between 2002 and 2015, we can observe through the graph 2 that the tendency is to increase as the years pass.



Graph 2 - Consumer purchases of sporting goods in the United States in the period between 2002 and 2015
Source: Statista

According to another study *Global Retail Sporting Goods Industry 2015-2020 - Trend Profit and Forecast Analysis*, published on the PRNewswire, the retail sporting goods industry has the potential to develop with a compound annual growth rate of 3,4%. The major factors that determine this potential growth are mainly the growing awareness of health problems linked

to the lack of physical activity, having the governments an important role for this situation when promoting sports events and leading people to major participations. Another important factor that drives the growth in this industry is the increasing disposable income for the period in analysis. The progresses on the standards of living and the increasing attentiveness to international brands like Adidas, in markets that are developing themselves, like China, India or Latin America, are also drivers for the growth expected in this industry and are considered to be the providers of future growth of this industry, although for now the US and European markets represent the biggest slice of revenue for the industry.

The potential continuous growth for the industry of sporting goods has also as a responsible the media and the social networks. The large coverage by TV channels and Internet of every different type of sports events has allowed masses to have access to what was considered to be just for some people in the society.

The fact that the so called stars of the sports are gaining more and more recognition and icon status has been also responsible to the increasing number of young people's interest in the sports career for living or just for leisure.

The increasing number of female participants and observers in many sports has also some responsibility for the increasing of the industry in analysis.

The fact that more and more young people are wearing sporting goods as casual clothes helps increasing the boost of the industry and also allows the competitors in this industry to compete at the casual wear that before was totally distinct from the sportswear.

5. Company Overview

The purpose of the group that the brands Adidas, Reebok and TaylorMade are part is to "Make a difference".

Adidas is a Germany based company listed in the "Deutsche Börse" stock exchange that is based in Frankfurt. Its stock is also part of DAX30 stock exchange, which means that Adidas is one of the 30 largest firms in Germany. Adidas' stocks became part of this Index in June 1998 and it represents around 2% of the Index.

The company is the second largest in the world of its industry, after Nike and, is the largest in Europe. It was registered under the name of Adidas in 1949 after a dispute between two brothers, one of which created Adidas and the other created Puma, another sports goods company.

Then, in 1990 it was acquired by a French entrepreneur, after the death of its founder in 1978, who sold to European investors in 1993. The year of 1995 was an important mark to the company as it was the year in which it went public. The year of 2006 was when Adidas acquired one of the group's brands, Reebok and it was re-named Adidas AG.

Now it counts with more than 53.000 employees around the world, in over 160 countries where the brand is present. Last year, 2014, Adidas produced more than 650 million products which lead to sales of 14,5 billions €, approximately.

These revenues come from different regions and different segments. In 2014, according to the figure 1 the Western Europe, represented the most important market for Adidas sales, followed by North America, where currently Nike has the biggest market share.

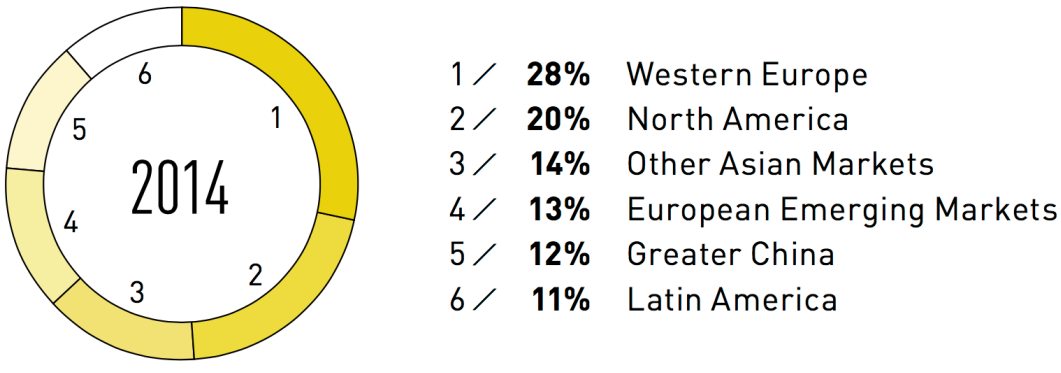


Figure 1 – Net sales by region
Source: Company Report

In terms of segment, using figure 2 to guide, the wholesale is the most important, representing more than 50% of the sales origin.

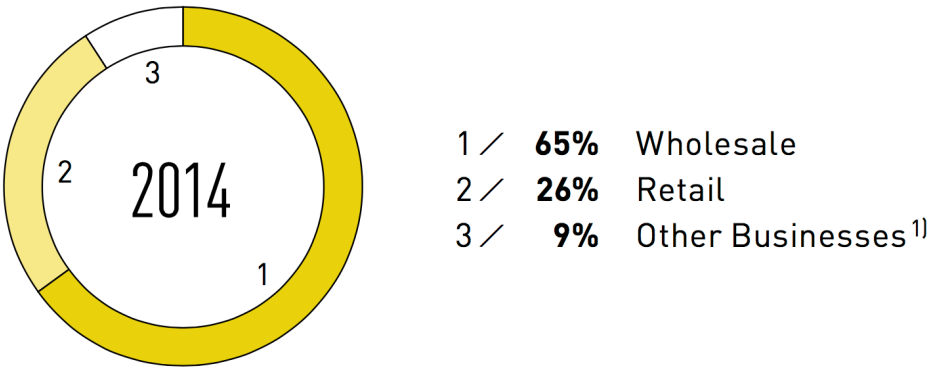


Figure 2 – Net sales by segment
Source: Company Report

Regarding product category the difference between footwear and apparel is not much, being both the most important for the Group sales, as we can conclude from figure 3.

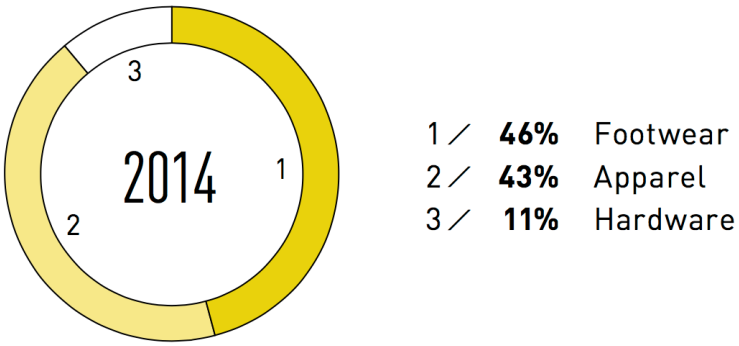


Figure 3 – Net sales by product category
Source: Company Report

In terms of operating expenses they are quite well distributed among sales working budget, marketing working budget, marketing overhead, sales force, logistics, research & development and central administration, being the second and fourth caption the most significant, according to the figure 4.

