CATÓLICA LISBON
BUSINESS & ECONOMICS

Equity Valuation of Under Armour

Rafael Diogo

Dissertation written under the supervision of José Carlos Tudela Martins

Dissertation submitted in partial fulfilment of requirements for the International MSc in Management – Major in Corporate Finance, at the Universidade Católica Portuguesa, 29/12/2016.

Table of Contents

Abstract

The present dissertation is intended to present a valuation for Under Armour – a sportswear company that has experienced incredible growth in the recent past.

Under Armour represents a story of entrepreneurship, focus and greatness, personalized by the founder and current CEO. Kevin Plank created the company in 1996, when he was only 23 years old, in the form of a t-shirt prototype. Since then, the company has experienced an IPO in 2005 and revealed consistent and extreme revenue growth and has been able to expand its operations worldwide.

Three different valuation models were applied, with the objective to find a range of values in which UA stock's intrinsic value currently falls. The present valuation is also compared with an external one made by an equity research firm – *The Buckingham Research Group*. This comparison should contribute in giving the reader extra perspective regarding the valuation's methodology and output.

After both processes, an investment note was issued, with a **Buy** recommendation and a target price of $37 per share for the Class A common stock.

Abstract (versão portuguesa)

A dissertação aqui apresentada tem como objetivo apresentar uma avaliação para a Under Armour, - empresa que desenvolve a sua atividade na indústria do equipamento desportivo.

A Under Armour representa um exemplo de empreendedorismo, determinação e excelência, personalizada pelo seu fundador e atual diretor executivo. Kevin Plank criou a empresa em 1996, com apenas 23 anos, através do desenvolvimento de um protótipo de uma t-shirt desportiva. Entretanto, a empresa já experienciou uma OPA em 2005 e tem revelado um crescimento exponencial e consistente em termos de receitas, tendo conseguido expandir as suas operações a um nível global.

Três modelos diferentes de avaliação foram usados nesta dissertação, com o objetivo de encontrar um intervalo de valores, no qual o valor intrínseco das ações da Under Armour se encontrarão. A avaliação realizada foi ainda comparada com uma outra avaliação externa, desenvolvida por uma empresa especializada na área da avaliação financeira – *The Buckingham Research Group*. Pretendeu-se, assim, possibilitar uma perspetiva mais alargada ao leitor, quer quanto aos métodos usados na avaliação, quer quanto aos seus resultados.

Concluídos todos estes procedimentos, de acordo com a metodologia explanada, foi feita uma nota de investimento, com a recomendação de **Buy** e um preço-alvo de $37 para as ações "Class A" da Under Armour.

Under Armour – Investment note

Market Overreaction; High-growth to be maintained;

Recommendation: ***BUY****; Target Price:* ***UAA: $37; UA.C: $32***

After years of overperformance, Under Armour's shares plummeted by 15% after the market opening. The reason for the fall was the company's announcement that the consistent high growth of over 20%, lasting for 26 quarters prior to that date, would finally slow down.

At the time, such developments were unexpected and several analysts placed the company's target price in the $40 to $50 range. The market reacted instantly, both to the revenue growth deceleration announcement, as to the margin operating margin tightening that was felt in the current year.

Nevertheless, the present valuation shows that even with the high competition felt in the market, causing the gross and operating margins to stay at lower levels than in the recent past, UA's financials value the company at 26% above market valuation, under the APV and Relative Valuations. A low-twenty's revenue growth, as announced by UA, together with the maintenance of the current levels of capital expenditures, R&D and marketing costs (which may be interpreted as conservative) still return higher valuations than the market does.

The present analysis holds a BUY recommendation, maintaining confidence that the market overreacted to the company announcements, and that within 6-12 months it will revalue the company at higher levels than the current $29.42.

Recommendation:

BUY

[redacted]

UAA – Class A common stock

Target Price:

$37.04-$37.07

Stock Price as of 28-12-2016:

$29.42

UA.C – Class C common stock

Target Valuation Range:

$31.76-$31.78

Stock Price as of 28-12-2016:

$25.41

Valuation Outputs - UAA	
APV	$37.07
EV/EBITDA	$37.04
DDM	$27.67

Upside/Downside Potential:

APV – 26.00%

EV/EBITDA – 25.90%

DDM – (5.93%)

The Buckingham Research Group:

Date: 20-06-2016

Recommendation: **BUY**

Target Price: **$48**

Key Management:

Kevin Plank
CEO

Lawrence Molloy
CFO

1. Introduction

The aim of this master thesis is to reach a valuation for the equity of Under Armour Inc, and one that is as close as possible to its intrinsic value.

