

**MASTER OF SCIENCE IN
FINANCE**

**MASTERS FINAL WORK
PROJECT**

**EQUITY RESEARCH:
PUMA SE**

JORGE CORREIA

OCTOBER 2019

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**SUPERVISOR:
PROFESSOR PEDRO RINO VIEIRA**

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Abstract

This Masters Final Work displays the financial analysis of PUMA SE between 2015 and 2018 and offers estimations regarding the future of the company until 2025. The goal of this project is to provide a valid price for PUMA SE's shares by the end of 2020. Footwear market has been showing positive signs in recent years driven by the growing demand of athletic footwear. PUMA, which has fallen behind some competitors as Under Armour, took advantage of this momentum to recover its place as the third largest brand in this industry. The change of strategy by PUMA in order to reach its objectives was the reason behind my decision to choose this company as my subject of the Equity Research Project.

Based on information available until June of 2019, the Discounted Cash Flow Method (DCF) was performed, supported by the Adjusted Present Value Method (APV) and the Flow to Equity Method (FTE), obtaining a price target of 719,14€ which represents an upside potential of 68,42% compared to 2018. This result shows the company's shares are appreciating and, therefore, the project suggests a "BUY" recommendation.

JEL classification: G10; G32; G34

Keywords: Equity Research; Valuation; PUMA SE; Footwear

Resumo

Este Trabalho Final de Mestrado exhibe uma análise financeira da PUMA SE entre 2015 e 2018, proporcionando ainda estimativas sobre o futuro da empresa até 2025. O objectivo deste projecto é fornecer um preço credível para as acções da PUMA SE para o ano de 2020.

A indústria do calçado tem mostrado desenvolvimentos nos últimos anos, sendo impulsionada pela procura cada vez maior de calçado desportivo. A PUMA, que tinha perdido terreno para alguns rivais como a Under Armour, aproveitou este desenvolvimento para recuperar o estatuto de terceira maior empresa deste mercado. A mudança de estratégia por parte da PUMA de forma a atingir os seus objectivos foi a razão por detrás da minha decisão de escolher esta empresa como tema do meu Trabalho Final de Mestrado.

Com base nas informações que se encontravam disponíveis até Junho de 2019, foi realizado o Método dos Fluxos de Caixa Descontados, apoiado pelo Método do Valor Presente Ajustado e pelo Método do Fluxo de Capital, obtendo um preço por acção de 719,14€ que representa um potencial positivo de 68,42% face a 2018. Este resultado permite concluir que as acções da empresa estão a valorizar-se e, por essa razão, o projecto sugere uma recomendação de “COMPRA”.

Classificação JEL: G10; G32; G34

Palavras-Chave: Equity Research; Avaliação; PUMA SE; Calçado

Acknowledgements

My project is dedicated to my family and to my professor.

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1. Research Snapshot

PUMA's price target at 2020 is expected to reach a value of 719,14€ according to the Discounted Cash Flow Method. Considering it is a low risk firm, my recommendation is to BUY once it registered an upside potential of 21,79% relative to the share price at July 2019 of 590,90€.

Table 1: Risk Assessment

Low	Medium	High

Source: Personal Estimates and Infront Analytics

Figure 1: Historical Share Price 2014-2018 +21,79% upside 719,14€



Note: Already adjusted to the new scale

Source: Bloomberg

Rising of Secondary Markets

Although Europe has always been the main market of PUMA, this company has committed to expand its business in other regions. The most significant growth in sales was recorded in Asia-Pacific as a result of the opening of 400 new stores in this region while in America, PUMA has been trying to increase its recognition by partnering with some of the most popular sports. Even though Europe is still the largest destination of PUMA's products, the firm plans to keep the momentum going in the remaining areas to expand its market share and sales.

Change of Strategy

PUMA operates in three main areas: footwear, apparel and accessories in the sporting goods industry. Despite the fact shoes are the product with the higher demand, the company noticed the segment of apparel recorded the largest growth, from 1441,1M€ to 1687,5M€, corresponding to a growth rate of 17,1%. Marketing investments have had a deep impact in this rise and PUMA intends to maintain the strategy which is why the apparel is expected to continue the performance as the highest growth segment of PUMA.

2. Business Description

Short History

PUMA SE is a sportswear company created in 1948 by Rudolf Dassler in Herzogenaurach, Germany. The firm was born through a dispute between two brothers (Rudolf and Adolf Dassler) who had previously formed the Gebrüder Dassler Schuhfabrik which was a footwear firm that started to get recognized and supplied shoes for important athletes such as Jesse Owens at the Berlin Olympic Games. After an argument, each brother went his way and built new companies: Adolf created Adidas and Rudolf created the currently named PUMA.

At the moment, PUMA is the third largest brand in the footwear industry, behind Nike and Adidas. Originally, this company was only focused on the production of footwear but over the years it has expanded to other articles, mainly apparel and accessories. In 2018, footwear accounted for 47% of total sales while apparel recorded 36,3% and accessories 16,7%.

Segments

Football was the main target of PUMA in the early days and it is still a vital part of the business: in 1952, the firm surprised the market with the introduction of the first boot with screws in studs which became a mark of modern football. Additionally, the firm has always been supporting the most recognized names in this sport such as Pelé, Eusébio and Maradona as well as partnering with clubs and teams such as Borussia Dortmund, Arsenal, Italy and Uruguay (in the 2006 World Cup it became the largest team's sponsorship brand with 12 out of 32).

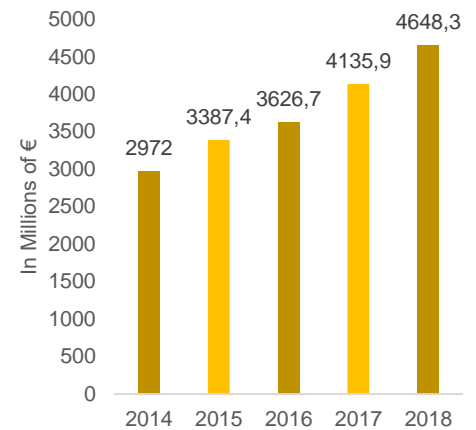
In order to continue its growth, PUMA decided to enter a new range of sports: in 1954, the company began to manufacture shoes for track and field athletes and has been partner of some of the most famous athletes in the biggest events; in 1977 the firm set foot in tennis with the design of new shoes and throughout the years has been sponsoring some of the biggest names such as Serena Williams and Boris Becker; in 2004 a contract was signed with Ferrari to launch the new motorsport footwear and now PUMA has a contract signed with Red Bull; in 2010, PUMA acquired the group Cobra Golf and embarked on the production of golf equipment; in 2015, the firm diversified itself and began to focus the attention on women and the overall lifestyle area, capturing the interest of a younger target audience and this is the reason why it welcomed personalities like Rihanna, The Weeknd and Selena Gomez.

Sourcing Strategy

Being aware of how competitive the footwear industry is, the top players attribute great value to their sourcing strategy.

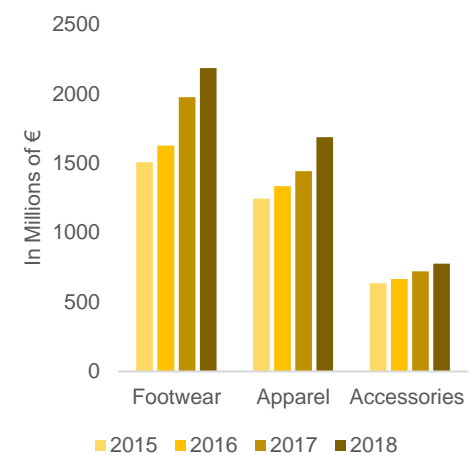
For PUMA, Asian countries are the main producers due to the lower labor costs in that region. Most footwear of PUMA is manufactured in Vietnam, followed by China. Even though the rising labor costs in China as well as the trade war with the United States, it is expected that Asia-Pacific remains the main sourcing destination as the new emerging markets are countries from the same region. Although some of the mentioned factors might force PUMA to shift the production elsewhere, the company will have an advantage regarding its competitors Nike and Adidas once the trading volume is much lower.

Fig.2: PUMA's Revenues 2015-2018



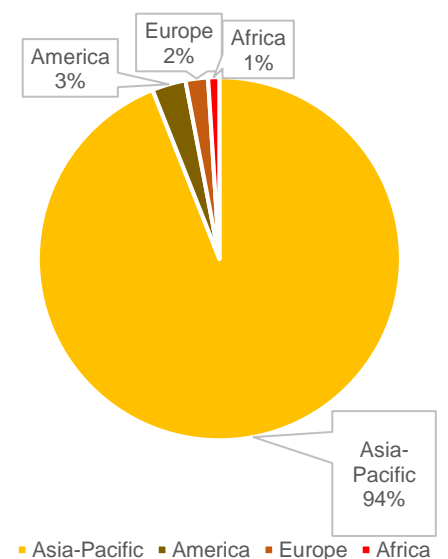
Source: Company Report

Fig.3: Revenue per Segment



Source: Company Report

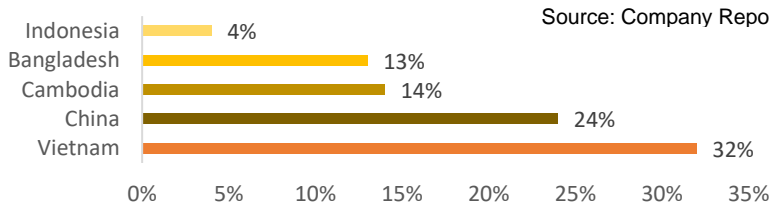
Fig.4: Sourcing



Source: Company Report

Fig.5: Sourcing Countries

Source: Company Report



Regional Development

Examining the regional development, it is important to clarify that PUMA divides its sales into 3 geographic areas: EMEA, America and Asia-Pacific.

From these 3 regions, footwear sales recorded the biggest growth in Asia-Pacific with an increase by 37,9% currency-adjusted due to the rising demand in China and Korea despite the slowdown in Japan. In the EMEA region, footwear sales grew 8,6% currency-adjusted as a result of the rising dimension of France, Spain and the UK in this market. Sales in America increased 11,7% currency-adjusted since the North and Latin America demanded more shoes as a consequence of, for example, the opening of a retail store in the Fifth Avenue in New York.

Key Drivers of Profitability

Marketing

PUMA is aware that non-price competition is a critical factor in this oligopoly market and, thus, the company has been investing in marketing and advertising.

The most efficient method to reach people is through sponsorship: it can be the signing of high-profile athletes which represent the values of sports, the signing of teams of a certain sport and agreements with young trend-setters that are very active in social media. When people see their idol using PUMA shoes, they feel stimulated into buying the same exact model and most of times, customers remain loyal to this brand. These were the reasons why PUMA has been signing partnership contracts with personalities from different areas such as Usain Bolt (the fastest man alive which goes well with PUMA's slogan "Fastest Brand in the World"), Antoine Griezmann (football), Selena Gomez (one of the personalities with more followers on Instagram), Adriana Lima (entering the fashion area) and clubs such as Manchester City (an agreement made for around €800M during 10 years).

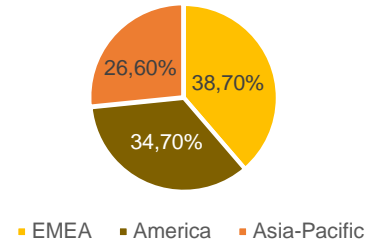
In 2017, the CEO of PUMA affirmed the company wouldn't decrease marketing investment and it would always stay between 10% and 12% of sales. Between 2013 and 2018, according to the site Statista, PUMA increased its marketing expenses from €554,1M to €931,2M. When observing the Income Statement, we are able to identify a growth in the "Other Operating Expenses" which has a majority proportion directed to marketing expenses. Between 2016 and 2018, "Other Operating Expenses" grew from €1545,4M to €1949,5M which shows the value attributed by PUMA to this matter. By looking at the sales of the company, it is fair to say that this strategy has been working well since PUMA recorded an increase from €3626,7M to €4648,3M in just 2 years (2016-2018).

Price

Another key driver of PUMA is the price at which shoes are being sold once, for certain customers, the acquisition of a pair of sports footwear might mean spending a big portion of their income.

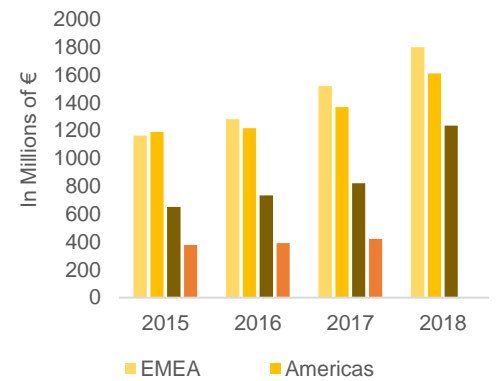
According to a study conducted by Datafiniti in 2017, PUMA charged an average price of \$46 for a pair of shoes while the firm's biggest competitors Nike and Adidas sell their shoes at an average price of \$80 and \$70, respectively. Therefore, PUMA can gain some market share in this industry targeting those customers who are not loyal to any brand in particular and that are just looking for some sports shoes at an affordable price. From a price perspective, PUMA is one of the most appealing brands in the market and this constitutes a powerful key driver for the company.

Fig.6: Sales per Region



Source: Company Report

Fig.7: Sales Development 2015-2018



Source: Company Report

Table 2: List of Sponsorships and Partners

Athletes
Usain Bolt
Romelu Lukaku
Antoine Griezmann
Ada Hegerberg
Lewis Hamilton
Deandre Ayton
Rickie Fowler
Lifestyle
Selena Gomez
Adriana Lima
Cara Delevingne
Bruna Marquezine
Teams
Manchester City
Borussia Dortmund
Scuderia Ferrari
Mercedes-AMG
Red Bull Racing
Partners
NBA
La Liga

Source: 2018 Annual Report

PUMA's Strategy

Since 2013 (when the new management took over the firm), PUMA has been focusing on improving the brand's image and its efficiency. To do so, this company established some crucial points that would allow to increase their revenues.

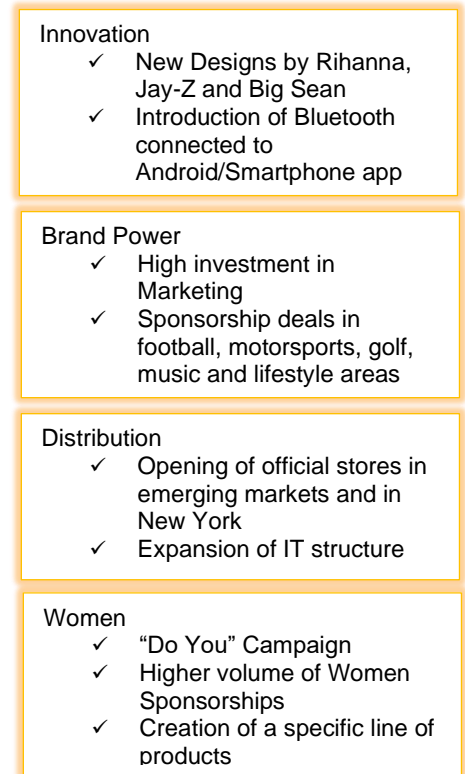
Innovation: In this industry, it's important to come up with new ideas once the market is always evolving and new technologies are always arriving. For this reason, PUMA banks on new designs and on the integration of new technologies in their production process in order to maintain the interest and in the last few years it launched "The Creeper" (which was a new design inspired by Rihanna and it received the award "Shoe of The Year") and the "RS-Computer Shoe" (a shoe made for runners and fitness lovers which integrates electronic software and hardware connected through Bluetooth and offers an unique experience and instantaneous information to its users). PUMA continues to be on the cutting edge when we talk about football shoes and is responsible for some of the preferred ones in the market such as the EVOSPEED SL, the EVOPOWER and the FUTURE.

Brand Recognition/Marketing: Other of the objectives for the future of PUMA is to reposition the brand as one of the biggest names in the world of sports and to be recognized by it. In order to achieve it, the company has signed elite athletes as Usain Bolt, Antoine Griezmann, Luis Suarez and Rickie Fowler, sponsors teams in different sports like Manchester City in football and Mercedes in Formula 1. Besides this, as an attempt to expand to the social media network and reach a young trend-setting audience, the firm signed personalities outside of sports such as Rihanna and Selena Gomez.