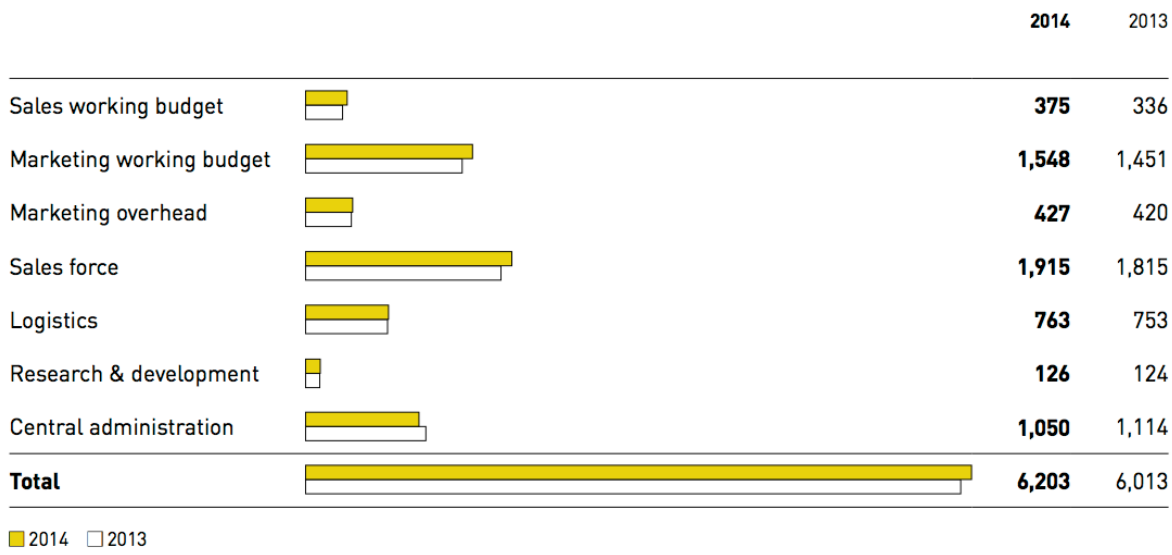


Figure 4 – Operating expenses by area
Source: Company Report

As far as the financing structure of Adidas, the bonds are the most important source of debt, followed by bank borrowings in a smaller scale.

In what concerns the brands of the group, Adidas Group tries to reach the many segments of the sporting goods industry as possible.

The brand Adidas itself, had become more and more known over the years. For this increasing awareness influenced the change in the way people think and dress. Nowadays, wearing sporting goods is not just for sport, is already a trend among the younger generation. That is why there is a sub brand of Adidas that is labeled as the sportswear for the street. The fact that Adidas meant for sport focus on more than one sport or activity, like football, running, basketball, training or outdoor, is also a contributor to the increasing awareness.

Reebok brand is taking advantage of the high movement of fitness, the increasing number of gyms around the world and the higher number of amateur and professional fitness athletes to achieve the main objective of becoming the "leading fitness brand", according to the Adidas Group Annual Report.

Another sport with many enthusiastics around the world and that generates lots of money is golf. That is why Adidas Group has a brand with the specific objective of selling golf material. TaylorMade is a recognized brand among the golf players due to its technologies for drivers, fairway woods, hybrids, irons, putters and balls, which are actually extremely innovative and performance-enhancing.

6. Company valuation

6.1 Introduction

After doing an overlook about the world macroeconomics, about the industry in which Adidas Group operates and about the company itself, we will use this section to explain all the assumptions we made and the forecasts used to reach the value of the share in each different methods use to valuate the Group. Also in this section we will explain every component calculated to perform the Free Cash Flow to the Firm for the Discounted Cash Flow method. In order to have a range of value using different components it was computed a sensitivity analysis, due to the riskiness and uncertainty of some components, more exactly the WACC and the long-term growth. Every step to calculate these two components will be also explained in detail in this section.

6.2 WACC Calculation

The calculation of the Weighted Average Cost of Capital using the correct values is fundamental for a correct valuation. The WACC "is a tax-adjusted discount rate" (Luehman, 1997). "When used as a discount rate in a DCF calculation, WACC is supposed to pick up the tax advantage associated with corporate borrowing" (Luehman, 1997).

$$WACC = ((1 - \text{Tax Rate}) \times Rd \times \frac{D}{V}) + (Re \times \frac{E}{V})$$

(€ in millions)		
Rd	0,39%	Calculated
Re	5,80%	Calculated
D/V	11,17%	Calculated according to the market value of debt and equity
E/V	88,83%	Calculated according to the market value of debt and equity
Tax Rate	29,70%	As per the income statement
WACC	5,18%	

Table 1 – WACC calculation
Source: Own Calculations

6.2.1 Cost of Debt

To calculate the cost of debt of Adidas we had to gather all debt the company had in the moment of the valuation outstanding. This included the bonds issued and still not matured and the loans. The following step was to compute the spread of each type of debt and then account it according to the weight it represented in the total amount outstanding. After summing these last values, the spreads accounted for the weights, there was only still missing the need to sum it to the risk free rate chosen, explained below, to reach the cost of debt, 0,39%. This value is low due to a negative yield of a bond with maturity of 2019.

6.2.2 Cost of Equity

In order to calculate the WACC there are some steps and some calculations before that we need to do. One of those is the cost of equity, which is the return that the shareholders demand for a firm, when investing on it. The existence of this cost is due to the fact of existing some risk associated with the ownership of the company's stock. This cost is calculated:

Re = Rf + Adjusted β x (Market Rate of Return - Rf)

The value obtained for this specific cost was 5,80% through this formula, where the components used were calculated apart and will be explained in this section. The 5,80% means that the investors require this rate from a stock of Adidas Group in order not to invest that money in other company. This rate of return has two sources, the dividends, an immediate reward for the ownership of the stock, and appreciation that the stock could experience, enabling stockholders to profit when they sell the shares.

6.2.2.1 Risk Free Rate

This rate is the return demanded or expected by investors when spending money in an investment with zero risk. This return is translated in interest over a particular period of time. This risk free rate is seen as a virtual concept because supposedly there is no investment with absolutely any risk involved, even the United States Government has a chance of defaulting

on its bonds, although it is very unlikely to happen. This is why that the risk free rate is commonly based on the interest rate of a Treasury Bill, when it is an American based company. In the case of Adidas, as it is a German company, I used the 10 years German Government Bond, as explained previously, which is also considered to be theoretically riskless, with a value of 0,61%. This interest rate is the beginning for calculating the cost of equity, as explained.