As a definition, "a stock's intrinsic value is the present value of its expected future dividends (or cash flows) to common shareholders" (Lee, Myers, & Swaminathan, 1999). The determination of such cash flows is far from being an exact task. Either when performing the valuation or when appreciating a valuation made by someone else, one should bear in mind that "Valuation is neither the science…nor the objective search for true value that idealists would like it to become" (Damodaran, Investment Valuation, 2002).

The following valuation is, naturally, based on quantitative models and figures, but also subject to my own interpretations of all available information regarding Under Armour Inc, the industry in which it is included and the group of wider economic facts that have or will have influence over the firm's operations and, consequently, their value.

In case there are expectations about reading this valuation and arriving at a specific value that should be taken as the stock's correct price, readers should leave them behind. Instead, the values arrived at should be viewed more as a range within which the stock price should lay.

To have a better perspective of the validity of this valuation, one other analysis made by active professionals in equity research is taken as a comparison. Differences, both in values as in methods of valuation, among the two different studies, will be scrutinized and explained in this report as well. The comparative analysis chosen was made by *The Buckingham Research Group Incorporated*, a financial service firm, specialized in "value-add" equity research and based in New York.

In terms of structure, the first sub-topic will be dedicated to a review of the existing literature regarding equity valuation. The literature taken into consideration for this effect is a state of the art set of articles and books, present in top academic journals or top firms in the activity of equity valuation. The second section will be focused on Under Armour Inc's company and industry overview. The third segment will contain the presentation of the valuation *per se*, arising from the different methods chosen. The final part of the repost will be devoted to the comparison between the valuation referred and the one from *The Buckingham Research Group Incorporated*, and to an explanation of the differences and similarities among both.

2. Literature Review

2.1. Valuation Purpose and Tools

An equity valuation process may have three different applications. The first one is Portfolio Management. Within Portfolio Management, the philosophies behind each investment and the types of investment made vary quite a lot.

The second possible application happens in the case of a Merger or Acquisition. In such circumstances, "The bidding firm or individual has to decide on a fair value for the target firm before making a bid, and the target firm has to determine a reasonable value for itself before deciding to accept or reject the offer" (Damodaran, Investment Valuation, 2002).

The third application of a valuation analysis is linked with Corporate Finance. "If the objective in corporate finance is the maximization of firm value, the relationship among financial decisions, corporate strategy and firm value has to be delineated." (Damodaran, Investment Valuation, 2002).

In terms of methods, each valuation approach enters one of two categories: Equity Value Methods and Enterprise Value Methods. "Equity valuation approaches estimate the value of a firm to equity holders, whereas Enterprise value approaches assess the whole enterprise, the equity and the debt." (Young, Sullivan, Nokhasteh, & Holt, 1999).

One other variance among methods is "whether the approach is based on cash flows, returns or multiples." (Young, Sullivan, Nokhasteh, & Holt, 1999). While the first type uses the present value of future cash flows to value the object, the second one focuses on the spread between the returns on capital and its cost. The last type, multiples-based, is also often called Relative Valuation. In this method, "the value of an asset is derived from the pricing of 'comparable' assets, standardized using a common variable such as earning, cash flows, book-value or revenues." (Damodaran, Investment Valuation, 2002).

2.2. Enterprise Value Methods

2.2.1. Cash Flow Approach - Discounted Cash Flow (DCF)

The Discounted Cash Flow method considers the object of valuation to be "a series of risky cash flows stretching into the future." (Luehrman, What's it Worth? A General Manager's Guide to Valuation, 1997).

In a DCF analysis, the cash flows take the shape of Free Cash Flows to the Firm (FCFF), defined as "the hypothetical equity cash flow when the company has no debt." (Fernández, 2010). The formula that shall be used to calculate them is:

$$FCFF = EBIT\ (1 - T) + Depreciation - \Delta Net\ Working\ Capital - CAPEX\ ,$$

Where T equals the company's tax rate. In the case of Multinational companies, such as the one in which this valuation focuses, the correct tax rate to be applied to future income may be the effective tax rate, if it has been consistent in the years prior to the valuation. The justification is that this effective tax rate may be the result of the company being taxed differently in the countries it operates, for different incomes.