Improvements on Distribution: One of the vital factors to make the company bigger was to find solutions to upgrade the distribution channels. PUMA distributes its products through 3 channels: Wholesales, Retail Stores and E-Commerce. Most revenues come from the Wholesales channel (77% in 2017) and in the near future the firm plans to keep the partnership with their key accounts, creating marketing and product programs which ultimately will result in a higher quality of sales. Regarding retail stores, PUMA has opened new and bigger ones in cities displaying an interesting future growth as Hong Kong, Istanbul, and New Delhi. These cities belong to regions where the footwear market is now emerging which allows PUMA to strengthen its position in this market. Puma has also been trying to increase its sales via Internet with the launch of the new website "Puma.com" in 2017 which offers enhancements in the consumer experience and exhibits a top-notch mobile design.

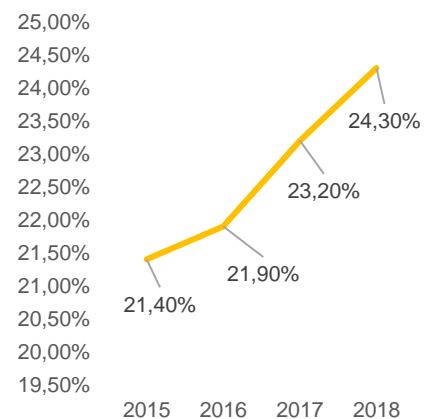
Focus on Women: Every year more women are being involved in sports activities and, therefore, PUMA decided it was a real important aspect to create a new line of products which directly targets this specific audience. Thus, the firm has recruited personalities capable of influencing other women like Rihanna (who became creative designer), Marta and Selena Gomez that launched and represented new products. Furthermore, PUMA initiated a "Do You" campaign featuring, for example, Cara Delevingne and Bruna Marquezine which transmitted an empowering message to all women supporting a new line of shoes.

Fig.8: Strategies



Source: PUMA's Website

Fig.9: Percentage of sales from Retail



Source: Company Report

3. Management and Corporate Governance

PUMA was characterized by a single-tier management system until July 2018, in which the Administrative Board was the only corporate body responsible for the management and control of the company while the Managing Directors managed the company's everyday business. However, when Kering S.A. (the previous majority shareholder of PUMA) announced its intentions of distributing 70% of share capital to its shareholders in the form of dividends, the Annual General Meeting of PUMA SE decided to change from a single-tier management system to a dualistic management system in which the Management Board represents the management body and the Supervisory Board represents the supervisory body. Therefore, since mid-2018, PUMA has 3 corporate bodies: the Supervisory Board, the Management Board and the Annual General Meeting.

Supervisory Board

The Supervisory Board is responsible for advising and monitoring the Management Board regarding the implementation of the company's strategy, appointing/dismissing the members of the Managing Directors, establishing the compensation system and defining the respective compensation of the members of the Management Board. Thus, we can conclude this board supervises the Management one and reports to the Annual General Meeting. PUMA's Supervisory Board has currently 6 members, with 4 of them being shareholders representatives and the remaining two being employees' representatives. The Supervisory Board of PUMA should meet every 3 months in order to discuss the firm's well-being or if one member requires such reunion.

Management Board

The Management Board manages the company on its own responsibility, having the objective of creating value in a sustainable way. This board ensures an efficient risk management system as well as an effective internal control system. In addition to these duties, the Management Board is also responsible for making sure that the company complies with the legal requirements and is the legal representation on and off the court. Both the Management and Administrative Boards work closely with the last being the one appointing the members of the former: at this moment, this board is composed by three members: Bjorn Gulden (Chief Executive Officer), Michael Lämmermann (Chief Financial Officer) and Anne-Laure Descours (Chief Sourcing Officer).

Annual General Meeting

The third corporate body is the Annual General Meeting where the shareholders of PUMA SE are able to exercise their information and voting rights. In these meetings, shareholders have the chance to ask questions concerning the future of the company as well as to check its accounts and review fiscal information from the previous year. In PUMA's General Meeting, each share grants one vote that can influence resolutions concerning, for example, the appropriation of the balance sheet profit, the appointment of an auditor or the approval of the actions of the members of the Supervisory and Management Boards.

Table3: Composition of Management and Supervisory Boards

Name	Position
Bjorn Gulden	Chief Executive Officer
Michael Lämmermann	Chief Financial Officer
Anne-Laure Descours	Chief Sourcing Officer
Jean-François Palus	Chairman of the Supervisory Board
Héloïse Temple-Boyer	Deputy General Manager of Artémis
Fiona May Oly	Independent Management Consultant
Thore Ohlsson	Deputy Chairman of the Supervisory Board
Bernd Illig	Employees' Representative
Martin Koppel	Employees' Representative

Source: Company Report and Website

The Supervisory Board has established 3 committees:

The Personnel Committee: this committee is constituted by 3 members and it focus on establishing policies for Human Resources and personnel development. Another of its duties is to make recommendations to the Supervisory Board about the compensations of the members of the Management Board.

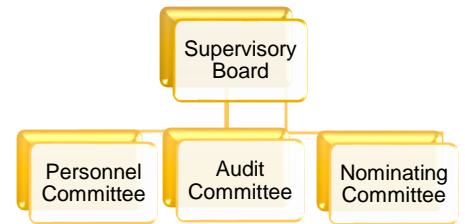
The Audit Committee: it consists of 3 members and the chairman of this committee has to be an independent shareholder representative with experience in the fields of audit and accounting. In a specific aspect, this committee deals with problems related with the accounting process, the effectiveness of the internal control system, internal audits and the statutory audit of the financial statements. In order to perform its function, the Audit Committee receives financial information on PUMA which allows to go along with the developments in the financial position and the results of operations apart from discuss issues related with the Balance Sheet and the Income Statement with the Management Board.

The Nominating Committee: constituted by 3 members (all of them are representatives of shareholders on the Administrative Board), this group offers recommendations on acceptable shareholders candidates to the Supervisory Board on the Annual General Meeting.

Shareholder Structure

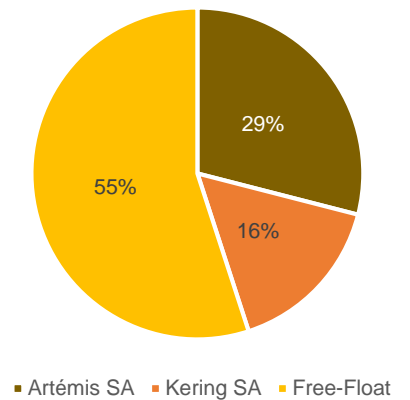
For over 10 years, the luxury-brand Kering had been the majority shareholder of PUMA SE with 86% of the sports company’s shares. Nevertheless, in 2018, Kering decided to focus solely on luxury products and, therefore, the firm chose to distribute 70% of PUMA shares held to its shareholders in the form of dividends, keeping the remainder 16%. This way, Kering’s shareholders can benefit from PUMA’s future valuation. After the spin-off, there were some changes to the shareholder structure of PUMA: Ártemis became the majority shareholder with 29%, followed by Kering with 16% and the rest of shares went to free float which now accounts 55%. This turns the company more attractive to customers and allows larger trading volumes, increasing the liquidity of shares.

Fig.10: Committees



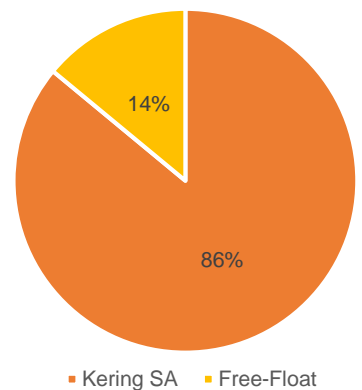
Source: Company Report

Fig.11: Current Shareholder Structure



Source: Company Report and Press Release

Fig.12: Shareholder Structure prior to July 2018



Source: Company Report and Press Release

4. Industry Overview and Competitive Positioning

Global Economy Overview

Over the course of 2018, and according to the Kiel Institute for World Economy report from December, the global economy presented a slower growth rate when comparing to 2017. On the one hand, the instability derived from trade policies (especially the trade war between the United States and China) and the tightening of monetary policy in the US contributed to this conclusion. On the other hand, the World Real GDP increased from 3,1% in 2016 to 3,66% in 2018 which combined with a growth in the employment rate helped boost the footwear market. These factors ended up having a positive influence in the environment since it reflects the stronger purchasing power of customers which, in turn, led to a higher demand and supply. Ultimately, despite the negative factors, companies were able to obtain bigger revenues.

Footwear Market – Introduction

Footwear industry has been experiencing a fast growth over the years, reaching total revenues over 130 Billion of Euros. This market is dominated by sportswear companies which operate in more than one segment. In spite of this fact, footwear represents the major source of revenue and, therefore, a lot of investment in this area is made to assure sales keep the rising path and, if possible, to take new opportunities away from rivals.

Footwear segment can be best described as an oligopoly market once it is dominated by a small number of firms (especially Nike and Adidas) and considering non-price competition is a vital factor. The two giants mentioned have been showing positive results year after year and display no signs of slowing down, which gives them the possibility of controlling the market. Other companies, such as PUMA, ASICS or Under Armour, although recording growing sales numbers, have to battle harder for their space in this industry.

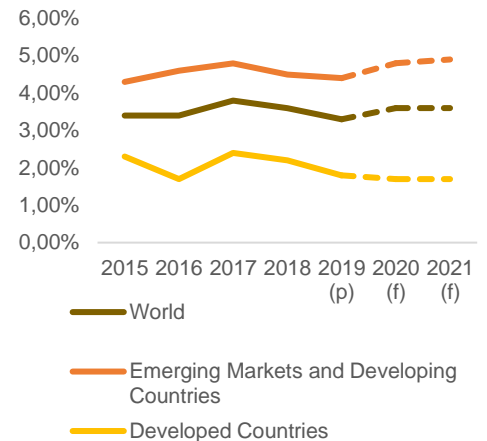
Using the market capitalization method, and applying the numbers provided by Bloomberg, it is estimated that Nike records 37,7% of market share, followed by Adidas with 17,5% and PUMA with only 2,8% of market share which corroborates the description given above.

Made in China

For years now, China has been the largest sourcing destination of footwear top players. However, as the Chinese economy expanded so have the employees' salaries and, as a consequence, most firms already started to shift manufacture to other Asian countries such as Vietnam or Indonesia, where the minimum monthly wages are lower and vary between \$101-\$142 and \$72-\$230 respectively while in China the variance occurs between \$137-\$639.

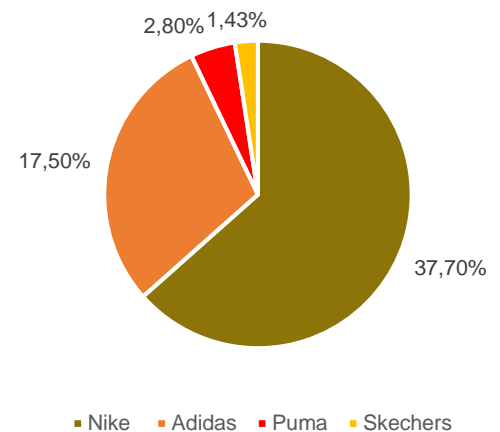
Furthermore, the trade war against the US might have a negative impact on the footwear industry. The fourth set of tariffs from the Trump Administration on Chinese goods is set to focus directly on footwear and considering that North America is currently the largest region of shoe consumption and China is the lead manufacturer, this situation could have drastic results. In case these tariffs advance, companies would have to rise prices to fight the lower price margin or they would have to relocate the factories from China which would disrupt supply chains as well as affect shipping times and sourcing strategies.

Fig.13: Real GDP Growth



Source: International Monetary Fund

Fig.14: Competitors' Market Share



Source: Bloomberg

Table 4: Minimum Wages in Asian Countries

Country	Range
Vietnam	126,96\$ - 181,69\$
Indonesia	102,74\$ - 257,73\$
Cambodia	170\$
Thailand	276\$ - 295\$
China	137\$ - 639\$

Source: ASEAN Briefing

Demand Analysis

Geographic Distribution

The footwear industry generates demand around the world and this market can be divided into 4 regions: North America, Europe, Asia-Pacific and LAMEA.

In the last few years, North America has been dominating this market however the European region has been consolidating its position. Based on data gathered from Bloomberg, in 2018, the footwear market recorded total revenues of 131,52 Billion of Euros, with North America holding around 39% of market as a result of the consciousness of the enormous obesity rate that is present in the United States and the objective of decreasing it coupled with the rising number of athletes since every year we observe that are additional male and female students practicing college sports, which is something of huge meaning especially in the United States.

In the same year, Europe recorded the second biggest market share of total revenue, of approximately 38%. This situation can be explained by the bigger number of European manufacturers of footwear and the need to maintain fitness. Some countries like Italy, Portugal and Spain have invested in this market and are climbing steps in the top producers of footwear which is dominated by Asian countries. These nations usually sell their products to the continent they belong to, Europe, and it leads to an increase on the consumption of footwear.

Additionally, it is possible to observe an interesting market share of the Asia-Pacific region, accounting 25,6% of the industry total revenue. Sales in this region have been increasing at a steady pace due to the rise of the disposable income of the population (especially in China), the demand for higher quality footwear and the growth of sports activities. Not only China, but the emerge of other countries such as India, Indonesia and Vietnam has contributed for the growth of this region.

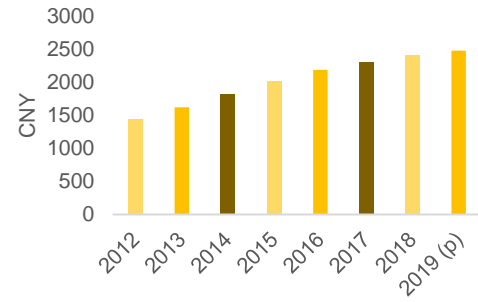
Health Concerns

The footwear industry is divided into 2 types: the athletic and the non-athletic. In recent years, the athletic footwear has been gaining more preponderance since more and more people are worrying about health and beginning to be more active. Moreover, the need to reduce the growing obesity rate and the urge to stay fit are leading more people to better lifestyles where sports are an ideal solution. Thus, there are more people running, practicing sports and going to the gym which resulted in a growing demand of the athletic type.

North America represents the biggest slice of the cake concerning athletic footwear, since sneakers were always a trend as a part of a tracksuit/relaxed outfit. For 2018, according to Bloomberg, the athletic footwear section registered total sales of 89,25 Billion of Euros, with North America recording almost half of this value (48%, corresponding to a value of 43,18 Billion of Euros). Europe and Asia-Pacific show close results with 35% and 29% respectively.

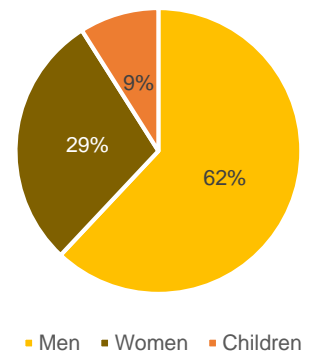
“Comfort” is the key word once customers are demanding fashionable yet comfortable shoes which resulted in the exponential growth of sneakers of 11% last year. Especially among women, sneakers are trending and are already being more acceptable in workplaces in replacement of high heels, considering that the sales of these shoes declined 11% since 2017.

Fig.15: China Labor Costs



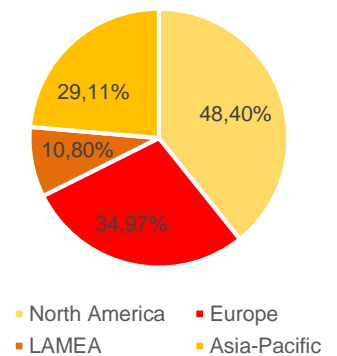
Source: Trading Economics

Fig.16: Sales of Athletic Footwear



Source: “Global Athletic Footwear Market Size, Share, Development, Growth and Demand Forecast to 2024” Report from Prescient&Strategic Intelligence

Fig.17: Geographic Distribution of Athletic Footwear Revenues



Source: Bloomberg

The online world: still needs improvements

The introduction of e-commerce has been contributing to the sustained growth of the footwear market. Online shopping provides enormous advantages once customers are able to look at different models, sizes and colors of shoes which might not be accessible in retail stores. Additionally, there are usually available reviews from other customers that evaluate the product and, when buying online, the price is lower.

Although all these benefits, a report conducted by analytics firm “First Insight” states that people still spend more time in physical stores rather than online. Most customers prefer going to stores in order to assure that the particular shoe wanted actually fits ideally or if, otherwise, it is preferable to choose another size/model. Furthermore, the report also suggests that 78% of men and 89% of women are likely to add extra merchandise to their cart when shopping on stores while only 67% of men and 77% of women recognized to do it also online.