6.2.2.2 Beta

This coefficient is very important because it is used to measure the risk of a stock in relation to the market where that same stock is traded. In our case, the stock is Adidas and the market is the German Index where it is traded, the DAX30, which includes the thirty biggest companies of Germany. Thus, we gathered the prices for the last five years (monthly data), both of the company's stock and the Index, and computed the monthly return. Then we used a regression to calculate this component, reaching a raw Beta of 0,84, the slope of the regression line. This value means that the stock of Adidas has been historically 16% less volatile than the market.

However is important to remind that beta is a historical measure so it cannot predict the future. Therefore, we computed an adjusted Beta so we could use the value in our valuation. To do so, the proportion used was the same used by Bloomberg, two thirds for the raw Beta and one third for the market, reaching an adjusted Beta value of 0,89.

6.2.2.3 Equity Risk Premium

This component is also known as Market Risk Premium and it represents the difference between the expected market return and the risk free rate. The equity risk premium is used to measure the compensation that investors receive due to the fact of making higher risk investments. Thus, the higher the risk of the investment, the higher the return the investor expects to receive that is why the investors are expecting the risk premium rather than the risk free. So this component is based on a balance between risk and return.

Although the correct way of calculating this value would be doing a weighted average of the equity risk premium of every country Adidas has business, but as the company operates in more than 160 countries we decided to use the Damodaran value for Germany of 5,81%.

6.2.3 Market Value of Debt

First, to understand better the concept we will distinguish book value and market value. This difference is very important to understand, even more if we are analyzing a company to make an investment on. Book value is the value we can see in the financial statements of a company and it is also referred as accounting values. This value can be different from the market value, which is the value according to the market, what buyers and sellers think about the book values.

In our valuation we needed to obtain the market value of debt in order to compute the weighted average cost of capital. So, we started by gathering all debt issued by Adidas Group in the format of bonds and loans. After this we accounted for the amount issued for each type of bond and loan and then we computed the market value of each, by multiplying the amount issued by the current value (in the case of the bonds) trading in the market. The bonds issued by the company being valuated are all trading at equal or higher values currently in the market, when comparing to the moment when they were issued.

The market value of debt obtained was 2.202,28 million euros.

6.2.4 Market Value of Equity

Market value of the equity is most of the times seen as market capitalization. It is a way of knowing the size of the organization and it is used by investors in order to diversify the size of firms they invest in.

Again, as in the case of the market value of debt, there is a difference between book value and market value for the equity. The main difference is that in terms of equity, the book value does not account for the potential growth of the firm. Thus, to obtain the market value of the equity we multiply the total common shares outstanding by the current price of the share. As these two variables are not fixed, they are always changing, so the value will consequently be always changing over time.

For the valuation of Adidas Group we reached a market value of equity of 17.514 million euros, a higher number when compared with the previous market value of debt. That is why, the structure of capital of Adidas is much more based in equity than in debt, around 89%.

6.3 Long Term Growth

This is a concept very discussed between investors and analysts. It is a variable that will affect in a deep way the valuation, so a wrong assumption of this value can result in a less correct valuation of the firm. Consequently, we spent some time to reach the value for the long-term growth.

First, we started by analyzing the whole panorama in terms of possible growth, then we tried to detail the growth in a long term perspective for the countries where Adidas operates. This last step was somehow less easy, because the operation of the firm is separated by regions and not by countries, and it would be extremely difficult to obtain a value even if it was separated by countries, once Adidas has business in more than 160 countries all over the world. Therefore we used the forecast of the GDP for 2020 for the countries mentioned in the Annual Report, in each of the six regions Adidas operates and obtained a value of 3,53% for the weighted long-term growth, as we can observe in table 2. After this to verify if this would be an acceptable growth rate for the future we compared this value with the potential GDP growth rate for the whole world for 2020 and concluded that this value was 3,5% according to OECD, a value extremely identic in relation to our value.

Region	Net sales in %	GDP forecast 2020	Ponderated GDP growth
Western Europe	28,00%	1,89%	0,53%
North America	20,00%	1,96%	0,39%
Other Asian Markets	14,00%	5,60%	0,78%
European Emerging Markets	13,00%	3,00%	0,39%
Greater China	12,00%	6,33%	0,76%
Latin America	11,00%	6,11%	0,67%
			3,53%

Table 2 – Calculation of long-term growth rate
Source: Statista and Own Calculations

6.4 DCF Valuation

To perform a discount cash flow valuation we need to know the company we are valuing really well in order to be able to make some assumptions, forecasts and reach the free cash flow to the firm of each year in order to arrive to the enterprise value for the firm, by discounting these values into present moment values. After arriving to the enterprise value, we subtract the company's market value of net debt from the last value to get the fair value of the company (equity value). Then dividing this value by the shares outstanding we get a value

for the share of the firm. With these we can conclude if the stocks are overvalued or undervalued, by comparing with the market stock price.

This method of valuation is commonly used because it is a way of determining the desirability of some opportunities for investing. Usually if the value reached is superior to the value at which is trading at the market, it means it is a good opportunity to invest on, because most probably the value will increase in the future and therefore will generate gains to the investor.

Having all this in consideration to arrive to each year's FCFF, we start with the earnings before interest and taxes (EBIT), to which we subtract the taxes on EBIT, add the depreciation and amortization of the period and the variation of the provisions, getting the cash flow from operations. To this value we subtract the investment on working capital and the capital expenditures, also known as CAPEX and we get the free cash flow from operations. In order to arrive to the value intended (FCFF), we add the cash flow from non-operational sources to the last value. After having the FCFF for the forecasted period, we discount them all at the WACC and get the net present value (NPV). To the NPV we have to add the present value of the terminal value, which is calculated with the last FCFF using the long term growth forecast as a prediction for the following FCFF and discounting again at the weighted average cost of capital to the present. And now we have the enterprise value to which we have to subtract the market value of the net debt of the firm to arrive at the fair value of the equity. Following this, we just need to divide this value by the total common outstanding shares and we have the share price.

Now, to obtain the forecasted EBIT we subtract the total operating expense to the total revenue. This is a process of some forecasts and assumptions. We started by forecasting the following years' net sales by assuming plausible growth rates for the sales year after year. In order to assume this growth rates we had in consideration the outlook targets of the company itself, all the market conditions and future objectives of Adidas Group, like becoming the number one in North America, where actually are number two, and expand its sales in the Asian market, where they intend to obtain the biggest market share. Thus, for the first forecasted year we assumed a growth of 7,32% and 6,56%, 5,53%, 7,55% and 3,53%, for the following years, respectively, as an average of the sales growth of the previous five years, where the last growth rate equals the long-term growth rate. After having the value of the sales for the forecasted years we based some other items on these values, like the cost of the revenue, which represents around 51% of the total revenues. Regarding the advertising expense we assumed the same growth as the net sales. This decision was made based on the fact that the sector in which Adidas operates is getting more competitive and to reach the

objectives of the company there will be much need to announce the brands that are part of the firm. Also when entering in new markets, the advertising is also a major component to increase the awareness of the consumers. In what concerns the depreciation and amortization, we first calculated the average of the depreciation rate of last years in relation to the values of property, plant, equipment (PPE) and intangible assets and then multiplied this average rate by these two items of the balance sheet. In order to do this multiplication we needed to have a prediction of PPE and intangible assets, that is why we forecasted in the balance sheet the value for these items for the estimated years. This was done by taking into consideration the fact that Adidas, despite the growth and the objectives announced, is opting for operating leases instead of buying the new shops, so they do not face the risk of market fluctuations. Consequently, the item of PPE did not show a big increase when compared to the last two years of data collected, when it increased around 17%. Again for the item other operating expenses, it was used the same growth as for the net sales, since this expenses are related to what the company sells. For the rest of the items in the income statement forecast and in the balance sheet forecast, assumptions like an average of the last years known were made. Another important item to refer is the total common shares outstanding, that as we can see in the appendix 1 (Balance Sheet Forecast) is decreasing over the period in analysis, which was due to the share buyback politic of Adidas and assuming that Adidas will not issue equity. This measure of Adidas was announced in 2014 with the intuit of returning up to 1.500 million euros to the shareholders of the company. This amount was intended to be returned in the three years after the announcement, including 2014.

To obtain the cash flow from operations we still need to calculate the taxes on EBIT and the provisions, the depreciation and amortization we already explained above. The tax we considered 29,70%, was the effective tax rate of 2014, according to the annual report. For the provisions, after analyzing the notes of the annual report we got a value for the beginning of 2014 of 475 million euros and 508 million euros for the end of the same year so, the variation which is what we need is 33 million euros. This item includes provisions for marketing, personnel, returns, allowances, warranty, taxes and others. For the following years, despite the increase of the sales, we assumed the same value, also because by calculating the same item for the last years, 30 is an average of the values.

After having the cash flow from operations, there are two items fundamental in order to obtain the free cash flow from operations, the investment on working capital and the capital expenditures. The first was calculated by adding the inventories to the trade receivables net and subtracting the accounts payable and the income taxes payable as we can see in the

appendix 3A. For the capital expenditures, the value for 2014 and 2015 were given in the annual reports. For the following years we started using an average of the previous years of CAPEX in relation to revenues, 3,5%, and started decreasing over the five forecasted years until 2,5%, and multiplied by the respective value of net sales.

At last, for the cash flow from non-operational sources, we used the value of the financing cash flow, which includes the cash dividends paid, the issuance or retirement of stock and of debt.

So, according to this valuation method the enterprise value for Adidas Group is 18.984,44 million euros, the market value of net debt amounts for 185 million euros and we arrived to a value of 18.799,44 million euros for the equity. Dividing the equity value by the number of shares outstanding, approximately 200 million, we got a value of 94€ per share.

6.4.1 Sensitivity Analysis

The calculations for Adidas value depend on the assumptions and forecasts we make, so the more accurate and the closer to the reality, the better, a more real value will arrive for the company valuation.

Therefore, there is the need to change some variables in order to get a range of possible values for the price per share of Adidas Group that is worth today, according to our valuation.

The main variable that affects the valuation and that can change or can be not so well forecasted or assumed is the long term growth rate, so we used this variable along with another that will be explained to run a sensitivity analysis.

Some variables from the exterior, market, industry or world related, can affect the cost of debt and the cost of equity. The fact that the firm may have the need to change its capital structure, will lead to a change in the weighted average cost of capital, which made us use this variable also in our sensitivity analysis.

When running this analysis for the two variables we obtained a range of values for the share price starting at 60,52€, as we can see in the table 3, while the value for our assumptions was 94€ per share.

Share Price	WACC										
	94,00 €	3,75%	4,00%	4,25%	4,50%	4,75%	5,00%	5,18%	5,50%	5,75%	6,00%
	2,50%	63,06 €	62,31 €	61,57 €	60,84 €	60,12 €	59,41 €	58,90 €	58,02 €	57,34 €	56,67 €
	2,75%	69,25 €	68,42 €	67,61 €	66,81 €	66,02 €	65,24 €	64,69 €	63,71 €	62,97 €	62,23 €
	3,00%	76,86 €	75,95 €	75,04 €	74,15 €	73,27 €	72,41 €	71,79 €	70,71 €	69,89 €	69,07 €
Long Term Growth	**3,25%**	86,45 €	85,42 €	84,40 €	83,40 €	82,41 €	81,44 €	80,74 €	79,53 €	78,60 €	77,68 €
	3,53%	100,63 €	99,43 €	98,25 €	97,08 €	95,93 €	94,80 €	**93,99 €**	92,58 €	91,49 €	90,42 €
	3,75%	115,68 €	114,30 €	112,94 €	111,60 €	110,27 €	108,97 €	108,04 €	106,42 €	105,17 €	103,94 €
	4,00%	139,59 €	137,93 €	136,28 €	134,67 €	133,07 €	131,50 €	130,38 €	128,41 €	126,91 €	125,42 €
	4,25%	176,38 €	174,27 €	172,20 €	170,15 €	168,13 €	166,14 €	164,73 €	162,25 €	160,34 €	158,46 €
	4,50%	240,26 €	237,39 €	234,56 €	231,77 €	229,02 €	226,31 €	224,38 €	221,00 €	218,41 €	215,85 €
	4,75%	378,61 €	374,08 €	369,62 €	365,23 €	360,89 €	356,62 €	353,58 €	348,25 €	344,16 €	340,12 €

Table 3 – Sensitivity Analysis; Source: Own Calculations

6.5 Dividend Discount Model

A valuation of a company can be done with more than one method. Some methods will arrive to a more accurate value for the company and others will reach a value less probable of the firm. This depends on the base of the method, if it uses cash flows, dividends or a peer group, as it was discussed in the literature review.

In this method, the valuation is done based on the dividends that the company distribute and can be used even in companies that actually do not distribute but intend to in a near future.

In our case, Adidas Group, has been distributing dividends over the last years and aims to continue doing so for the future and has also a regular financial policy, both characteristics are consistent with the valuation method. They have inclusively been increasing in the last years the amount for distribution in relation to the earnings per share, decreasing this way the retention rate. Their objective dividend payout ratio for 2014 was between 20% and 50% and the reality was that they distributed to their shareholders approximately 54% compared to around 37% in the previous year. Their target is also to increase shareholder's value.