Therefore, retailers need to offer the products consumers want at the right prices no matter where they are buying and must continue to develop physical stores where consumers are willing to spend more.

Supply Analysis

Leather

Until recent years, leather was the most used material when manufacturing a shoe considering it is very durable, soft and elastic which helps explaining the reason why it is highly applied in the footwear industry. However, we have been keeping up with a decrease in the demand of leather from footwear firms for 3 main reasons: the popularity of sneakers, the trend of physical activity and environmental concerns.

Nowadays, a big difference has appeared in the shoe sector and especially among women: comfort is dominating the market and people prefer to buy a sports shoe instead of any other type which resulted in the reduction of dress shoes and high heels, which incorporate leather in their production. Sneakers represent a trend and offer a certain social status and contributed to the decline of leather shoes in the market.

As described above, athletic shoes are obtaining more acceptance among consumers. Physical activity began to take a big portion of time in a person’s life and, currently, it is a cornerstone of every routine as a result of the awareness around health. Therefore, the market is directed to the purchase of sports footwear in order to make lives better and longer.

Leather is reckoned as a harmful material to the environment since it derives from the cut of cattle and as people are defending animal rights and turning into more conscious shoppers, footwear companies are becoming more responsible and are looking for non-leather alternatives. For example, Adidas announced last year it had sold more than 1 million pairs of shoes made out of ocean plastics in which each shoe incorporated more than 10 water bottles, indicating that this green initiative is gaining fans around the world.

Eco-Friendly Materials

In the manufacture of a shoe, footwear companies commonly use materials such as rubber, leather and textiles which have been the foundation of the shoe-making process. Nevertheless, firms in this market have been trying to diversify its options in order to minimize the downsides of the previous materials and thus, they took the first step into employing eco-friendly materials in the production process. Some of these new materials include recycled car tires, bamboo, organic cotton, cork and natural rubber with the majority being put in the soles of the shoes/sneakers. This way, the rubber, made from petroleum, can be substituted and the damages to the environment can be reduced. Recycled materials began to occupy a highlight position in the materials supplied to the firms due to the growing environmental awareness.

Table 5: Materials Used in Manufacture

Most Used Materials
Leather
Rubber
Foam
Synthetic Materials
Textiles (Polyester; Nylon)
New Alternatives
Recycled Car Tires
Organic Cotton
Plastic
Microfibers
Cork
Natural Rubber from the Hevea Tree
Sustainable Wood

Source: Eco-Friendly-Emporium

Competitive Position

Porter's 5 Forces

Porter's 5 Forces are an important analysis of how a strategy might result in the industry and also to evaluate the competitiveness of a specific market.

Bargaining Power of Suppliers: Low

Being a highly competitive market, customers of the footwear industry possess a vast number of choices when deciding to buy shoes and, therefore, their bargaining power is really strong. If PUMA decided to raise its prices, it would risk to lose some customers to other brands (especially to Nike and Adidas which already control this market) seeing that the switching costs between companies are practically zero; one advantage PUMA has is the practice of lower prices when compared with its biggest competitors and so, raising prices would lead customers to the most recognized brands.

Threat of Substitutes: Moderate

The threat of substitutes reinforces the idea developed in the Bargaining Power of Buyers. On the one hand, the big availability of similar products in the market combined with the freedom every person has to choose a specific brand results in a high threat of substitution in this industry. On the other hand, the loyalty of certain customers to PUMA and the innovation put on products as well as the lower prices experienced in sales end up paying in favor of PUMA. Consequently, the overall threat of substitutes is moderate.

Threat of New Entrants: Low

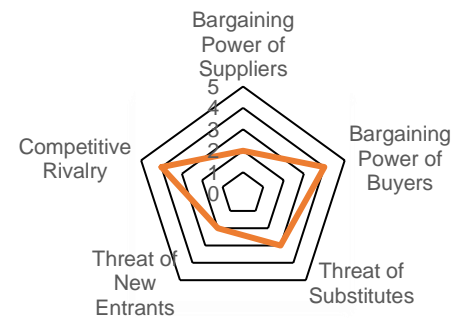
The footwear industry has big barriers to entry and thus, PUMA is not expecting new breakthroughs in this market. In spite of the fact that to create a new business is not need a high initial investment, there are certain areas which require time, capital and skilled workers just as marketing, supply chain management and distribution channels and for these reasons a new entrant cannot become a big player overnight.

PUMA presents a very solid image in the market and any new business would have to work for several years until it constituted a real competitor. Therefore, the threat of new entrants is low.

Competitive Rivalry: High

The Footwear market is a very competitive one and the restricted number of big players makes the level of competition even more intense. PUMA faces a tough rivalry from Nike, Adidas and Under Armour, with all these brands investing heavily in areas like marketing, advertisement and sponsorships with the objective of taking some market share from the others. PUMA is always paying attention to its competitors' new ideas and has to come up with new and innovative solutions to surpass the opposition. Thus, the competitive rivalry for the company is extremely high.

Fig.18: Porter's 5 Forces



Source: Personal Analysis

SWOT Analysis

With the analysis of the Strengths, Weaknesses, Opportunities and Threats of PUMA, is possible to assess the internal and external factors in favor or against the company. Also, it allows the comparison of PUMA's business position to its competitors.

Strengths

Marketing and Sponsorship: These two aspects were the foundations of PUMA to expand the customer base. Concerning sponsorship, the firm has always been trying to sign some of the more iconic athletes across different sports and generations such as Pelé, Maradona, Boris Becker, Lewis Hamilton, Usain Bolt and Virat Kohli (captain of the India Cricket National Team) and teams in strategic sports: in football the company sponsors clubs as Borussia Dortmund, Manchester City, Valencia and AC Milan (tackling the most viewed leagues), Mercedes and Ferrari in motorsports, the national football teams of Italy, Uruguay and Egypt and the Olympic teams of Cuba and Jamaica which offers a big visibility to the brand in big events as the Olympic Games and FIFA competitions. PUMA has also been attacking other areas as it has made collaborations in the fashion world with designers of great renown (Alexander McQueen, Rossi and Yasuhiro Milharaand) and lifestyle trend personalities (signed contracts with Rihanna and Selena Gomez).

Growth of the Company: PUMA is a company with very good perspectives of growth in the future since it has solid vision and strategies. These factors have already been showing results once sales grew from 3B€ in 2014 to 4,6B€ in 2018.

Brand name and logo: A big strength this company possesses is its name and logo. PUMA is always associated with high quality footwear, being in the Top 3 of this category and the logo of a jumping cat is recognized around the world as a symbol of speed, strength and agility.

Participation in different sports: Currently, PUMA is present in a wide variety of sports, manufacturing shoes and signing athletes representing different sporting categories. It produces shoes for football, golf, motorsports, track and running.

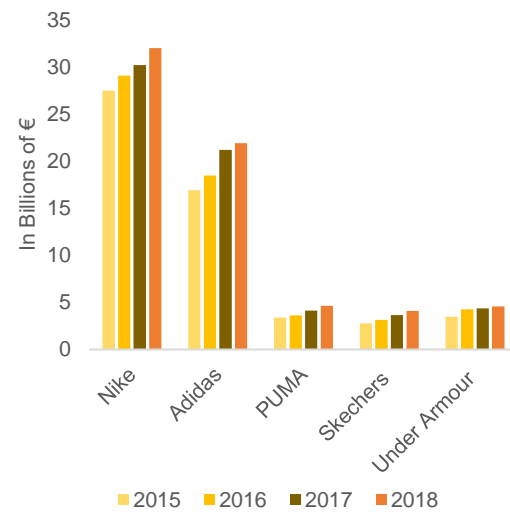
Weaknesses

Very tough competition: Historically, this company has faced competition from two giants, Nike and Adidas. With their higher revenues and overall power in the market, these companies create a barrier and make it harder for PUMA to become a bigger player in the footwear market.

Low market share: PUMA is estimated to have around 3% of market share against 18% of Adidas and 38% of Nike. This difference results in lower revenues and less means to invest so PUMA's competitors will always have an advantage regarding sponsorship of big athletes (PUMA has less available money, thus the biggest personalities of the most popular sports become ambassadors of competitors) and investment in R&D.

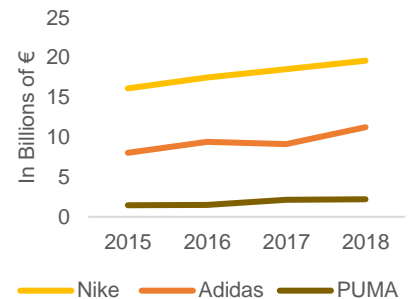
Low presence in the US: One of the biggest critiques that can be made to PUMA is the lack of brand power in the US market. Although Asia-Pacific is the market with the biggest growth in the last few years, the market for athletic footwear still has its core in North America where the United States are the main player and PUMA can't become larger and increase its market share if it's not one of the first choices when American people want to buy an athletic shoe. Despite the opening of a retail store on the Fifth Avenue in New York, PUMA is currently out of the Top 10 brands in athletic shoes sales and it is only seventh in sports lifestyle.

Fig.19: Revenue per Competitor 2015-2018



Source: Company's Reports

Fig.20: Footwear Revenues 2015-2018



Source: Statista

Table 6: Top 7 Footwear Brands in the US

Nike
Adidas
Under Armour
Skechers
New Balance
Asics Corporation
Saucony

Source: technavio Blog

Opportunities

Emerging Markets: There are some specific countries in which the demand of footwear is growing exponentially. This situation is an opportunity to PUMA in order to gain some market share over its competitors since it can establish itself as the number 1 company in locations as Vietnam, Saudi Arabia, Mexico and Turkey. For example, in India (another growing market) this firm has already taken measures to increase its popularity sponsoring the most beloved sport that is cricket.

More Sponsorship: Giving the fact that previous sponsors had a big impact on sales, PUMA should invest more in new ones, looking for the “next big thing” on sports and in other areas. Signing Rihanna, Big Sean and The Weeknd meant bringing the music industry to the design of shoes and customers had a good reaction to those models raising the sales of PUMA. Also, Usain Bolt reflected perfectly the brand’s slogan and seeing the world’s fastest person as a PUMA ambassador leads people into buying PUMA’s products.

Basketball, Baseball and Football: As an effort to correct one of the weaknesses, the firm should consider entering new categories of sports like basketball and baseball. One idea to increase the brand recognition in the United States is to sponsor some of the most popular sports and athletes there and if PUMA has already tried concerning basketball players, baseball and American football is another reality. Since these last two are some of the most appreciated sports in America and are not sponsored by Nike or Adidas, it constitutes an interesting move to be made by PUMA; in basketball, knowing that the most famous players/teams are already under the wings of competitors, PUMA should focus its attention on young talented players that can become leaders of the next generation.

Threats

Economic conditions: There are some factors which, when suffering significant changes, can affect PUMA’s business. That’s the case of increases in the inflation rate, the decrease of the purchasing power of customers and the rise of labor costs. It is important to mention that as a result of an economic condition (which in this case are the duties and tariffs of US on products from China), PUMA is considering shifting a part of the footwear production to other countries such as Vietnam and Indonesia. Naturally, this process would influence the firm’s operations and might take a big impact on the Asia Pacific region.

Existence of counterfeit products: Nowadays, some customers might prefer fraud products. These products are similar to the official ones, have the jumping cat logo copied and can be bought at a lower price when compared to those from an official PUMA store. When these situations occur, the business suffer the losses regarding the profit that could have been made, decreasing the sales.

Change in market preferences: As stated previously, one of the reasons for the growth of PUMA in the last years has been the higher demand for a casual look which includes the footwear produced by this firm. However, if suddenly a more formal look came back as a trend/requirement, sports shoes wouldn’t be so sought after and, obviously, companies like PUMA would observe a slowdown in its growth.

5. Investment Summary

BUY is my recommendation for PUMA SE. In 2020, the price target is expected to be 719,14€, representing an upside potential of 21,79% compared to the share price of 590,90€ at July 2019. Being on the top 3 of footwear companies for many years, PUMA has been closing the gap to its competitors and this evolution can be explained by the interesting financial results, the new policy of marketing campaigns and the rising of sneakers' demand.

Key Drivers

EBIT and FCF

PUMA has been recovering its reputation by consistently showing positive and interesting results, being EBIT and the Free Cash Flows two of those indicators. EBIT displayed a growth from 96,3M€ to 337,4M€ in the historical period and the improvement is expected to continue until 2025, reaching a value of 520,663M€ which demonstrates the greater ability of the firm to obtain earnings from its operations. The FCF follows the same behavior of EBIT once, between 2018 and 2025, this financial indicator anticipates an increase from 53,41M€ to 1137,62M€ exhibiting very good signs of financial health and profitability. The company is able to transmit the idea that is capable of retaining cash even after paying for all the expenses.

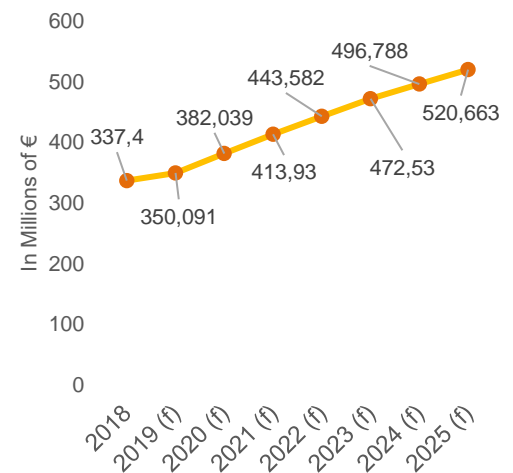
Marketing

The most critical factor for the growth of PUMA SE in the last few years was the smarter marketing strategy implemented. In marketing, for every company, the most desired target audience are teenagers and with that in consideration PUMA started to diversify the campaigns to other areas than sports which could captivate the new type of customers. Therefore, PUMA recruited celebrities across different areas such as sports, music, fashion and the so-called Instagram influencers in order to reach teenagers/young adults. The high investment made in marketing has paid off since sales have been growing over the years.

Sneakers' Demand

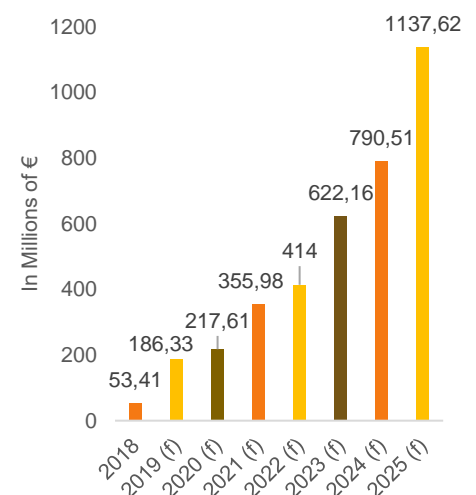
Athletic footwear has been the first choice of customers in present times with sales of this type of shoes growing exponentially. Besides the awareness regarding health and physical activity, people began to value comfort and casual looks which led to the increase in its demand. At the moment, sports footwear is trending and represent a lifestyle and this situation allowed PUMA to have new opportunities when trying to claim the attention of new customers through innovation, technology and new designs.

Fig.21: EBIT 2018-2025



Source: Company Report and Personal Estimations

Fig.22: FCF 2018-2022



Source: Personal Estimates

Valuation Methods

The price target of PUMA SE was reached through the Discounted Cash Flow Method (DCF) backed by the Adjusted Present Value (APV) and the Flow to Equity Method (FTE), obtaining the same final value of 719,14€ which represents an upside potential of 21,79% compared to the price at July of 2019. Besides these methods, it was performed the Multiples Approach in the Relative Valuation Model as a complement and it was reached a price target of 645,11€ for EV/Sales, 355,33€ for EV/EBITDA and 640,01€ for EV/EBIT.

Risks

Considering PUMA is a worldwide firm, it is exposed to some risks which may arise from this fact.

Earnings of PUMA are sensible to variations in the sourcing strategy of the company since it is based on low labor costs coming from countries in the Asia-Pacific region. However, politics are changing and those costs are increasing, especially in Asian countries which might force PUMA to come up with new sourcing strategies, affecting its profits.

Other risk the Asia-Pacific region bears is the possibility of harming the business through a loss which may occur due to the different currencies used in the transactions. As a company based in Germany, PUMA usually uses Euro as a base currency while in the rest of the world the firm operates mainly with US Dollars which can complicate the results if any errors are detected.