Thus, to arrive to the intrinsic value of Adidas Group using the dividend discount model, we have to first define if we will use the current dividend for the next years, meaning that the dividend will have a constant growth, using the long term growth rate to all the forecasting period or if we are going to forecast the dividend for the next following years and then calculate a terminal value for the dividends using the long term growth rate, or at last, if there will be no growth in the value of the dividend. All three ways require discounting the values to the present, just like the DCF model, but in this case, not discounted at the weighted average cost of capital. The discount rate used has to be the rate that investors require for their investments, the cost of equity.

In the case of Adidas, in order to decide which model to use, the no growth, the constant growth or the supernormal growth, we started by analyzing the past dividend history. Hence, we concluded that they had been always growing, so the no growth model will not be considered. Then the choice would be between the constant and the supernormal growth. Just like the DCF valuation method, where we forecasted the next five years and then assumed a constant growth after that, in this valuation method we did exactly the same. So, we used the forecasted net income for the next years and assumed a dividend payout ratio of 50%, once the target is between 20% and 50% and as in 2014 the payout ratio was 53%. After this we just divided the value by the total common outstanding shares. So, we obtained the dividend for each year and it was only missing to discount those values to the present. We also

assumed the long-term growth rate for the dividend distribution after the year 2020. Therefore, we obtained a value for the share of 79,67€. This value is somehow different from the values obtained in the other two methods, and we believe it is away from the reality, that is why this model and the following one are computed just as a complement to the DCF, the main valuation model.

6.6 Relative Valuation

Another way of doing a valuation of a company is using other similar companies. This type of valuation is called the relative valuation because it uses the value of similar companies trading in the market to arrive to a value for the company and it is a substitute to the absolute value models. So, for this we need to identify comparable firms in terms of sales, growth, capital structure, industry and market capitalization. Relative valuation can be easy and fast to calculate but it can be misleading. We need to know very well the other companies' values to understand if the value estimated is plausible or not.

6.6.1 Peer Group

In the relative valuation the choice of the peer group is fundamental to arrive to a good valuation through the multiples.

For valuing Adidas through multiples, the first step was to choose companies from the same industry of Adidas, sporting goods. So, the biggest players in this industry were the second step. At last comparing sales and growth of each company was also done to reach a consistent peer group.

The main competitor of Adidas in the whole world is Nike, they alternate between the first place and second in terms of market share in the regions/countries where they operate. The others biggest companies in the market in the same industry are Puma and Under Armour, although with different values compared to Adidas. Despite these differences, we are going to use these three companies as peer group. The others existent in the market are not sufficiently big to compare with Adidas.

In table 4 we can see some measurements of each peer company, including the principal Adidas, where we can conclude that there are few items similar between them but the rest is

somehow different, which will definitely influence the values obtained from the multiples valuation method.

Company Name	Total Debt to Total Equity % (FI0)	Current Ratio (FI0, Orig)	Quick Ratio (FI0, Orig)	Market Cap (Millions, USD)	Operating Profit Margin % (FY0)	Income Aft Tax Margin % (FY0)	ROA Total Assets Percent, Trailing 12 Months (FI0)	ROE Common Equity %, TTM (FI0)	Beta 5 Year	Revenue - Actual (FY0, Millions, USD)
Nike Inc	9,4%	2,89	2,05	109 601	13,6%	10,7%	17,8%	29,1%	0,61	30 601,00
Under Armour Inc	58,9%	2,09	1,07	17 593	11,5%	6,7%	8,6%	15,4%	0,75	3 084,37
Adidas AG	36,8%	1,49	0,94	20 420	6,1%	3,9%	5,2%	10,8%	0,84	16 028,14
Puma SE	1,7%	1,91	1,16	3 284	4,3%	2,9%	2,3%	2,3%	0,24	3 373,82

Table 4 – Peer Group
Source: Bloomberg

6.6.2 Multiples

There are a wide variety of multiples we can use but we have to know which one we should use in each situation.

The most common multiples used are divided into two categories, the Enterprise Value (EV) multiples, from which are part EV/EBITDA, EV/EBIT, EV/Sales and EV/Unlevered Free Cash Flow and the equity value multiples, the Price/EPS (P/E), Equity Value/Book Value and P/E/Growth (PEG ratio).

From these ratios presented above, we used the EV/EBITDA, EV/EBIT and the PER. So, we discarded some multiples as for example the EV/Sales, because sales can be not such a good metric, once sales can be identical between companies but margins completely different. Hence, we gathered the price of the share, the earnings per share and the market capitalization, of each company from the peer group. We also collected from Thomson Reuters the ratios EV/EBITDA and EV/EBIT for each company. Then we did a weighted average of each multiple according to the market capitalization, resulting in the table 5 that we can observe below.

Company	PER	EV/EBITDA	EV/EBIT	Mcap (€)	Weight
Nike (US)	35,81	21,63	24,95	106 402 826 830	97,21%
Puma	47,11	18,09	28,09	3 050 000 000	2,79%
Under Armour	96,85	38,97	48,47	18 723 203 765	17,11%
Total				109 452 826 830	100,00%
Average	59,93	26,23	33,84		
Weighted Average	52,70	28,20	33,33		

Table 5 – Multiples
Source: Bloomberg and Own Calculations

To arrive to the enterprise value of Adidas Group we multiplied this weighted average by the net income of 2015, the EBITDA of 2015 and the EBIT of 2015 from Adidas, to each

multiple respectively. Then, after taking the net debt and dividing by the amount of shares outstanding, we got a value per share of 203,13€ through EV/EBITDA, 187,07€ with EV/EBIT and 184,63€ according to PER, as we can see in the appendix 4.

7. Valuations Comparison

For this section we used a report of J.P. Morgan from 5 November 2015 for the third quarter performances, where they value Adidas Group and attribute a target price for the share, revised from the previous valuation.

In this quarter report it is observable that the value for Adidas according to J.P. Morgan analysts is 85€ per share, through the DCF model. Our valuation is a little higher for the share price, 94€, due to our positivism regarding sales, obtaining values forecasted for each year a bit over their forecast. As an example, our sales prediction increase faster than theirs, reaching 19.280 million euros in 2017 and in their case just 19.184 million euros. We considered our predictions positive but reasonable and as we can check, more and less in line with J.P. Morgan's predictions, due to the panorama in the World and in particular Europe, considering the last terrorist attacks in France as a slowdown in a possible growth of the economy, also because many specialists say that these attacks could be the start of the Third World War, despite the friendships between countries, mainly among the so called big countries, being completely different from it were in the past two World Wars. This situation could generate a period of insecurity and decrease in the consumption, which would translate in the sales of the Group.

We were not able to analyze in more detail because we didn't have all the assumptions that the analysts used to predict the value for the share, we only had access to a report of the third quarter, which corrected some previous predictions and explained a bit of the outlook, the risks and the valuation.

8. Conclusion

In a nutshell, we could confirm that when valuating a company using more than one method different from each other, using different variables, we will obtain different values for the same company, for the same period of valuation.

So, by the first method, discount cash flow, we obtained a value of 94€ per share. Using dividends to arrive to a value for Adidas Group, we obtained a value per share of 79,67€ and using the peer group and the multiples (EV/EBITDA, EV/EBIT and PER) a value of 203,13€, 187,07€ and 184,63€ per share. As we can observe we have values between 79,67€ and 203,13€ per share, for the same company. As previously reported, the method using the peer group can be misleading due to the fact of the differences between the peers and in this case the differences are considerable. Using the dividend discount model we arrived to a value of 79,67€ per share, which is considerably low regarding the values trading at the moment and the perspectives of the company. Thus, the most correct model and consequently value to use will be the DCF method and the 94€ per share that is considerably similar to the value at which Adidas is trading in the market, so the recommendation for the investors would be neutral, neither to buy or sell. Again, the main method used for the valuation is the DCF, we just computed the other two methods as complementary to the principal.

We can conclude also from the present work that the fundamental part of a valuation, despite the company in analysis, are the assumptions, the way we forecast the different items, the objective of the valuation and the type of person valuating the company, whether is a more positive or not, and also the type of information available.

From the present analysis and having in consideration all the information collected from the company, we can conclude that Adidas Group is a well established company, that is not in the phase of exponential growing, because they are in the market from long time, but in a continuous consolidation process, entering new potential markets where they see that the industry can grow a lot, like the Asian countries, and trying to increase the market share in other markets, where they do business for long time but where they do not have yet the biggest slice of market share, as it is the case of the North American market, where Nike is the number one.

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9.4 Company Data

2010-2014 Financial Reports

9.5 Others

Reuters Terminal (2015)

Bloomberg Terminal (2015)

10. Appendices

Appendix 1 - Balance Sheet Forecast

Annual Standardised in Millions of Euros

	2010	2011	2012	2013	2014	2015	2016E	2017E	2018E	2019E	2020E
Period End Date	31-Dec-2010	31-Dec-2011	31-Dec-2012	31-Dec-2013	31-Dec-2014	31-Dec-2015	31-Dec-2016	31-Dec-2017	31-Dec-2018	31-Dec-2019	31-Dec-2020
Assets (€ Millions)											
Cash and Short Term Investments	1 561	1 634	2 119	1 805	2 056	1 993	1 951	2 000	1 982	2 134	2 348
Cash & Equivalents	1 150	906	1 670	1 587	1 683	1 647	1 639	1 656	1 647	1 803	2 011
Short Term Investments	411	728	449	218	373	347	313	344	334	330	336
Accounts Receivable - Trade, Net	1 620	1 595	1 688	1 809	1 946	2 054	2 157	2 255	2 353	2 455	2 555
Accounts Receivable - Trade, Gross	-	1 740	1 809	1 929	2 085	2 185	2 285	2 385	2 485	2 585	2 685
Provision for Doubtful Accounts	-	(145)	(121)	(120)	(139)	(131)	(128)	(130)	(132)	(130)	(130)
Total Receivables, Net	1 691	1 823	1 900	2 028	2 167	2 274	2 375	2 475	2 573	2 674	2 774
Receivables - Other	71	228	212	219	221	220	218	220	220	219	219
Total Inventory	2 135	2 502	2 486	2 634	2 526	2 722	2 787	2 857	2 919	2 989	3 054
Inventories - Finished Goods	-	1 722	1 637	1 803	1 806	1 905	1 955	2 030	2 093	2 161	2 227
Inventories - Work In Progress	-	7	6	1	1	1	1	1	1	1	1
Inventories - Raw Materials	-	27	26	30	32	29	29	30	30	29	30
Inventories - Other	-	746	817	800	687	788	802	796	795	798	796
Prepaid Expenses	-	232	231	236	194	223	221	219	214	219	218
Other Current Assets, Total	437	137	141	154	404	451	468	485	502	526	596
Discountinued Operations - Current Asset	47	25	11	11	272	272	272	272	272	272	273