6. Valuation

Revenue

In order to forecast PUMA's total revenue, it was decided to see the growth of sales per segment: footwear, apparel and accessories.

- **Footwear:** in 2018, footwear accounted for 47% of total sales and presented an average growth between 2015 and 2018 of 13,34%. Given the good perspectives of footwear, it was assumed this segment would grow at a rate of 12% in the first two forecasted years and after the rate would decrease, reaching a value of 5% in 2025.
- **Apparel:** apparel constituted 36,3% of revenues in 2018 and considering it is the segment with the highest growth outlook, it was assumed it would grow at a rate between 9% and 10% until 2022, slightly decreasing to 6% afterwards.
- **Accessories:** this is the segment in which the expectations of growth are lower since the footwear and apparel sales dominate PUMA's revenues. Therefore, accessories are expected to grow at 2% in the whole forecast period.

Gross Profit Margin

PUMA presented an average Gross Profit Margin of 46,73% but for the forecast period it was assumed a Gross Profit Margin of 49,00% once in the outlook for 2019, the company predicts a margin slightly higher than the one observed in 2018, which was 48,40%.

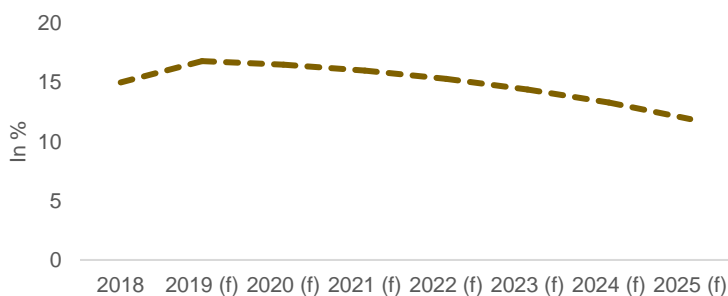
CAPEX and Depreciation&Amortization

CAPEX was used to compute both PP&E and Intangible Assets. It is based on the historical average weight to Total Revenue which is assumed to continue in the forecast period. For the Accumulated Depreciation/Amortization it was calculated the historical average to the Purchase Costs and Depreciation/ Amortization for the period is the difference between the Accumulated of the two years.

Debt

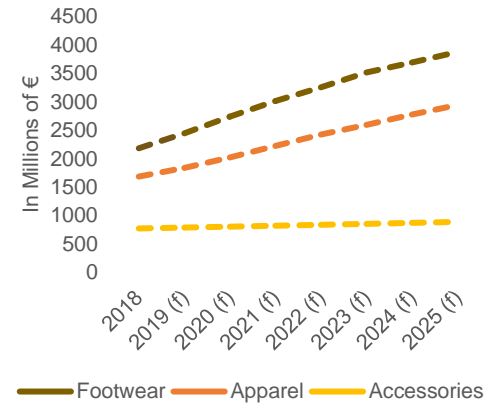
It was assumed that Total Debt was composed by Current Financial Liabilities, Other Current Financial Liabilities and Other Non-Current Financial Liabilities. Total Debt was forecasted assuming stable values for the components mentioned above and it was created a line "New Debt" to reflect the need of money in each period. PUMA is expected to display a level of assets for which it doesn't have enough cash so this new line "New Debt" reflects the amounts PUMA is missing.

Fig.26: Debt to Equity Ratio 2018-2025



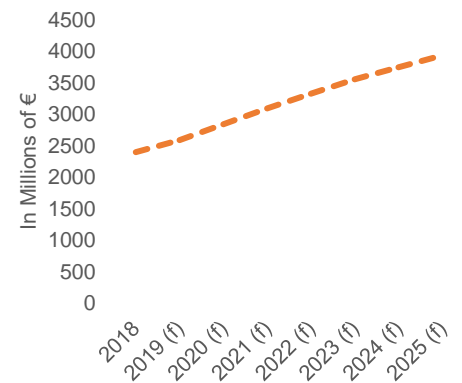
Source: Company Report and Personal Estimations

Fig.23: Segments Expectations Growth



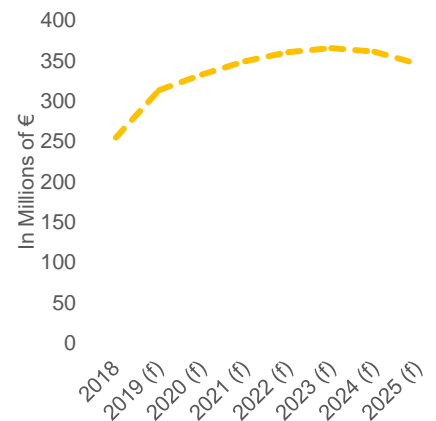
Source: Personal Estimations

Fig.24: Evolution of Cost of Sales 2015-2022



Source: Company Report and Personal Estimates

Fig.25: Evolution Total Debt



Source: Company Report and Personal Estimations

WACC Assumptions

The WACC Method was the one selected to compute the rate which was then used to discount the cash flows and reach the price target of the company's shares.

- Market Risk Premium: it was taken from Damodaran's "Equity Risk Premium" of Germany, corresponding to a value of 5,96%.
- Risk-Free Rate: the Rf corresponds to the value of the 10 Year German Corporate Bond at the 12th of April. For the Terminal Period, it was assumed the average values of the rate between 2015 and 2018.
- Unlevered Beta: the value 0,72 was taken from Damodaran and it was assumed an equal value to the beta of the Shoe sector.
- Cost of Equity: computed using the CAPM Model.
- Cost of Debt: calculated as "Interest Paid" from the Income Statement divided by the Total Debt of the company.
- Tax Rate: computed as the historical average between 2015 and 2018.
- Terminal Growth Rate: based on the average GDP Growth Rate in Advanced Economies between 2015 and 2021, taken from the International Monetary Fund website.

Table 7: Calculation of the Cost of Equity

Cost of Equity	
Market Risk Premium	5,96%
Risk-Free Rate	0,06%
Beta	0,7395
Ke	4,47%

Source: Personal Estimations

Discounted Cash Flow Method

The DCF Method is used to compute the value of an investment, considering the future cash-flows discounted at the WACC rate. In this method it was obtained the Free Cash Flows for the forecast period 2018-2025 and for perpetuity (or Terminal Value). The Terminal Value is calculated as the FCFF for that period discounted at the difference between the Current WACC and the Terminal Growth Rate. After the computation of the Enterprise and Equity Values, it was reached a price target of 719,14€.

Adjusted Present Value Method

The APV Method was another method computed to reach the company's overall value and price target, assuming a scenario in which the company was only financed by equity and net effects of debt (such as the Interest Tax Shield). As happened in the DCF Method, it was obtained an Equity Value of 10751,94€, which led to a price target of 719,14€.

Free Cash-Flow to Equity Method

The FTE Method is used to compute the Free Cash-Flow to Equity, which is the same as saying that this method requires the cash-flows of the firm to be discounted at the cost of equity. Just as in the other two methods, the same price target was reached (719,14€).

Relative Valuation

Relative Valuation is an approach that compares one company to its competitors in a certain industry through the use of multiples and ratios in order to reach the firm's value.

First of all, it was necessary to select the companies that would constitute the group of comparables of PUMA and it was set a criteria in order to do so: Companies had to present a beta lower than 1; Market Capitalization over 1 Billion€; Operate in the same areas as PUMA (Footwear, Apparel and Accessories); and being publicly traded companies. Starting with 7 companies, only 4 of them were able to be considered comparables: Adidas, Nike, Skechers and Under Armour.

The multiples chosen were the EV/Sales, EV/EBITDA and EV/EBIT. From these, it is possible to analyze the EV/Sales and EV/EBIT ratios offer valuations somehow close to the DCF price target (645,11€ and 640,01€, respectively). On the other hand, the EV/EBITDA registers a decrease in the price target which indicates it is not an accurate measure.

Table 8: Peers' Selection

Companies Excluded	
Geox	Market Cap. Below 1B€
NB	Private Company
VFCorp	Footwear not the main area

Source: Personal Analysis

Table 9: Price Targets Using Multiples

Relative Valuation	
EV/Sales	645,11€
EV/EBITDA	355,33€
EV/EBIT	640,01€

Source: Personal Estimations

7. Financial Analysis

Revenues

Since the new management came on board in 2013, it was promised that PUMA would increase its revenues and approximate the company to its biggest rivals and that promise was fulfilled. Between 2015 and 2018, revenues grew at a CAGR of 11,1% and this increase is expected to continue in the forecast period at a CAGR of 7,5% from 4648,3M€ to 7712,2M€. The boost in revenues growth can be explained by the very good perspectives in the footwear and apparel segments: in 2018, footwear sales and apparel sales accounted for 47% and 36,3% of total revenues and in the last year of the forecast period, those values are expected to rise to 50% and 38%, respectively while the accessories segment decreased its percentage of total sales although the increase when comparing with 2018.

Efficiency

The main takeaway from the analysis of PUMA's efficiency ratios is that this company will become highly efficient when it comes to collect payments from customers. Between 2015 and 2018, the Accounts Receivables Turnover grew from 7,267 to 8,792 and the Collection Period registered a decrease from 50,229 to 41,515 which indicates this firm is currently more efficient in receiving payments due by clients than it was some years ago. In the future, these two ratios are expected to stabilize at 7,8 (for the Accounts Receivables Turnover) and 46,420 (for the Collection Period) indicating an overall improvement for PUMA.

Additionally, this evolution can be explained by the growth of the Total Assets Turnover from 1,31 to 1,534 showing PUMA is now able to generate more revenue per asset. However, by 2025, PUMA might face some problems concerning management of assets once this ratio should decrease as a result of the rise in the assets' volume comparing to revenues.

Finally, by observing the Cash Cycle, it is possible to conclude the company demonstrates greater ability to turn investments made into cash coming from sales as it decreased from 219 days in 2015 to 215 days in 2018.

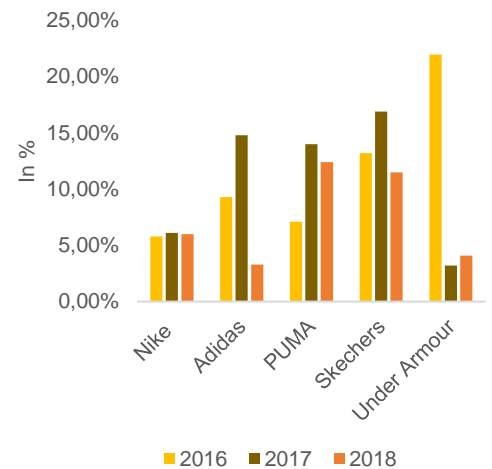
Profitability

Throughout the years, PUMA has proven to be a profitable company to investors and this situation can be verified by the analysis of two ratios: the Return on Equity (ROE) and the Return on Assets (ROA).

Starting with the ROE, it is a ratio that measures the way a company grows and obtains income through its equity financing and, for PUMA, this ratio increased from 3,81% to 13,60% in the first 4 years of analysis and in the future it is expected to remain higher than the value displayed in 2015.

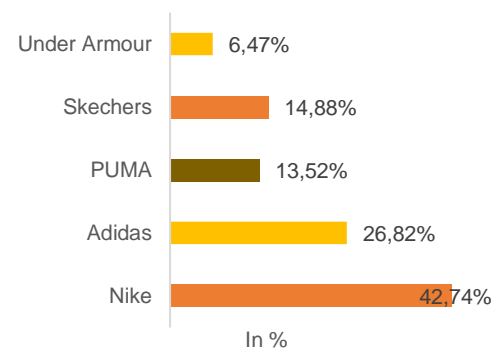
As for the ROA, it presented a rise from 2,35% to 7,17% between 2015 and 2018. Even though this ratio is not expected to show as much growth as the ROE, it is possible to observe and conclude that PUMA has made a lot of improvements in managing its assets so it could create profits.

Fig.27: Revenue Growth Rate per Competitor



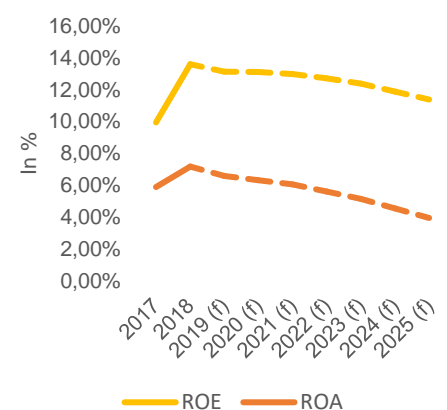
Source: Personal Estimates

Fig.28: Competitors' Return on Equity



Source: Bloomberg and Personal Estimate

Fig.29: Growth of ROE and ROA

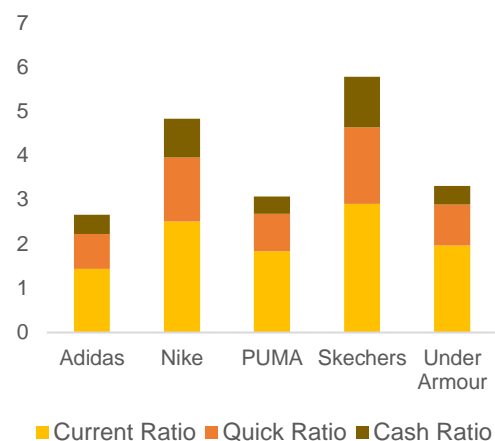


Source: Company Report and Personal Estimates

Liquidity

Over the years, PUMA has displayed a decreasing tendency in their liquidity ratios. For instance, the current ratio reduces from 1,915 to 1,835 between 2015 and 2018 and in the long run that value is expected to reach a number around 1,4, indicating a lower ability for the firm to meet its short-term obligations. Also, the quick ratio follows the same pattern with a value of 0,934 in 2015, being expected a value of 0,851 in 2018. However, the cash ratio is predicted to rise well above the normal signs (from 0,385 to 0,658) in the whole analysis period showing the company will be able to pay its short-term debt with its cash and cash equivalents. Therefore, the company shouldn't show any signs of troubles since, in the case of the current ratio, the value is higher than 1 (which means the current assets are able to cover the current liabilities).

Fig.30: PUMA's Liquidity vs Competitors' Liquidity

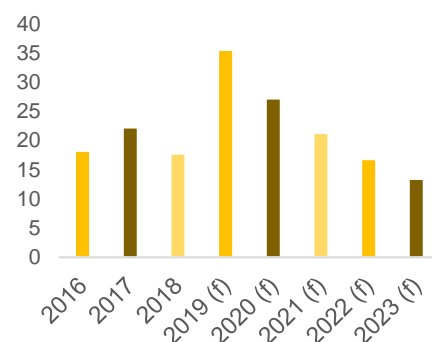


Source: Bloomberg

Solvency

PUMA is characterized by being a firm that presents a low level of debt, especially when comparing to the average values in the industry. By looking at the Debt to Equity Ratio, it's possible to study that the company keeps a low ratio throughout the historical period and in the forecast period the company expects a reduction from 0,15 to 0,12 (between 2019 and 2025); PUMA usually finances its assets with debt varying this range from 8% to 15%. Moreover, the Interest Coverage Ratio, which measures a firm's ability to pay the interest expenses on debt, indicates a sustained growth between 2015 and 2018, going from 10,700 to 17,758, still in the forecasted period PUMA is expected to diminish this aspect as the ratio drops to 13,43.

Fig.31: PUMA's Interest Coverage Ratio 2016-2023



Source: Company Report and Personal Estimates

8. Investment Risks

Legal Risks (LR)

Considering PUMA is involved in a market where there are very similar products and designs, the company is exposed to various legal risks such as trademark and patent ones.

In 2017, PUMA filed a lawsuit against Forever 21 for intellectual property rights violations, where it claimed the American company had copied 3 of Rihanna's designs for the German firm. Meanwhile, both companies have agreed to dismiss the case.

More recently, in May 2018, PUMA is facing a lawsuit from Nike which is alleging a case of patent infringement. Nike states that PUMA violated 7 patent rights with respect to the use of Flyknit, Air and cleat assembly technologies and requests that the damages be rewarded.

Additionally, the food chain In-N-Out filed a trademark lawsuit against PUMA, explaining the latest two pairs of sneakers launched by PUMA - the Cali-O Drive Thru and the California Drive Thru - incorporated designs essentially identical to the ones seen on In-N-Out storefronts and employees' uniforms.