Other Current Assets	390	112	130	143	132	179	196	213	230	254	323
Total Current Assets	5 824	6 328	6 877	6 857	7 347	7 664	7 803	8 036	8 189	8 543	8 990
Property/Plant/Equipment, Total - Gross	1 799	2 071	2 261	2 419	2 824	2 974	3 124	3 274	3 424	3 574	3 724
Land/Improvements - Gross	511	674	670	802	1 074	1 174	1 274	1 374	1 474	1 574	1 674
Machinery/Equipment - Gross	161	180	199	254	268	318	368	418	468	518	568
Construction in Progress - Gross	140	85	189	161	159	149	139	129	119	109	99
Other Property/Plant/Equipment - Gross	987	1 132	1 203	1 202	1 323	1 333	1 343	1 353	1 363	1 373	1 383
Property/Plant/Equipment, Total - Net	855	963	1 095	1 238	1 454	1 287	1 112	926	728	520	305
Accumulated Depreciation, Total	(944)	(1 107)	(1 167)	(1 181)	(1 368)	(1 687)	(2 012)	(2 348)	(2 696)	(3 054)	(3 419)
Goodwill, Net	1 512	1 553	1 281	1 204	1 169	1 302	1 239	1 228	1 235	1 251	1 238
Goodwill - Gross	--	1 580	1 568	1 533	1 588	1 567	1 564	1 563	1 571	1 566	1 566
Accumulated Goodwill Amortization	--	(27)	(287)	(329)	(419)	(266)	(325)	(335)	(336)	(315)	(328)
Intangibles, Net	1 590	1 663	1 651	1 583	1 594	1 616	1 621	1 613	1 606	1 610	1 613
Intangibles - Gross	2 047	2 172	2 183	2 139	2 203	2 149	2 169	2 169	2 166	2 171	2 165
Accumulated Intangible Amortization	(457)	(509)	(532)	(556)	(609)	(533)	(548)	(555)	(560)	(561)	(551)
Long Term Investments	147	121	133	144	156	140	139	142	144	144	142
LT Investments - Other	147	121	133	144	156	140	139	142	144	144	142
Note Receivable - Long Term	--	--	--	--	--	--	--	--	--	--	--
Other Long Term Assets, Total	600	609	614	573	697	637	623	630	634	643	633
Deferred Charges	--	105	86	80	99	93	89	90	93	91	91
Defered Income Tax - Long Term Asset	501	484	528	486	577	515	518	525	524	532	523
Other Long Term Assets	99	20	0	7	21	29	15	15	17	20	19
Total Assets	10 528	11 237	11 651	11 599	12 417	12 646	12 537	12 576	12 536	12 711	12 921
Liabilities (€ Millions)											
Accounts Payable	1 697	1 887	1 790	1 825	1 652	1 770	1 785	1 764	1 759	1 746	1 765
Payable/Accrued	--	--	--	--	--	--	--	--	--	--	--
Accrued Expenses	842	1 160	1 293	1 322	1 489	1 620	1 747	1 918	2 087	2 271	2 479
Notes Payable/Short Term Debt	0	0	0	0	0	0	0	0	0	0	0
Current Port. of LT Debt/Capital Leases	416	351	363	791	326	528	326	326	326	326	326
Other Current liabilities, Total	991	940	928	794	911	923	834	844	851	848	846
Customer Advances	--	73	39	50	72	59	55	59	61	58	58
Income Taxes Payable	265	252	275	240	294	265	265	268	266	272	267
Discontinued Operations - Curr Liability	0	0	0	--	46	60	0	0	0	0	1
Other Current Liabilities	726	615	614	504	499	539	514	517	523	518	520
Total Current Liabilities	3 946	4 338	4 374	4 732	4 378	4 841	4 692	4 853	5 023	5 192	5 416
Total Long Term Debt	1 354	995	1 220	662	1 591	1 366	1 318	1 198	978	859	804
Long Term Debt	1 354	991	1 207	653	1 584	1 358	1 309	1 190	970	850	795
Capital Lease Obligations	--	4	13	9	7	8	9	8	8	9	9
Total Debt	1 770	1 346	1 583	1 453	1 917	1 894	1 644	1 524	1 304	1 185	1 130
Deferred Income Tax	451	430	368	338	390	395	384	375	377	384	383
Deferred Income Tax - LT Liability	451	430	368	338	390	395	384	375	377	384	383
Minority Interest	(2)	(9)	(13)	(8)	(7)	(8)	(9)	(9)	(8)	(8)	(8)
Other Liabilities, Total	316	346	398	386	440	377	389	398	398	401	393
Reserves	61	55	69	17	30	46	43	41	36	39	41
Pension Benefits - Underfunded	180	205	251	270	365	254	269	282	288	292	277
Other Long Term Liabilities	75	86	78	99	45	77	77	75	75	70	75
Total Liabilities	6 065	6 100	6 347	6 110	6 792	6 972	6 775	6 815	6 768	6 827	6 987
Shareholders Equity (€ Millions)											
Redeemable Preferred Stock, Total	--	--	--	--	--	--	--	--	--	--	--
Preferred Stock - Non Redeemable, Net	--	--	--	--	--	--	--	--	--	--	--
Common Stock, Total	209	209	209	209	204	200	196	196	196	196	196
Common Stock	209	209	209	209	204	200	196	196	196	196	196
Additional Paid-In Capital	--	--	--	--	--	--	--	--	--	--	--
Retained Earnings (Accumulated Deficit)	4 385	4 821	5 167	5 677	5 692	5 589	5 678	5 719	5 744	5 814	5 874
Retained earnings per year					300	352	418	460	495	521	546
Other Equity, Total	(131)	107	(72)	(397)	(78)	(114)	(111)	(155)	(171)	(126)	(135)
Translation Adjustment	(121)	(6)	(51)	(363)	(257)	(160)	(167)	(200)	(229)	(203)	(192)
Other Equity	--	--	--	--	1	--	--	--	--	--	--
Other Comprehensive Income	(10)	113	(21)	(34)	178	45	56	45	58	76	56
Total Equity	4 463	5 137	5 304	5 489	5 625	5 674	5 762	5 760	5 768	5 883	5 935
Total Liabilities & Shareholders' Equity	10 528	11 237	11 651	11 599	12 417	12 646	12 538	12 575	12 536	12 710	12 921