Currency Risks (ER)

Currency risk (or exchange-rate risk) is the one coming from the change in the price of two currencies which might occur with companies operating worldwide. Once PUMA's largest sourcing market is the region Asia-Pacific, where most payments are made in US dollars (USD) and the fact the company operates mainly with Euros (€), favor the appearance of risks resulting from fluctuations in exchanges rates and from the difference between the amounts used in a sale and in a purchase, which might lead to an unexpected loss. Therefore, PUMA uses currency forward contracts to hedge existing and future financial liabilities in foreign currencies.

Product and Market Environment (PR)

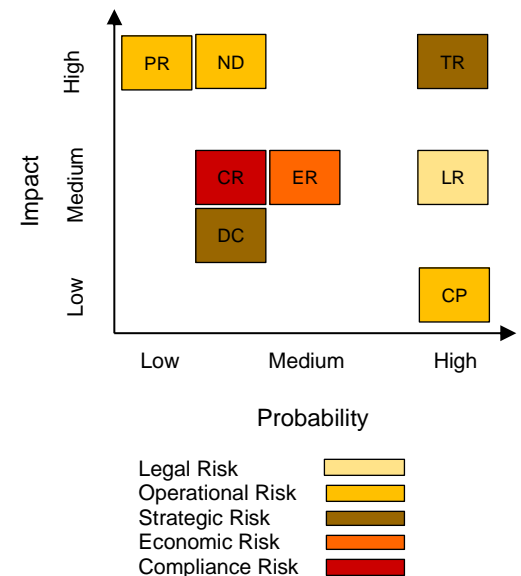
In the footwear industry, innovation is a critical factor and so, PUMA must be prepared to pick up the latest trends at any time. There is a substantial risk posed by market-specific product influences which keep changing very quickly and if PUMA is not able to recognize and take advantage of consumer trends, this situation may harm the business.

Distribution Channels (DC)

In order to avoid dependency on an individual distribution path, PUMA works through diverse distribution channels, namely the retail stores and e-commerce. However, these channels bear some risks since they require investments in expansion and infrastructure, high fixed costs as well as leases with long-term obligations which can have a negative impact on PUMA if business does not thrive.

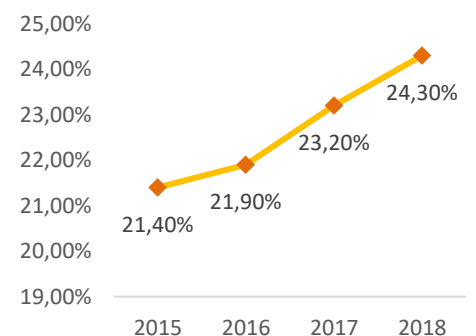
As a solution to mitigate these risks, PUMA performs location and profitability analysis before making investment decisions (enabling the early detection of negative trends and the necessary measures to manage individual stores) and make investments in the IT platform as an attempt to optimize the purchase transaction and experience for customers.

Fig.32: Risk Matrix



Source: Personal Estimation

Fig.33: Retail Sales (% of Total Sales) 2015-2018



Source: Company Report

Natural Disasters (ND)

Considering that the Asian continent is the biggest sourcing area for PUMA and also a usual target of natural disasters as floods, tsunamis and earthquakes, the production would be affected in the eventuality of such case and it would take a long time to recover from it.

Trade Restrictions (TR)

Whenever a country adopts a measure of protectionism against another, companies end up paying the price. This could become the situation of PUMA regarding Trump’s tariffs over Chinese goods. If these tariffs reach the footwear imports, PUMA will be forced to raise the prices in order to maintain its margin and additionally, it will have to shift production from China to other countries which would disrupt the supply chain and the sourcing strategy already established. PUMA would risk losing many customers and incurring in a large amount of costs.

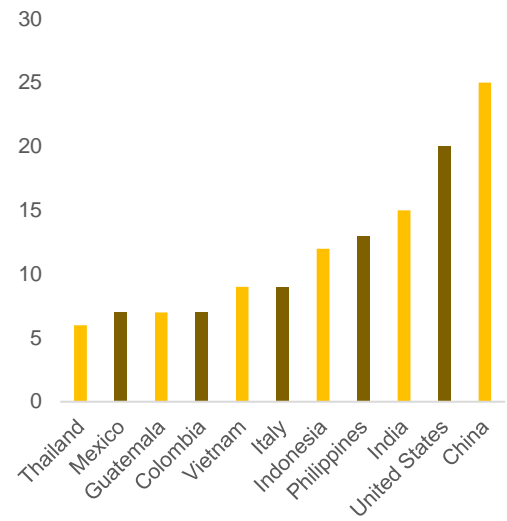
Counterfeit Products (CP)

Fraud products are a problem that affect PUMA’s business every day. Some people prefer buying PUMA’s shoes from locations that are not the official distribution channels used by the company due to its lower price and big similarities to the real ones. Therefore, sales of counterfeit products take some customers away from the real business and that can influence PUMA in a negative way.

Compliance Risks (CR)

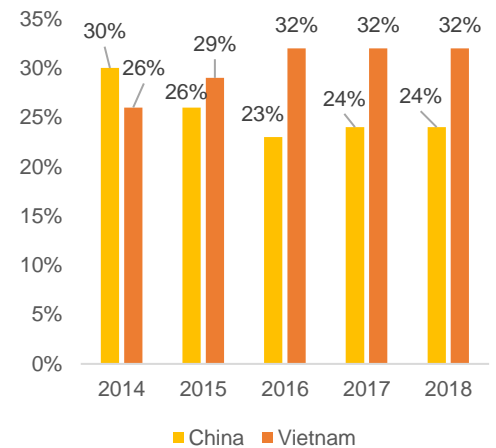
PUMA is exposed to some violations its employees might do, such as theft, fraud or corruption which can have a significant impact on the company’s treasury and image. Several years ago, in 2010, PUMA was caught in a fraud scandal as the financial managers in the Greek Office were taking money away from the firm and, as a consequence, PUMA had to write off €115M. After the fraud scheme, the company created an integrated compliance management system, an internal control system and finally an internal audit department as a way to control the employees’ conducts.

Fig.34: Number of Natural Disasters in 2017



Source: Statista

Fig.35: China/Vietnam Sourcing Weights 2014-2018



Source: Company Reports

Sensitivity Analysis

PUMA is susceptible to multiple risks and, therefore, a sensitivity analysis was performed to observe how PUMA's stock price would behave when certain variables changed.

First, it was tested the impact resulting from changes in the Market Risk Premium and in the Beta and as can be observed, as the Market Risk Premium increases, the recommendation changes from "BUY" to a "SELL" one. The Beta does not influence the price target as much as the Market Risk Premium considering the variations occurred produce few changes in recommendations. In this situation, a "Buy Recommendation" can only be achieved with the reduction of the Market Risk Premium to at least 5,50% as long as the Beta registers a value of 0,86 or higher.

**Table 10: Recommendation System
(BPI's Investment Rating and Risk Classification)**

Buy	>15%	679,08€
Hold	>5%; 15%<=	679,08€
Reduce	>-10%; 5%<=	620,03€
Sell	<=-10%	531,45€

Source: Personal Estimates

Table 11: Changes in Risk-Free Rate and Tax Rate

		Market Risk Premium										
		719,14 €	4,00%	4,50%	5,00%	5,50%	6,50%	7,00%	7,50%	8,00%	8,50%	9,00%
Beta	0,76		1048,982	919,5044488	824,496995	751,811635	647,9264	609,5194	577,2514	549,7595	526,0563	505,4091
	0,78		1017,963	894,4583439	803,556654	733,853562	633,9907	596,9992	565,8904	539,3645	516,4782	496,5305
	0,80		989,1459	871,1104608	783,98733	717,039078	620,9067	585,2322	555,2037	529,5793	507,4563	488,1629
	0,82		962,3032	849,293744	765,658645	701,262316	608,5985	574,1523	545,133	520,3519	498,9436	480,2634
	0,84		937,2391	828,8623537	748,456244	686,430086	596,9992	563,7011	535,6265	511,6357	490,8981	472,7939
	0,86		913,7825	809,6884012	732,279407	672,460031	586,0491	553,8266	526,6381	503,3896	483,2823	465,7201
	0,88		891,7835	791,6592695	717,039078	659,2791	575,6953	544,4822	518,1266	495,5763	476,0629	459,0114
	0,90		871,1105	774,6754	702,656219	646,822266	565,8904	535,6265	510,0549	488,1629	469,2095	452,6402
	0,92		851,6469	758,6484529	689,060445	635,031457	556,5918	527,2221	502,3899	481,1192	462,695	446,5818
	0,95		824,497	736,2325227	670,006809	618,481698	543,5107	515,3889	491,5901	471,1888	453,5059	438,0319

Source: Personal Calculations

It is also important to evaluate how the price target reacts to the variations in the Growth Rate (g) and the Long-Term WACC. It is possible to affirm that these two inputs establish different relations with the price target as it grows when the Terminal Growth Rate also increases while in the case of the WACC, the higher the rate, the lower the price target. As it can be observed in the table below, a “SELL” recommendation can only be obtained for a value of 1,20% or lower for the g while a “BUY” one can be achieved for almost all the range of the WACC rate. These two inputs can be seen as very sensible considering that for a value of 4,60% in the WACC, a simple variation of 0,4% in the Growth Rate (from 1% to 1,40%) can change the recommendation from a “REDUCE” to a “BUY” one.

Table 12: Changes in Terminal Growth Rate and Terminal WACC

		Terminal Growth Rate									
719,14€		0,60%	0,80%	1,00%	1,20%	1,40%	1,60%	1,80%	2,00%	2,20%	2,50%
WACC	4,00%	630,510612	663,2109	700,2712625	742,625943	791,496728	848,5126	915,8951	996,754	1095,582	1293,237
	4,40%	585,800978	612,384	642,0945366	675,518837	713,39971	756,6921	806,6449	864,9232	933,7975	1064,296
	4,60%	566,799384	590,9833	617,8542342	647,886499	681,672797	719,9639	763,7252	814,219	873,1285	982,5317
	4,80%	549,607466	571,7226	596,1655425	623,324421	653,678461	687,8268	726,5282	770,7583	821,7931	914,9872
	5,00%	533,978449	554,2962	576,64572	601,347825	628,794607	659,4704	693,9807	733,0924	777,7914	858,2497
	5,20%	519,708477	538,4541	558,9849283	581,568888	606,530107	634,2648	665,2624	700,1347	739,6566	809,9178
	5,40%	506,627669	523,9895	542,929663	563,67366	586,492056	611,7124	639,735	671,0543	706,2886	768,2524
	5,60%	494,593326	510,7303	528,2705078	547,40527	568,362391	591,4152	616,8947	645,2052	676,8463	731,9631
	5,80%	483,484702	498,5319	514,8329488	532,551523	551,880877	573,0511	596,3384	622,077	650,6754	700,0726
	6,00%	473,198938	487,2718	502,4703946	518,935589	536,832539	556,3565	577,7399	601,2616	627,2592	671,8267

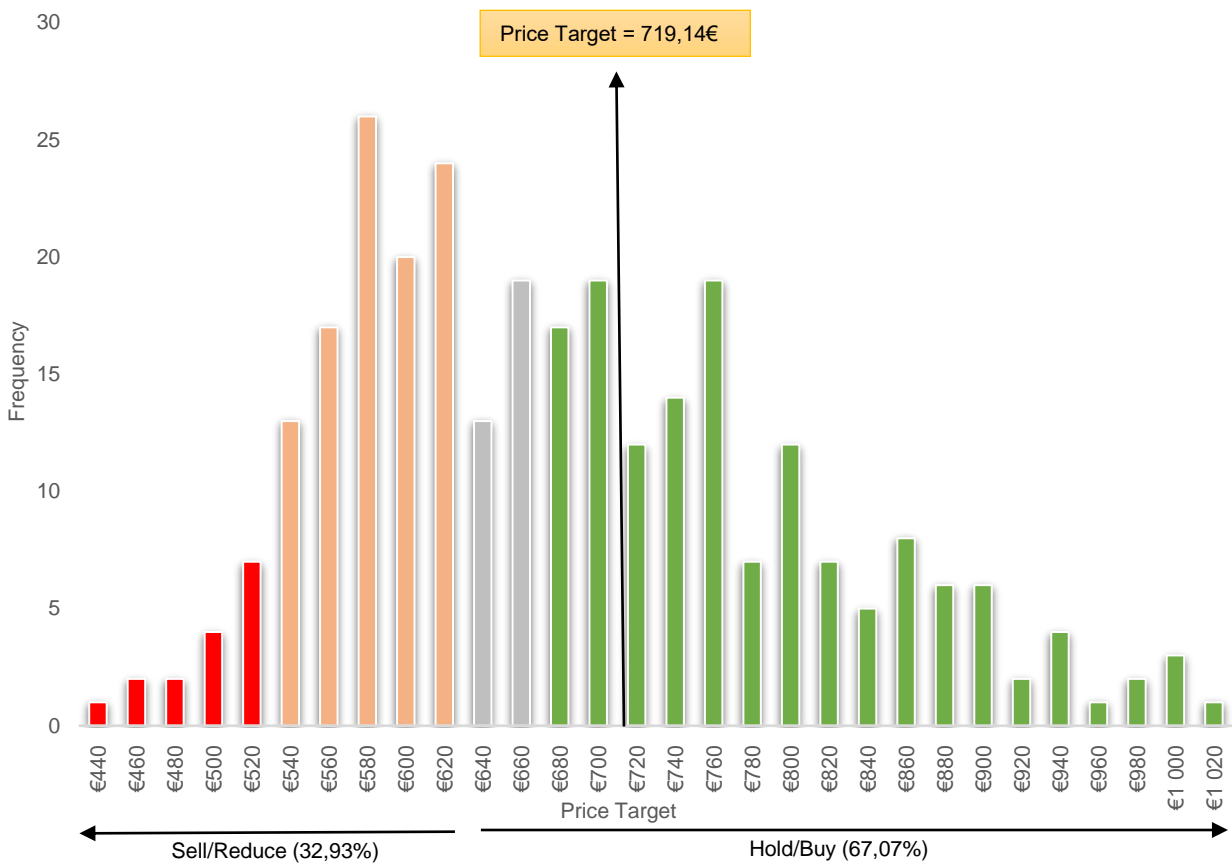
Source: Personal Calculations

Monte Carlo Simulation

I performed the Monte Carlo simulation using the program Crystal Ball in order to evaluate the way the price target reacts to changes in the most diverse inputs. The inputs chosen were the market risk premium, the risk-free rate, the levered beta, the cost of equity, the marginal tax rate, the after-tax cost of debt, both the weights of equity and debt, the WACC and the terminal g. After completing the simulation, it was reached a mean price target of 710,01€, corresponding to the "BUY" section and being relatively close to the price target reached in the DCF Method.

The Monte Carlo simulation informs that there is 5,89% probability of obtaining a sell recommendation, 27,03% of a reduce recommendation, 18,72% of the hold recommendation being accurate and 48,35% of a buy one.

Fig.36: Monte Carlo Simulation



Source: Crystal Ball

Appendices

Appendix 1: Statement of Financial Position

Balance Sheet (Millions of €)	Historical Data				Forecasted Data					
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Assets										
Cash&Equivalents	338,8	326,7	415,0	463,7	586,8	693,6	923,0	1193,0	1652,0	2258,0
Inventories	657,0	718,9	778,5	915,1	948,3	1096,2	1129,1	1264,2	1293,1	1401,7
Trade Receivables	483,1	499,2	503,7	553,7	661,6	725,9	790,1	849,7	908,0	956,8
Income Tax Receivables	50,5	37,4	26,8	33,9	33,9	33,9	33,9	33,9	33,9	33,9
Other Current Financial Assets	76,8	114,1	66,7	111,2	138,6	172,6	215,1	268,0	334,0	416,1
Other Current Assets	78,6	69,2	94,1	115,2	133,0	153,6	177,4	204,9	236,6	273,2
Total Current Assets	1684,8	1765,4	1884,8	2192,8	2502,2	2875,8	3268,6	3813,7	4457,6	5339,7
Deferred Income Taxes	219,8	229,5	207,9	207,6	207,6	207,6	207,6	207,6	207,6	207,6
PP&E	232,6	252,1	260,1	294,6	317,0	361,5	410,5	463,5	520,4	580,1
Intangible Assets	403,3	423,1	412,9	437,5	468,7	499,6	533,7	570,6	610,2	652,1
Investment in Associates	15,2	16,5	16,6	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Other Non-Current Assets	64,5	78,5	71,5	74,7	79,0	83,6	88,5	93,6	99,0	104,8
Total Non-Current Assets	935,5	999,7	969,0	1014,4	1072,3	1152,3	1240,2	1335,3	1437,2	1544,5
Total Assets	2620,3	2765,1	2853,8	3207,2	3574,5	4028,1	4508,8	5149,0	5894,8	6884,2
Liabilities and Shareholders' Equity										
Current Financial Liabilities	14,0	25,3	29,0	20,5	20,5	20,5	20,5	20,5	20,5	20,5
Trade Payables	519,7	580,6	646,1	705,3	747,6	846,5	888,5	977,5	1016,4	1084,7
Income Taxes	49,7	41,4	54,7	68,0	68,0	68,0	68,0	68,0	68,0	68,0
Other Current Provisions	52,7	56,0	86,2	39,6	39,6	39,6	39,6	39,6	39,6	39,6
Other Current Financial Liabilities	115,9	70,0	94,9	57,2	57,2	57,2	57,2	57,2	57,2	57,2
Other Current Liabilities	125,1	121,5	145,5	304,6	432,4	613,8	871,2	1236,7	1755,5	2492,0
Current Liabilities	880,0	894,9	1056,5	1195,2	1365,2	1645,5	1945,0	2399,5	2957,2	3762,0
Deferred Income Tax Liabilities	64,2	63,1	37,6	47,7	47,7	47,7	47,7	47,7	47,7	47,7
Pension Provisions	23,8	31,6	29,7	28,9	28,9	28,9	28,9	28,9	28,9	28,9
Other Non-Current Provisions	23,5	29,8	34,6	26,3	26,3	26,3	26,3	26,3	26,3	26,3
Liabilities from Acquisitions	0,0	5,0	4,8	3,3	3,3	3,3	3,3	3,3	3,3	3,3
Other Non-Current Financial Liabilities	7,2	16,2	30,9	180,7	180,7	180,7	180,7	180,7	180,7	180,7
New Debt					55,1	74,7	91,1	102,4	107,5	103,0
Other Non-Current Liabilities	2,2	2,3	3,0	2,9	3,2	3,5	3,9	4,3	4,8	5,3
Non-Current Liabilities	121,0	148,0	140,7	289,7	345,2	365,2	382,0	393,7	399,1	395,2
Subscribed Capital	38,6	38,6	38,6	38,6	38,6	38,6	38,6	38,6	38,6	38,6
Reserves	162,5	203,2	50,7	146,8	146,8	146,8	146,8	146,8	146,8	146,8
Retained Earnings	1441,7	1496,6	1566,1	1546,7	1688,7	1842,1	2006,5	2180,4	2363,0	2551,7
Treasury Stock	-31,4	-31,4	-30,0	-28,9	-28,9	-28,9	-28,9	-28,9	-28,9	-28,9
Equity Attributable to Shareholders of the Parent	1611,3	1706,9	1625,5	1703,3	1845,2	1998,6	2163,0	2336,9	2519,5	2708,2
Non-Controlling Interests	8,0	15,3	31,2	18,9	18,9	18,9	18,9	18,9	18,9	18,9
Shareholders' Equity	1619,3	1722,2	1656,7	1722,2	1864,1	2017,5	2181,9	2355,8	2538,4	2727,1
Total Liabilities and Shareholders' Equity	2620,3	2765,1	2853,8	3207,2	3574,5	4028,1	4508,8	5149,0	5894,8	6884,2

Source: Company report and personal estimates

Appendix 2: Income Statement

Income Statement (Millions of €)	Historical Data				Forecasted Data					
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Sales	3387,4	3626,7	4135,9	4648,3	5077,9	5571,3	6063,8	6521,7	6968,8	7343,5
<i>Per Segment</i>										
Footwear	1506,1	1627,0	1974,5	2184,7	2446,9	2740,5	3014,5	3255,7	3516,2	3692,0
Apparel	1244,8	1333,2	1441,4	1687,5	1839,4	2023,3	2225,6	2426,0	2595,8	2777,5
Accessories	636,4	666,5	719,9	776,1	791,6	807,5	823,6	840,1	856,9	874,0
Cost of Sales	-1847,2	-1970,3	-2181,5	-2399	-2589,7	-2841,3	-3092,5	-3326,1	-3554,1	-3745,2
Gross Profit	1540,2	1656,4	1954,3	2249,4	2488,2	2729,9	2971,3	3195,7	3414,7	3598,3
Gross Profit Margin	45,50%	45,70%	47,30%	48,40%	49,00%	49,00%	49,00%	49,00%	49,00%	49,00%
Royalty and Commission Income	16,5	15,7	15,8	16,3	16,3	16,3	16,3	16,3	16,3	16,3
Other Operating Expenses	1484,4	1545,4	1725,9	1949,5	2159,4	2369,2	2578,6	2773,4	2963,5	3122,8
Other Operating Income	23,9	0,9	0,3	21,1	5,0	5,0	5,0	5,0	5,0	5,0
Other Operating Income and Expenses	-1460,5	-1544,5	-1725,6	-1928,4	-2154,4	-2364,2	-2573,6	-2768,4	-2958,5	-3117,8
Operating Result (EBIT)	96,3	127,6	244,6	337,4	350,1	382,0	413,9	443,6	472,5	496,8
Result from Associated Companies	1,0	1,2	1,6	-1,5	0,0	0,0	0,0	0,0	0,0	0,0
Financial Income	11,2	10,5	10,3	11,6	10,9	10,9	10,9	10,9	10,9	10,9
Interest Paid	-14,4	-13,4	-14,3	-15,1	-29,5	-31,3	-32,9	-33,9	-34,4	-34,0
Financial Expenses	-9,0	-7,0	-11,0	-19,0	-9,9	-14,1	-19,5	-26,4	-35,2	-46,3
Financial Result	-11,2	-8,7	-13,4	-24,0	-28,4	-34,5	-41,4	-49,4	-58,7	-69,4
Earnings Before Taxes (EBT)	85,0	118,9	231,2	313,4	321,7	347,6	372,5	394,2	413,9	427,4
Effective Tax Rate	27,50%	25,70%	27,40%	26,70%	26,80%	26,80%	26,80%	26,80%	26,80%	26,80%
Effective Tax Expense	-23,3	-30,5	-63,3	-83,6	-86,3	-93,2	-99,9	-105,7	-111,0	-114,7
Net Profit	61,7	88,4	168,0	229,8	235,4	254,3	272,6	288,4	302,8	312,8
Non-Controlling Interest	-24,6	-26,0	-32,2	-42,4	-42,4	-42,4	-42,4	-42,4	-42,4	-42,4
Equity Holders Net Profit	37,1	62,4	135,8	187,4	193,0	211,9	230,2	246,0	260,4	270,4

Source: Company report and personal estimates

Appendix 3: Cash Flow Statement

Cash Flow Statement (Millions of €)	Historical Data				Forecasted Data					
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
<i>Operating Activities</i>										
Earnings Before Tax (EBT)	85	118,9	231,2	313,4	321,7	347,6	372,5	394,2	413,9	427,4
Depreciation	57,5	59,9	70,4	81,5	40,9	28,2	29,7	31,4	33,1	35,0
Non-Realized currency gains/losses, net	-5,3	-0,7	15,7	-15,7	-1,5	-1,5	-1,5	-1,5	-1,5	-1,5
Result from Associated Companies	-0,9	-1,2	-1,6	1,5	0,0	0,0	0,0	0,0	0,0	0,0
Financial Income	-11,0	-10,2	-10,1	-11,3	-11,4	-11,6	-11,7	-11,9	-12,0	-12,1
Financial Expenses	15,2	14,0	18,5	19,7	21,7	23,9	26,4	29,1	32,0	35,3
Changes From The Sale of Fixed Assets	-16,4	0,6	1,7	1,0	1,0	1,0	1,0	1,0	1,0	1,0
Changes to Pension Accruals	-0,5	-3,2	-0,4	-0,6	-0,6	-0,6	-0,6	-0,6	-0,6	-0,6
Other Non-Cash Effected Expenses/Income	10,9	4,8	5,6	8,6	0,0	0,0	0,0	0,0	0,0	0,0
Changes in Receivables and Other Current Assets	-8,8	-16,8	-92,8	-61,2	-153,1	-119,0	-130,4	-140,1	-155,9	-167,6
Changes in Inventories	-92,2	-57,7	-117,2	-122,8	-33,2	-147,8	-32,9	-135,1	-28,9	-108,6
Changes in Trade Payables and Other Current Liabilities	-24,1	74,2	159,4	146,0	170,0	280,3	299,5	454,5	557,7	804,7
Dividends Received	0,9	1,0	1,0	0,9	0,9	0,9	0,9	0,9	0,9	0,9
Income Taxes Paid	-38,4	-41,0	-42,6	-82,9	-86,3	-93,2	-99,9	-105,7	-111,0	-114,7
Cash Flow From Operating Activities	-28,1	142,7	238,8	278,1	270,1	308,2	452,9	516,1	728,7	899,3
<i>Investing Activities</i>										
Proceeds from the sale of long-term shareholdings	-0,5	-6,8	0,0	23,5	0,0	0,0	0,0	0,0	0,0	0,0
Purchase of Property and Equipment	-79,0	-84,3	-122,9	-130,2	-94,5	-103,6	-112,8	-121,3	-129,6	-136,6
Proceeds from the sale of Property and Equipment	23,8	1,5	12,6	1,5	0,0	0,0	0,0	0,0	0,0	0,0
Payment for Other Assets	-13,2	-0,5	-1,7	-3,6	-3,6	-3,6	-3,6	-3,6	-3,6	-3,6
Interest Received	7,2	8,8	1,8	3,5	10,9	10,9	10,9	10,9	10,9	10,9
Cash Flow from Investing Activities	-61,7	-81,4	-110,3	-105,3	-87,2	-96,3	-105,5	-114,0	-122,2	-129,3
<i>Financing Activities</i>										
Changes in Leasing Liabilities	0,1	-0,1	-0,2	-1,8	-1,8	-1,8	-1,8	-1,8	-1,8	-1,8
Raising/ (-) Repayment of Current Financial Liabilities	71	-43,4	-12,1	-16,6	0,0	0,0	0,0	0,0	0,0	0,0
Raising of Non-Current Financial Liabilities	7,3	9,2	15,4	145,2	0,0	0,0	0,0	0,0	0,0	0,0
Dividend Payments to Equity Holders of The Parent	-7,5	-7,5	-11,2	-186,8	-52,3	-93,4	-101,0	-108,2	-114,5	-120,2
Dividend Payment to Non-Controlling Interests	-42,0	-19,3	-13,4	-55,7	0,0	0,0	0,0	0,0	0,0	0,0
Interest Paid	-9,1	-11,6	-11,6	-12,6	-9,9	-14,1	-19,5	-26,4	-35,2	-46,3
Other Changes	0,0	0,0	-2,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Cash Flow from Financing Activities	19,8	-72,7	-34,9	-128,3	-64,0	-109,3	-122,2	-136,4	-151,5	-168,3
Exchange Rate-Related Changes in Cash-Flow										
	7,3	-0,7	-5,3	4,2	4,2	4,2	4,2	4,2	4,2	4,2
Change in Cash and Cash&Equivalents	-62,7	-12,1	88,3	48,7	123,1	106,8	229,4	269,9	459,1	606,0
Cash and Cash&Equivalents Beginning of the Year	401,5	338,8	326,7	415,0	463,7	586,8	693,6	923,0	1193,0	1652,0
Cash and Cash&Equivalents End of the Year	338,8	326,7	415,0	463,7	586,8	693,6	923,0	1193,0	1652,0	2258,0

Source: Company report and personal estimates

Appendix 4: Key Financial Ratios

Key Financial Ratios	Historical Data				Forecasted Data					
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
<i>Liquidity Ratios</i>										
Current Ratio	1,915	1,973	1,784	1,835	1,833	1,748	1,681	1,589	1,507	1,419
Quick Ratio	0,934	0,923	0,870	0,851	0,914	0,863	0,881	0,851	0,866	0,855
Cash Ratio	0,385	0,365	0,393	0,388	0,430	0,422	0,475	0,497	0,559	0,600
<i>Efficiency Ratios</i>										
Total Assets Turnover (x)	1,310	1,347	1,472	1,534	1,498	1,466	1,421	1,351	1,262	1,149
Accounts Receivables Turnover (x)	7,267	7,384	8,248	8,792	8,356	8,031	8,000	7,954	7,929	7,876
Collection Period (days)	50,229	49,431	44,254	41,515	43,679	45,451	45,626	45,887	46,032	46,344
Inventory Turnover (x)	5,515	5,272	5,524	5,489	5,450	5,450	5,450	5,450	5,450	5,450
Days in Inventory (days)	66,187	69,237	66,074	66,494	66,972	66,972	66,972	66,972	66,972	66,972
Payables Turnover (x)	3,570	3,581	3,557	3,550	3,565	3,565	3,565	3,565	3,565	3,565
Payables Period (days)	102,691	107,557	108,103	107,309	108,061	108,738	104,863	107,269	104,382	105,712
Operating Cycle (days)	167,878	176,794	174,177	173,803	175,033	175,710	171,836	174,241	171,354	172,685
Cash Cycle (days)	219,106	226,224	218,431	215,318	218,712	221,161	217,461	220,129	217,386	219,029
<i>Profitability Ratios</i>										
Gross Profit Margin (%)	45,50%	45,70%	47,30%	48,40%	48,70%	49,00%	49,00%	49,00%	49,00%	49,00%
EBITDA Margin (%)	4,54%	5,17%	7,62%	9,01%	7,70%	7,36%	7,32%	7,28%	7,26%	7,24%
EBIT Margin (%)	2,84%	3,52%	5,91%	7,26%	6,89%	6,86%	6,83%	6,80%	6,78%	6,77%
Net Profit Margin (%)	1,82%	2,44%	4,06%	4,94%	4,64%	4,57%	4,50%	4,42%	4,35%	4,26%
ROA (%)	2,35%	3,20%	5,89%	7,17%	6,58%	6,31%	6,05%	5,60%	5,14%	4,54%
ROCE (%)	5,53%	6,82%	13,61%	16,77%	15,85%	16,03%	16,15%	16,13%	16,09%	15,91%
ROE (%)	3,81%	5,29%	9,94%	13,60%	13,13%	13,11%	12,98%	12,71%	12,38%	11,88%
EPS (x)	4,130	5,917	11,240	15,370	15,743	17,012	18,232	19,291	20,255	20,920
<i>Solvency Ratios</i>										
Short-Term Debt Ratio (%)	4,96%	3,45%	4,34%	2,42%	2,17%	1,93%	1,72%	1,51%	1,32%	1,13%
Long-Term Debt Ratio (%)	0,27%	0,59%	1,08%	5,63%	6,60%	6,34%	6,03%	5,50%	4,89%	4,12%
Debt to Equity Ratio (x)	0,085	0,065	0,093	0,150	0,168	0,165	0,160	0,153	0,144	0,133
Equity Multiplier (x)	1,618	1,606	1,723	1,862	1,918	1,997	2,067	2,186	2,322	2,524
Debt to EBITDA	0,962	0,624	0,513	0,654	0,713	0,688	0,642	0,607	0,578	0,559
Interest Coverage Ratio (x)	10,700	18,229	22,236	17,758	35,523	27,201	21,281	16,797	13,429	10,736
Payout Ratio	38,6	38,6	38,6	38,6	38,6	38,6	38,6	38,6	38,6	38,6