Source: Bloomberg and Own Calculations

Appendix 2 - Income Statement Forecast

Annual Standardised in Millions of Euros

	2010	2011	2012	2013	2014	2015	2016E	2017E	2018E	2019E	2020E
Period End Date	31-Dec-2010	31-Dec-2011	31-Dec-2012	31-Dec-2013	31-Dec-2014	31-Dec-2015	31-Dec-2016	31-Dec-2017	31-Dec-2018	31-Dec-2019	31-Dec-2020
Revenue	11 990	13 322	14 883	14 203	14 534	16 859	18 093	19 280	20 346	21 881	22 654
Net Sales	11 990	13 322	14 883	14 203	14 534	16 859	18 093	19 280	20 346	21 881	22 654
Sales growth		11,11%	11,72%	-4,57%	2,33%	16,00%	7,32%	6,56%	5,53%	7,55%	3,53%
Other Revenue, Total	--	--	--	--	--	--	--	--	--	--	--
Total Revenue	11 990	13 322	14 883	14 203	14 534	16 859	18 093	19 280	20 346	21 881	22 654
Cost of Revenue, Total	6 260	6 993	7 780	7 202	7 610	8 768	9 403	9 999	10 535	11 377	11 763
Cost of Revenue	6 260	6 993	7 780	7 202	7 610	8 768	9 403	9 999	10 535	11 377	11 763
% of net sales	52,21%	52,49%	52,27%	50,71%	52,36%	52,01%	51,97%	51,86%	51,78%	52,00%	51,92%
Gross Profit	5 730	6 329	7 103	7 001	6 924	8 091	8 690	9 281	9 810	10 504	10 891
% of net sales	47,79%	47,51%	47,73%	49,29%	47,64%	47,99%	48,03%	48,14%	48,22%	48,00%	48,08%
Selling/General/Admin. Expenses, Total	--	5 199	5 755	1 448	1 545	1 796	1 927	2 053	2 167	2 331	2 413
Selling/General/Administrative Expense	--	5 199	5 755	(3)	(3)	--	--	--	--	--	--
Advertising Expense	--	--	--	1 451	1 548	1 796	1 927	2 053	2 167	2 331	2 413
Research & Development	--	115	128	124	126	123	125	125	125	125	125
Depreciation/Amortization	260	249	263	282	323	319	324	336	348	358	365
Depreciation and amortization	260	249	263	282	323	319	324	336	348	358	365
Interest Expense, Net - Operating	--	--	--	--	--	--	--	--	--	--	--
Interest/Investment Income - Operating	--	--	--	--	--	--	--	--	--	--	--
Interest Expense(Income) - Net Operating	--	--	--	--	--	--	--	--	--	--	--
Interest Exp.(Inc.),Net-Operating, Total	--	--	--	--	--	--	--	--	--	--	--
Unusual Expense (Income)	(23)	(1)	262	52	77	60	60	60	60	60	60
Impairment-Assets Held for Use	(7)	(1)	263	50	77	60	60	60	60	60	60
Impairment-Assets Held for Sale	--	--	--	3	2	--	--	--	--	--	--
Loss(Gain) on Sale of Assets - Operating	(16)	0	(1)	(1)	(2)	--	--	--	--	--	--
Other Operating Expenses, Total	4 599	(186)	(225)	3 917	3 972	4 665	5 016	5 353	5 661	6 108	6 334
Other Operating Expense	4 786	--	--	4 156	4 206	4 879	5 236	5 579	5 888	6 332	6 556
Other, Net	(187)	(186)	(225)	(239)	(234)	(214)	(220)	(226)	(227)	(224)	(222)
Total Operating Expense	11 096	12 369	13 963	13 025	13 653	15 731	16 856	17 927	18 897	20 359	21 059
Operating Income	894	953	920	1 178	881	1 128	1 237	1 353	1 449	1 522	1 595
Operating margin	7,46%	7,15%	6,18%	8,29%	6,06%	6,69%	6,84%	7,02%	7,12%	6,96%	7,04%
Interest Expense, Net Non-Operating	(112)	(108)	(97)	(73)	(59)	(90)	(85)	(81)	(78)	(79)	(82)
Interest Expense - Non-Operating	(112)	(108)	(97)	(73)	(59)	(90)	(85)	(81)	(78)	(79)	(82)
Interest/Invest Income - Non-Operating	25	23	28	7	13	19	18	17	15	16	17
Interest Income - Non-Operating	23	30	35	25	17	26	27	26	24	24	25
Investment Income - Non-Operating	2	(7)	(7)	(18)	(4)	(7)	(9)	(9)	(9)	(7)	(8)
Interest Income(Exp), Net Non-Operating	--	--	--	--	--	--	--	--	--	--	--
Interest Inc.(Exp.),Net-Non-Op., Total	(87)	(85)	(69)	(66)	(46)	(71)	(67)	(64)	(63)	(62)	(65)
Gain (Loss) on Sale of Assets	--	--	--	--	--	--	--	--	--	--	--
Other, Net	(1)	1	0	1	0	0	0	0	0	0	0
Other Non-Operating Income (Expense)	(1)	1	0	1	0	0	0	0	0	0	0
Net Income Before Taxes	806	869	851	1 113	835	1 058	1 170	1 289	1 386	1 460	1 529
Provision for Income Taxes	238	261	327	340	271	317	351	387	416	438	459
Net Income After Taxes	568	608	524	773	564	740	819	903	970	1 022	1 071
Minority Interest	(1)	5	2	(3)	(6)						
Equity In Affiliates	--	--	--	--	--	--	--	--	--	--	--
U.S. GAAP Adjustment	--	--	--	--	--	--	--	--	--	--	--
Net Income Before Extra. Items	567	613	526	770	558	740	819	903	970	1 022	1 071
Accounting Change	--	--	--	--	--	--	--	--	--	--	--
Discontinued Operations	--	--	--	17	(68)	(36)	--	--	--	--	--
Extraordinary Item	--	--	--	--	--	--	--	--	--	--	--
Tax on Extraordinary Items	--	--	--	--	--	--	--	--	--	--	--
Total Extraordinary Items	--	--	--	17	(68)	(36)					
Net Income	567	613	526	787	490	704	819	903	970	1 022	1 071

Source: Bloomberg and Own Calculations

Appendix 3 - DCF Valuation

(in €millions)	2014	2015	2016E	2017E	2018E	2019E	2020E
			1	2	3	4	5
EBIT	960,00	1 128,10	1 237,39	1 353,20	1 449,11	1 522,25	1 594,67
(-) Taxes on EBIT	-284,64	-334,48	-366,89	-401,22	-429,66	-451,35	-472,82
(+) Depreciation/Amortization	323,00	319,24	324,27	336,22	348,21	358,38	365,14
(+) Provisions (Δ)	33,00	33,00	33,00	33,00	33,00	33,00	33,00
Cash Flow from operations	1 031,36	1 145,87	1 227,77	1 321,20	1 400,66	1 462,28	1 519,98
(-) Investment on working capital	-150,00	-213,27	-151,83	-187,85	-165,77	-179,95	-150,30
(-) Capital Expenditures	-554,00	-600,00	-633,26	-626,60	-610,37	-601,73	-566,34
Free Cash Flow from operations	327,36	332,60	442,68	506,75	624,52	680,60	803,35
(+) Cash Flow from non-operational sources	-118,00	-300,00	-375,00	-430,00	-510,00	-70,00	-435,00
FCFF	209,36	32,60	67,68	76,75	114,52	610,60	368,35
WACC			5,18%	5,18%	5,18%	5,18%	5,18%
(1+WACC)			1,05	1,0518	1,0518	1,0518	1,0518
Discount factor			1,05	1,1063	1,1636	1,2238	1,2872
PV FCFF			64,34	69,38	98,42	498,94	286,16

NPV	1 017,24
Terminal value without discount factor	23 127,23
Terminal value	17 967,20
Enterprise value	18 984,44
Net Debt	185,00

Equity Value	18 799,44
Share Price	94,00 €

Source: Company Reports and Own Calculations

Appendix 3A - Investment on Working Capital

(in million euros)	2013	2014	2015	2016E	2017E	2018E	2019E	2020E
Receivables	2028,00	2167,00	2273,75	2375,19	2474,98	2572,73	2674,16	2774,27
Inventory	2634,00	2526,00	2721,92	2786,99	2857,27	2918,75	2989,42	3053,99
Accounts Payable	1825,00	1652,00	1770,20	1784,84	1764,41	1759,29	1746,15	1764,98
Income Taxes Payable	240,00	294,00	265,20	265,24	267,89	266,47	271,76	267,31
Working Capital	2597,00	2747,00	2960,27	3112,10	3299,96	3465,73	3645,68	3795,97
Δ Working Capital		150,00	213,27	151,83	187,85	165,77	179,95	150,30

Source: Company Reports and Own Calculations

Appendix 4 - Multiples

EBITDA (Adidas 2015)	1 447,35	EBIT (Adidas 2015)	1 128,10	Net income Adidas 15	704,25
EV	40 811,79	EV	37 598,45	EV	37111,38
Equity Value	40 626,79	Equity Value	37 413,45	Equity Value	36926,38
Shares outstanding	200,00	Shares outstanding	200,00	Shares outstanding	200,00
Price per share	203,13	Price per share	187,07	Price per share	184,63

Source: Own Calculations