Source: Company report and personal estimates

Appendix 5: Common-Size Statement of Financial Position

Balance Sheet (Millions of €)	Historical Data				Forecasted Data					
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Assets										
Cash&Equivalents	12,9%	11,8%	14,5%	14,5%	16,4%	17,2%	20,5%	23,2%	28,0%	32,8%
Inventories	25,1%	26,0%	27,3%	28,5%	26,5%	27,2%	25,0%	24,6%	21,9%	20,4%
Trade Receivables	18,4%	18,1%	17,7%	17,3%	18,5%	18,0%	17,5%	16,5%	15,4%	13,9%
Income Tax Receivables	1,9%	1,4%	0,9%	1,1%	1,0%	0,8%	0,8%	0,7%	0,6%	0,5%
Other Current Financial Assets	2,9%	4,1%	2,4%	3,5%	3,9%	4,3%	4,8%	5,2%	5,7%	6,0%
Other Current Assets	3%	2,5%	3,3%	3,6%	3,7%	3,8%	3,9%	4,0%	4,0%	4,0%
Total Current Assets	64,3%	63,9%	66,1%	68,4%	70,0%	71,4%	72,5%	74,1%	75,6%	77,6%
Deferred Income Taxes	8,4%	8,3%	7,3%	6,5%	5,8%	5,2%	4,6%	4,0%	3,5%	3,0%
PP&E	8,9%	9,1%	9,1%	9,2%	8,9%	9,0%	9,1%	9,0%	8,8%	8,4%
Intangible Assets	15,4%	15,3%	14,5%	13,6%	13,1%	12,4%	11,8%	11,1%	10,4%	9,5%
Investment in Associates	0,6%	0,6%	0,6%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Other Non-Current Assets	2,5%	2,8%	2,5%	2,3%	2,2%	2,1%	2,0%	1,8%	1,7%	1,5%
Total Non-Current Assets	35,7%	36,1%	33,9	31,6%	30,0%	28,6%	27,5%	25,9%	24,4%	22,4%
Total Assets	100%	100%	100%	100%	100%	100%	100%	100%	100%	6884,2
Liabilities and Shareholders' Equity										
Current Financial Liabilities	1,4%	2,4%	2,4%	1,4%	1,2%	1,0%	0,9%	0,7%	0,6%	0,5%
Trade Payables	51,9%	55,7%	54,0%	47,5%	43,7%	42,1%	38,2%	35,0%	30,3%	26,1%
Income Taxes	5,0%	4,0%	4,6%	4,6%	4,0%	3,4%	2,9%	2,4%	2,0%	1,6%
Other Current Provisions	5,3%	5,4%	7,2%	2,7%	2,3%	2,0%	1,7%	1,4%	1,2%	1,0%
Other Current Financial Liabilities	11,6%	6,7%	7,9%	3,9%	3,3%	2,9%	2,5%	2,1%	1,7%	1,4%
Other Current Liabilities	12,5%	11,7%	12,2%	20,5%	25,3%	30,5%	37,4%	44,3%	52,3%	60,0%
Current Liabilities	87,9%	85,8%	88,3%	80,5%	79,8%	81,8%	83,6%	85,9%	88,1%	90,5%
Deferred Income Tax Liabilities	6,4%	6,1%	3,1%	3,2%	2,8%	2,4%	2,1%	1,7%	1,4%	1,2%
Pension Provisions	2,4%	3,0%	2,5%	2,0%	1,7%	1,4%	1,2%	1,0%	0,9%	0,7%
Other Non-Current Provisions	2,4%	2,9%	2,9%	1,8%	1,5%	1,3%	1,1%	0,9%	0,8%	0,6%
Liabilities from Acquisitions	0%	0,48%	0,4%	0,2%	0,2%	0,2%	0,1%	0,1%	0,1%	0,1%
Other Non-Current Financial Liabilities	0,7%	1,6%	2,6%	12,2%	10,6%	9,0%	7,8%	6,5%	5,4%	4,4%
New Debt					3,2%	3,7%	3,9%	3,7%	3,2%	2,5%
Other Non-Current Liabilities	0,2%	0,2%	0,3%	0,2%	0,2%	0,2%	0,2%	0,2%	0,1%	0,1%
Non-Current Liabilities	12,1%	114,2%	11,7%	19,5%	20,2%	18,2%	16,4%	14,1%	11,9%	9,5%
Total Liabilities	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Subscribed Capital	2,4%	2,2%	2,3%	2,2%	2,1%	1,9%	1,8%	1,6%	1,5%	1,4%
Reserves	10,0%	11,8%	3,1%	8,5%	7,9%	7,3%	6,7%	6,2%	5,8%	5,4%
Retained Earnings	89,0%	86,9%	94,5%	89,8%	90,6%	91,3%	92,0%	92,6%	93,1%	93,6%
Treasury Stock	-1,9%	-1,1%	-1,8%	-1,7%	-1,6%	-1,4%	-1,3%	-1,2	-1,1%	-1,1%
Equity Attributable to Shareholders of the Parent	99,5%	99,1%	98,1%	98,9%	99,0%	99,1%	99,1%	99,2%	99,3%	99,3%
Non-Controlling Interests	0,5%	0,9%	1,9%	1,1%	1,0%	0,9%	0,9%	0,8%	0,7%	0,7%
Shareholders' Equity	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Total Liabilities and Shareholders' Equity	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Source: Personal estimates

Appendix 6: Common-Size Income Statement

Income Statement (Millions of €)	Historical Data				Forecasted Data					
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Sales	3387,4	3626,7	4135,9	4648,3	5077,9	5571,3	6063,8	6521,7	6968,8	7343,5
<i>Per Segment</i>										
Footwear	44,50%	44,80%	47,70%	47,00%	48,20%	49,20%	49,70%	49,90%	50,50%	50,30%
Apparel	36,70%	36,80%	34,90%	36,30%	36,20%	36,30%	36,70%	37,20%	37,20%	37,80%
Accessories	18,80%	18,40%	17,40%	16,70%	15,60%	14,50%	13,60%	12,90%	12,30%	11,90%
Cost of Sales	-54,5%	-54,3%	-52,7%	-51,6%	-51,0%	-51,0%	-51,0%	-51,0%	-51,0%	-51,0%
Gross Profit	45,50%	45,70%	47,30%	48,40%	49,00%	49,00%	49,00%	49,00%	49,00%	49,00%
Royalty and Commission Income	0,49%	0,43%	0,38%	0,35%	0,32%	0,29%	0,27%	0,25%	0,23%	0,22%
Other Operating Expenses	43,82%	42,61%	41,73%	41,94%	42,53%	42,53%	42,53%	42,53%	42,53%	42,53%
Other Operating Income	0,71%	0,03%	0,01%	0,45%	0,10%	0,09%	0,08%	0,08%	0,07%	0,07%
Other Operating Income and Expenses	-43,1%	-42,6%	-41,7%	-41,5%	-42,4%	-42,4%	-42,4%	-42,4%	-42,4%	-42,4%
Operating Result (EBIT)	2,84%	3,52%	5,91%	7,26%	6,90%	6,86%	6,83%	6,80%	6,78%	6,77%
Result from Associated Companies	0,03%	0,03%	0,04%	-0,03%	0,00%	0,00%	0,00%	0,00%	0,00%	0,00%
Financial Income	0,33%	0,29%	0,25%	0,25%	0,22%	0,20%	0,18%	0,17%	0,16%	0,15%
Interest Paid	-0,43%	-0,37%	-0,35%	-0,33%	-0,58%	-0,56%	-0,54%	-0,52%	-0,49%	-0,46%
Financial Expenses	-0,27%	-0,19%	-0,27%	-0,41%	-0,20%	-0,25%	-0,32%	-0,41%	-0,51%	-0,63%
Financial Result	-0,33%	-0,24%	-0,32%	-0,52%	-0,56%	-0,62%	-0,68	-0,76%	-0,84%	-0,95%
Earnings Before Taxes (EBT)	2,51%	3,28%	5,59%	6,74%	6,34%	6,24%	6,14%	6,04%	5,94%	5,82%
Effective Tax Rate	27,50%	25,70%	27,40%	26,70%	26,80%	26,80%	26,80%	26,80%	26,80%	26,80%
Effective Tax Expense	-0,69%	-0,84%	-1,53%	-1,80%	-1,70%	-1,67%	-1,65%	-1,62%	-1,59%	-1,56%
Net Profit	1,82%	2,44%	4,06%	4,94%	4,64%	4,55%	4,50%	4,42%	4,35%	4,26%
Non-Controlling Interest	-0,73%	-0,72%	-0,78%	-0,91%	-0,84%	-0,76%	-0,70%	-0,65%	-0,61%	-0,58%
Equity Holders Net Profit	1,10%	1,72%	3,28%	4,03%	3,80%	3,80%	3,80%	3,80%	3,80%	3,80%

Source: Personal estimates

Appendix 7: Forecasting Assumptions

	Forecasted Data						Assumption
	2019	2020	2021	2022	2023	2024	
Income Statement							
<i>Revenues</i>							
Footwear	12%	12%	10%	8%	8%	5%	Growth Rate
Apparel	9%	10%	10%	9%	7%	7%	Growth Rate
Accessories	2%	2%	2%	2%	2%	2%	Growth Rate
Cost of Sales	53,31%	53,31%	53,31%	53,31%	53,31%	53,31%	
Royalty and Commission Expenses	16,08%	16,08%	16,08%	16,08%	16,08%	16,08%	
Other Operating Expenses	42,53%	42,53%	42,53%	42,53%	42,53%	42,53%	
Other Operating Income							Equal to 2018 value
Result from Associated Companies							
Financial Income							Equal to 2018 value
Interest Paid	9,40%	9,40%	9,40%	9,40%	9,40%	9,40%	Average Growth Rate 2015-2018
Financial Expense							Average Cost of Debt*Total Debt
Effective Tax Rate	26,83%	26,83%	26,83%	26,83%	26,83%	26,83%	Average of the Effective Tax Rates from the previous 4 years
Balance Sheet							
Cash&Equivalents							From the Cash-Flow Statement
Inventory Turnover	5,45	5,45	5,45	5,45	5,45	5,45	=Sales/Average Inventory
Days Sales Outstanding	47,56	47,56	47,56	47,56	47,56	47,56	=(Accounts Receivables/Sales)*365
Deferred Income Taxes							Equal to 2018 value
PP&E							=PP&En-1 + CAPEX - Depreciation
CAPEX	1,20%	1,20%	1,20%	1,20%	1,20%	1,20%	Average % in relation to Revenue
CAPEX	60,9	66,9	72,8	78,3	83,6	88,1	92,6
Dep PP&E	38,6	22,4	23,8	25,2	26,8	28,4	30,2
Purchase Costs	658,13	698,61	741,57	787,18	835,59	886,98	941,53
Accumulated Dep PP&E	55,3%	55,3%	55,3%	55,3%	55,3%	55,3%	55,3%
Accumulated Dep PP&E	363,9	386,3	410,1	435,3	462,1	490,5	520,7
Intangible Assets							IA n = IA n-1 + CAPEX - Amort.
Purchase Costs	635,8	656,2	677,2	698,8	721,2	744,3	768,1
Accumulated Amort. Intangible	181,0	186,7	192,7	198,9	205,3	211,8	218,6
Amortization Intangible	2,4	5,8	6,0	6,2	6,4	6,6	6,8
CAPEX	33,5	36,8	40,0	43,0	46,0	48,5	50,9
Other Non-Current Assets	5,80%	5,80%	5,80%	5,80%	5,80%	5,80%	5,80%
Income Tax Receivables							Equal to 2018 value
Investment in Associates							Equal to 2018 value
Other Current Financial Assets	24,6%	24,6%	24,6%	24,6%	24,6%	24,6%	24,6%
Other Current Assets	15,48%	15,48%	15,48%	15,48%	15,48%	15,48%	15,48%
Current Financial Liabilities	22,2	22,2	22,2	22,2	22,2	22,2	22,2
Payables Turnover	3,57	3,57	3,57	3,57	3,57	3,57	3,57
Income Taxes							Cost of Revenue/Average Payables
Other Current Provisions							Equal to 2018 value
Other Current Financial Liabilities	-14,6%	-14,6%	-14,6%	-14,6%	-14,6%	-14,6%	-14,6%
Other Current Liabilities	41,95%	41,95%	41,95%	41,95%	41,95%	41,95%	41,95%
Deferred Income Tax Liabilities							Equal to 2018 value
Pension Provisions							Equal to 2018 value
Other Non-Current Provisions							Equal to 2018 value
Liabilities from Acquisitions							Equal to 2018 value
Other Non-Current Financial Liabilities							
Other Non-Current Liabilities	10,5%	10,5%	10,5%	10,5%	10,5%	10,5%	10,5%

Source: Personal estimates

	Forecasted Data						Assumption
	2019	2020	2021	2022	2023	2024	
Cash Flow Statement							
Depreciation&Amortization							Sum of PP&E and Intangible Assets Dep and Amort
Non-Realized Currency Gains/Losses							Average 2015-2018
Result from Associated Companies							Business was sold, equal to 0
Financial Income	1,20%	1,20%	1,20%	1,20%	1,20%	1,20%	Average Growth Rate 2015-2018
Financial Expense	10,20%	10,20%	10,20%	10,20%	10,20%	10,20%	Average Growth Rate 2015-2018
Changes From the Sale of Fixed Assets							Equal to 2018 value
Changes to pension Accruals							Equal to 2018 value
Other Non-Cash Effected Expenses/Income							No future information, so it is assumed 0
Changes in Receivables and Other Current Assets							Differences in Trade Receivables, Other Current Financial Assets and Other Assets
Changes in Inventories							Differences in Inventories
Changes in Trade Payables and Other Current Liabilities							Differences in Trade Payables and Other Current Liabilities
Dividends Received							Equal to 2018 value
Income Taxes Paid							Equal to Effective Tax Expense
Proceeds from The Sale of Long-Term Shareholdings							
Purchase of Property and Equipment							Sum of CAPEX from PP&E and Intangible Assets
Proceeds from The Sale of Property and Equipment							There is not any prediction for sales of PP&E
Payment for Other Assets							Equal to 2018 value
Interest Received							Equal to Financial Income from the Income Statement
Changes in Leasing Liabilities							Equal to 2018 value
Raising/ (-) Repayment of Current Financial Liabilities							Differences in Current Financial Liabilities
Raising of Non-Current Financial Liabilities							Differences in Non-Current Financial Liabilities
Dividend Payments to Equity Holders of The Parent							From Retained Earnings Spreadsheet
Dividend Payment to Non-Controlling Interests							
Interest Paid							Equal to Financial Expense from the Income Statement
Other Changes							Equal to 2018 value

Source: Personal estimates

Appendix 8: Debt Structure

Debt Structure (Millions of €)	Historical Data				Forecasted Data					
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Short-Term Debt	14	25,3	29	20,5	20,5	20,5	20,5	20,5	20,5	20,5
Other Current Financial Liabilities	115,9	70	94,9	57,2	57,2	57,2	57,2	57,2	57,2	57,2
Other Non-Current Financial Liabilities	7,2	16,2	30,9	180,7	180,7	180,7	180,7	180,7	180,7	180,7
New Debt					55,137	74,718	91,141	102,435	107,466	103,025
Total Debt	137,1	111,5	154,8	258,4	313,5	333,1	349,5	360,8	365,9	361,4
Debt to Equity Ratio	Average 9,8%									
Cost of Debt	Average 9,4%									

Source: Company report and personal estimates

Appendix 9: WACC Assumptions

	Forecasted Data							Assumption
	2019	2020	2021	2022	2023	2024	TV	
Market Risk Premium	5,96%	5,96%	5,96%	5,96%	5,96%	5,96%	5,96%	Taken from Damodaran Equivalent to the 10 Year German Bond. TV=Average 2015-2018
Risk Free Rate	0,06%	0,06%	0,06%	0,06%	0,06%	0,06%	0,44%	
Unlevered Beta	0,72	0,72	0,72	0,72	0,72	0,72	0,72	Taken from Damodaran
Beta	0,7356	0,7395	0,7420	0,7429	0,7423	0,7399	0,7359	
Cost of Equity	4,44%	4,47%	4,48%	4,49%	4,48%	4,47%	4,83%	CAPM Model
Cost of Debt	9,40%	9,40%	9,40%	9,40%	9,40%	9,40%	9,40%	Interest Paid/Total Debt
Tc	26,83%	26,83%	26,83%	26,83%	26,83%	26,83%	26,83%	
After-Tax Cost of Debt	6,88%	6,88%	6,88%	6,88%	6,88%	6,88%	6,88%	
Weight of Equity	85,60%	85,83%	86,19%	86,72%	87,40%	88,30%	89,40%	
Weight of Debt	14,40%	14,17%	13,81%	13,28%	12,60%	11,70%	10,60%	
WACC	4,79%	4,81%	4,81%	4,81%	4,79%	4,75%	5,05%	WACC Formula
Terminal Growth Rate (g)	1,97%							Based on the average GDP Growth Rate in Advanced Economies 2015-2021

Source: Personal estimates

Appendix 10: Discounted Cash Flow Calculations

DCF (Millions of €)	2018	2019	2020	2021	2022	2023	2024	2025	TV
Sales	4648,30	5077,86	5571,25	6063,78	6521,73	6968,80	7343,45	7712,18	7864,11
Growth Rate	12,39%	9,24%	9,72%	8,84%	7,55%	6,86%	5,38%	5,02%	1,97%
EBITDA	418,90	390,99	410,21	443,66	474,97	505,67	531,77	557,61	568,59
EBITDA/Sales	9,01%	7,70%	7,36%	7,32%	7,28%	7,26%	7,24%	7,23%	7,23%
D&A	81,50	40,90	28,17	29,73	31,39	33,14	34,99	36,94	36,94
EBIT	337,40	350,09	382,04	413,93	443,58	472,53	496,79	520,66	531,65
EBIT/Sales	7,26%	6,59%	6,86%	6,83%	6,80%	6,78%	6,77%	6,75%	6,76%
CAPEX	106,10	94,45	103,63	112,79	121,30	129,62	136,59	143,45	143,45
Working Capital	533,90	550,20	536,69	400,56	221,24	-151,64	-680,23	-1543,35	-1573,76
Current Assets	1729,10	1915,43	2182,22	2345,57	2620,75	2805,58	3081,72	3301,18	
Current Liabilities	1195,20	1365,23	1645,53	1945,01	2399,51	2957,21	3761,95	4844,53	
WCR/Sales	11,49%	10,84%	9,63%	6,61%	3,39%	-2,18%	-9,26%	-20,01%	-20,01%
Change in WCR	169,30	16,30	-13,51	-136,14	-179,32	-372,87	-528,59	-863,13	-30,40
Tax Rate	26,70%	26,83%	26,83%	26,83%	26,83%	26,83%	26,83%	26,83%	26,83%
EBIT*(1-Tc)	247,31	256,18	279,56	302,89	324,59	345,77	363,52	381,00	389,03
FCF	53,41	186,33	217,61	355,98	414,00	622,16	790,51	1137,62	312,94

Terminal Value	10174,26
PV of Terminal Value	7323,29
PV of FCFF	10565,61
Enterprise Value	10565,61
Equity Value	10751,94
Shares Outstanding (M)	14,951
Price Target	719,14€
Price at Dec. 2018	427€
Upside Potential	68,42%
Current WACC	4,81%
Long-Term WACC	5,05%

Source: Company report and personal estimates

Appendix 11: Adjusted Present Value Calculations

APV (Millions of €)	2018	2019	2020	2021	2022	2023	2024	2025	TV
FCF	53,41	186,33	217,61	355,98	414,00	622,16	790,51	11311,88	10174,26
PVt	10258,58	10565,61	10856,12	11022,24	11138,33	11051,84	10792,83		
Debt Capacity Short-Term	1453,82	1497,34	1538,51	1562,05	1578,50	1566,24	1529,54		
Interest Paid Short-Term			140,76	144,63	146,84	148,39	147,24	143,79	
Interest Tax Shield Short-Term			37,76	38,80	39,39	39,81	39,50	38,57	

Enterprise Value Unlevered	10369,01
PV Int. Tax Shield	196,60
Enterprise Value	10565,61
Equity Value	10751,94
Shares Outstanding (M)	14,951
Price Target	719,14€
Price at Dec. 2018	427€
Upside Potential	68,42%
Current WACC	4,81%
Weight of Debt	14,17%
Cost of Debt	9,40%
Tax Rate	26,83%
Pre-Tax WACC	5,17%

Source: Company report and personal estimates

Appendix 12: Flow to Equity Calculations

FTE (Millions of €)	2018	2019	2020	2021	2022	2023	2024	2025	TV
FCF		186,33	217,61	355,98	414,00	622,16	790,51	11311,88	312,935
Interest Payments*(1-Tc)			103,00	105,83	107,45	108,58	107,74	105,22	
Net Borrowing		1497,34	41,17	23,54	16,45	-12,26	-36,71	-1529,54	
FCFE		1683,66	155,78	273,69	323,00	501,32	646,07	9677,13	

Enterprise Value	9068,27
Equity Value	10751,94
Shares Outstanding	14,951
Price Target	719,14€
Price at Dec. 2018	427€
Upside Potential	68,42%
Cost of Equity	4,47%
Tax Rate	26,83%

Source: Company report and personal estimates

Appendix 13: Comparables

Comparables	Beta<1	Market Cap>1B€	Footwear	Apparel	Accessories	Publicly Traded
Adidas	0,79	55,77	Yes	Yes	Yes	Yes
Geox	0,95	0,434	Yes	No	No	Yes
New Balance						No
Nike	0,67	120,10	Yes	Yes	Yes	Yes
Skechers	0,62	4,54	Yes	No	No	Yes
Under Armour	0,11	9,19	Yes	Yes	Yes	Yes
VF Corp	1,16	36,72	Yes	Yes	Yes	Yes

Geox was excluded once the company doesn't reach the minimum Market Capitalization required.

New Balance isn't a publicly traded company, so it cannot be considered a comparable firm.

VF Corp owes a big number of brands and footwear is not the biggest source of revenue.

Although Skechers doesn't operate in the Apparel and Accessories segment, it was considered as a comparable company since it's one of the largest in the footwear industry.

Exchange Rate USD-EUR = 0,88	Share Price	Shares (M)	Equity Market (B)	Debt	Enterprise Value
Adidas	281,85€	199,171	56136,35€	1675,00€	57811,35€
Nike	76,95€	1623,800	124946,86€	3057,12€	128003,98€
Skechers	30,66€	155,651	4772,14€	79,01€	4851,15€
Under Armour	21,04€	448,770€	9442,48€	641,37€	10083,85€

Billions of €	Sales			EBITDA			EBIT		
	2017	2018	2019	2017	2018	2019	2017	2018	2019
Adidas	21218,00	21915,00	23496,00	2554,00	2882,00	3501,00	2070,00	2368,00	2717,00
Nike	30228,00	32029,36	34422,96	4809,20	4568,96	4819,76	4179,12	3911,60	4199,36
Skechers	3664,32	4084,96	4488,88	421,88	481,78	555,28	336,95	385,26	463,76
Under Armour	4379,76	4569,84	4715,92	291,28	317,68	368,72	138,16	157,52	205,04

Billions of €	EV/Sales				EV/EBITDA				EV/EBIT			
	2017	2018	2019	2020(E)	2017	2018	2019	2020(E)	2017	2018	2019	2020(E)
Adidas	2,725	2,638	2,460	1,970	22,636	20,059	16,513	13,000	27,928	24,414	21,278	18,100
Nike	4,235	3,996	3,719	2,990	26,616	28,016	26,558	20,200	30,629	32,724	30,482	28,300
Skechers	1,324	1,188	1,081	0,750	11,499	10,069	8,736	5,960	14,397	12,592	10,460	8,770
Under Armour	2,302	2,207	2,138	1,440	34,619	31,742	27,348	15,700	72,987	64,016	49,180	48,300
Average	2,646	2,507	2,350	1,788	23,843	22,472	19,789	13,715	36,485	33,436	27,850	25,868
Median	2,514	2,422	2,299	1,705	24,626	24,038	21,535	14,350	29,279	28,569	25,880	23,200

Source: Company report and personal estimates

Appendix 14: Relative Valuation

Billions of €	Sales				EBITDA				EBIT			
	2017	2018	2019	2020(E)	2017	2018	2019	2020(E)	2017	2018	2019	2020(E)
PUMA <i>Estimated EV Based on Multiples</i>	4135,90	4648,30	5077,86	5571,25	315,00	418,90	390,99	410,21	244,60	337,40	350,09	382,04
Adidas	11268,83	12262,13	12493,96	10975,37	7130,22	8402,91	6456,35	5332,75	6831,23	8237,14	7449,12	6914,90
Nike	17513,95	18576,73	18882,35	16658,05	8384,19	11735,90	10383,99	8286,28	7491,95	11041,15	10671,41	10811,70
Skechers	5475,46	5520,15	5487,66	4178,44	3622,14	4217,97	3415,85	2444,86	3521,54	4248,45	3662,12	3350,48
Under Armour	9522,40	10256,98	10857,78	8022,61	10905,02	13296,80	10692,91	6440,33	17852,57	21599,11	17217,48	18452,47
Average	10945,16	11654,00	11930,44	9958,62	7510,39	9413,39	7737,27	5626,06	8924,32	11281,46	9750,03	9882,39
Median	10395,61	11259,55	11675,87	9498,99	7757,20	10069,40	8420,17	5886,54	7161,59	9639,14	9060,27	8863,30
% Range between Average and Median	5	3	2	5	-3	-7	-9	-5	20	15	7	10

EV based on EV/Sales	9958,62€
EV based on EV/EBITDA	5626,06€
EV based on EV/EBIT	9882,39€
Debt	313,54€
Equity Value (EV/Sales)	9645,08€
Equity Value (EV/EBITDA)	5312,52€
Equity Value (EV/EBIT)	9568,85€
Shares Outstanding (M)	14,951
Price Target (EV/Sales)	645,11€
Price Target (EV/EBITDA)	355,33€
Price Target (EV/EBIT)	640,01€
Price at Dec. 2018	427€
Upside Potential (EV/Sales)	51,08%
Downside Potential (EV/EBITDA)	-16,78%
Upside Potential (EV/EBIT)	49,89%

Source: Company report and personal estimates

Appendix 15: Sensitivity Analysis

BPI's Investment Rating and Risk Classification

	Low Risk	Medium Risk	High Risk
Buy	>15%	>20%	>30%
Hold	>5%; 15%<=	>10%; <20%	>15%; <30%
Reduce	>-10%; 5%<=	>-10%; <10%	>-10%; <15%
Sell	<=-10%	<-10%	<-10%

In order to perform the sensitivity analysis, it was used the BPI's Investment Rating and Risk Classification to define the range of values for each recommendation. Given the fact PUMA SE is considered one of the strongest companies in the market with good perspectives of growth, it was selected the left column of the table corresponding to a Low Risk level firm.

Besides the ones in Chapter 8, there were performed more sensitivity analysis to see how the price target would react if some of the inputs changed.

Starting with the cost of debt and weight of debt of PUMA, it is possible to observe that a "BUY" recommendation is more likely than any other as a result of the low values of debt used in this company. Others recommendations can only be achieved to a value of 8% or higher for the weight of debt conjugated with at least 5% in the cost of debt. It is interesting to check that for values lower than 5% in the cost of debt and lower than 8% in the weight of debt, the price target shows a green value. In short, as both these values grow, the price target starts to decrease and enters into a "SELL" recommendation.

		Weight of Debt									
719,14 €		2,00%	4,00%	6,00%	8,00%	10,00%	12,00%	14,00%	16,00%	18,00%	20,00%
Cost of Debt	2,00%	867,445032	856,537	845,9828533	835,765543	825,869231	816,279	806,9809	797,9618	789,2093	780,7117
	3,50%	859,230179	840,8331	823,4435426	806,980933	791,373083	776,5551	762,4685	749,0605	736,2831	724,093
	5,00%	851,216803	825,8692	802,4372932	780,711738	760,512717	741,6848	724,093	707,6194	692,1606	677,6258
	6,50%	843,397582	811,5943	782,8128376	756,642037	732,742106	710,8298	690,667	672,0522	654,8139	638,8047
	8,00%	835,765543	797,9618	764,4381754	734,506689	707,619351	683,3342	661,291	641,1929	622,7934	605,8858
	9,50%	828,314046	784,9294	747,1976005	714,08152	684,782985	658,6779	635,271	614,1647	595,0355	577,6182
	11,00%	821,036758	772,4581	730,9892618	695,17571	663,93447	636,4425	612,063	590,2958	570,7423	553,0812
	12,50%	813,927641	760,5127	715,7231502	677,625808	644,825077	616,2882	591,2345	569,0629	549,3031	531,582
	14,00%	806,980933	749,0605	701,3194255	661,290996	627,245908	597,9359	572,4373	550,0522	530,243	512,5893
	15,50%	800,19113	738,0715	687,7070204	646,049305	611,020237	581,1543	555,3882	532,9321	513,1866	495,6889

It was also performed a sensitivity analysis for the Weight and Cost of Equity. We can notice the higher price targets are reached for the lowest values in both inputs, meaning the two equity variables have the same relation with the price target. It is important to take note that, for values of at least 5,50% in the cost of equity, it is no longer interesting to have a PUMA share regardless the value presented in the Weight of Equity.

		Weight of Equity										
		86,00%	87,00%	88,00%	89,00%	90,00%	91,00%	92,00%	93,00%	94,00%	95,00%	
Cost of Equity	719,14 €											
	3,00%	1384,701	1358,87257	1334,15194	1310,46901	1287,76	1265,965	1245,032	1224,909	1205,55	1186,913	
	3,50%	1098,19	1080,87955	1064,22765	1048,19764	1032,755	1017,869	1003,509	989,6481	976,2606	963,3227	
	4,00%	923,7119	910,8878	898,513833	886,566672	875,0246	863,8674	853,0761	842,6329	832,5214	822,726	
	4,50%	806,3011	796,1962776	786,425889	776,973597	767,8241	758,9631	750,3772	742,0537	733,9808	726,1474	
	5,00%	721,895	713,5954631	705,558613	697,772181	690,2246	682,9052	675,8036	668,9103	662,2163	655,713	
	5,50%	658,2919	651,2698661	644,462398	637,859841	631,4531	625,2335	619,1931	613,3242	607,6196	602,0724	
	6,00%	608,6449	602,5703909	596,676371	590,954887	585,3985	580,0001	574,7531	569,6512	564,6884	559,8592	
	6,50%	568,8145	563,4688018	558,278223	553,23613	548,3362	543,5726	538,9397	534,4321	530,0448	525,7732	
	7,00%	536,1513	531,3822353	526,748927	522,245628	517,8669	513,6078	509,4633	505,4289	501,5003	497,6734	
7,50%	508,8803	504,5782957	500,396699	496,330523	492,3751	488,5258	484,7786	481,1295	477,5745	474,1102		

Finally, it was tested the variations induced by the cost of debt and the beta and is possible to conclude that a “SELL” recommendation is almost out of the horizon. Negative recommendations (Sell and Reduce) are realized with impractical values considering the reality in which the company is inserted. This sensitivity analysis supports the statement that PUMA is currently not a risky business.

		Cost of Debt										
		719,14 €	2,00%	3,50%	5,00%	7,50%	9,00%	10,50%	12,00%	13,50%	15,00%	16,50%
Beta	0,6		1066,51145	997,8417	939,3193204	858,892473	818,579174	782,9531	751,2418	722,8335	697,2378	674,0566
	0,65		957,364692	904,4711	858,532736	794,066963	761,157465	731,7348	705,2728	681,3459	659,6065	639,7676
	0,69		888,141864	844,2582	805,6779127	750,79027	722,427782	696,8712	673,7238	652,6602	633,4111	615,7518
	0,72		844,051921	805,4958	771,3323141	722,292674	696,749128	673,6129	652,5591	633,3186	615,6668	599,4147
	0,75		805,313728	771,1704	740,7064219	696,627115	673,502146	652,458	633,226	615,5817	599,3363	584,3297
	0,8		750,239406	721,9327	696,4238953	659,085675	639,291371	621,1534	604,4722	589,0791	574,8304	561,603
	0,83		721,797884	696,302	673,2069733	639,196242	621,066063	604,3918	589,0047	574,7614	561,5389	549,2313
	0,86		696,180254	673,0964	652,0879502	620,978764	604,311319	588,9304	574,6925	561,4748	549,1716	537,6909
	0,9		665,734355	645,3682	626,7291035	598,944563	583,967279	570,0892	557,1936	545,1796	533,96	523,4584
	0,93		645,270386	626,6394	609,5237701	583,894879	570,022002	557,1311	545,1213	533,9055	523,4073	513,56

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Abbreviations

WACC	Weighted Average Cost of Capital
EBIT	Earnings Before Interest and Taxes
FCF	Free Cash Flow
ROE	Return on Equity
ROA	Return on Assets
US	United States
UK	United Kingdom
CEO	Chief Executive Officer
NBA	National Basketball Association
IT	Information Technology
GDP	Gross Domestic Product
LAMEA	Latin America / Middle East / Africa
R&D	Research&Development
DCF	Discounted Cash Flow
APV	Adjusted Present Value
FTE	Flow to Equity
EV	Enterprise Value
EBITDA	Earnings Before Interest, Taxes, Depreciation and Amortization
CAPEX	Capital Expenditure
PP&E	Property, Plant and Equipment
Rf	Risk Free Rate
CAPM	Capital Asset Pricing Model
NB	New Balance
CAGR	Compound Annual Growth Rate
USD	United States Dollars
g	Terminal Growth Rate
ROCE	Return on Capital Employed
EPS	Earnings per Share
Acc. Dep	Accumulated Depreciation
IA	Intangible Assets
Tc	Tax Rate
D&A	Depreciation&Amortization
FCFF	Free Cash Flow to the Firm

PVt Present Value
FCFE Free Cash Flow to Equity