The DCF formula with the Free Cash Flows will then stand as:

$$Present\ Value = \sum_{t=0}^{n} \frac{Expected\ (Free\ Cash\ Flow\ to\ Firm)\tau}{(1+k)^{\tau}}$$

2.2.1.1. Terminal Value and stable state

In the DCF method, one important rationale is that, at a given point in time, the firm enters a stable state. The analyst is supposed to estimate the FCFs until that time horizon. This period is often called the "forecast period" and it "should be as long as one can expect abnormal profitability or growth to be maintained" (Schill, 2013). The forecast period is finite also for a practicality reason: "…business will continue after the horizon, but it's not practical to forecast free cash flow year by year to infinity." (Brealey, Myers, & Allen, 2014).

After some time, growth is expected to converge from abnormal to stable, since "Positive abnormal profitability attracts expansion and entry into the industry sufficient to put pressure in expected returns until they drop to meet the cost of capital" (Schill, 2013). This next state may be designated as "stable state" - a period in which the company is expected to remain qualitatively similar year after year.

The formula shown above for the Discounted Cash Flow, after including the concept of terminal value, transforms into the following:

$$Present\ Value = \sum_{\tau=0}^{\tau=n} \frac{Expected\ (Free\ Cash\ Flow\ to\ Firm)_{\tau}}{(1+k)^{\tau}} + \frac{Terminal\ Value_n}{(1+k)^n}$$

Although there are several approaches to compute terminal value, in this valuation the one applied will be the Stable Growth Model approach, represented by the formula:

$$Terminal\ Value_t = \frac{Free\ Cash\ Flow\ to\ Firm_{t+1}}{k - g},$$

Where g will be the Terminal Value Growth Rate.

2.2.1.2. Terminal Value Growth Rate

One fact that contributes to the importance of this measurement is the proportion of terminal value to the total value reached in a valuation using the DCF method, since "findings are that the terminal value is on average 94% of the total value if we make three annual forecasts, 90% of the total if we assume five annual forecasts and 79% of the total if we assume ten annual forecasts." (Young, Sullivan, Nokhasteh, & Holt, 1999).

The definition of the long-term growth rate depends enormously on one factor - the growth rate of the economy into which it is comprised "since no firm can grow forever at a rate higher than the growth rate of the economy in which it operates, the constant growth rate cannot be greater than the overall growth rate of the economy." (Damodaran, Investment Valuation, 2002).

Schill (2013), also argues that if this did not happen, business operations would end up exceeding the size of the world economy at some point in the future. This upper bound should be either the global economic growth – if the company has no limitations to operate worldwide, or the national economic growth – if the company is expected to work only at a national level.

2.2.1.3. Required Return to Equity – ke

The required return to equity is a term that designates the corresponding return that the market attributes, or the shareholders expect, to a certain level of risk.

The first major contribution into trying to reach the correct way to calculate ke came in the shape of the Capital Asset Pricing Model (CAPM), which Sharpe (1964) presented. The model stated that the market presented investors two pricing factors: "the price of time, or the pure interest rate … and the price of risk, the additional expected return per unit of risk borne" (Sharpe, 1964). This second type of risk, however, had a specific condition – "only systematic risks, i.e. risks to which many securities are exposed, can fetch a non-zero price" (Bodnar, Dumas, & Marston, 2003). The CAPM model states that the only risk which is not diversifiable and, thus, the only one which is rewarded to investors by the market for taking it, is the world stock market price risk - the "risk of covariation of the stock with the broader equity market" (Bodnar, Dumas, & Marston, 2003).

Following former academics [(Banz, 1981), (Basu, 1983), (Rosenberg, Reid, & Lanstein, 1985), (Lakonishok, Shleifer, & Vishny, 1994)], Fama and French (1996) proposed a multifactor model that tried to explain observations of pricing by the market in a better way. This model, besides exposure to the world equity market risk, also incorporates two other factors, "the difference between the return on a portfolio of small stocks and the return on a portfolio of large stocks (SMB, small minus big); and the difference between the return on a portfolio of high-book-to-market stocks and the return on a portfolio of low-book-to-market-stocks (HML, high minus low)" (Fama & French, 1996). The model was basically built in the assumption that stock returns contained both a systematic and a specific factor. The 3-factor model stands as follows:

$$E(Ri) = rf + \beta i * [E(Rm) - rf] + Si * E(SMB) + Hi * E(HML)$$

Since this model "captures much of the variation in the cross-section of average stock returns, and it absorbs most of the anomalies that have plagued the CAPM" (Fama & French, 1996), it seems to be a better model than the classical CAPM. One evidence of the model's quality is the finding that regressions using it tend to have a higher average R-squared measurement, which transmits the percentage of variations in the dependent variable that are explained by the variations in the independent variables.

For this reason, this valuation will use the Fama-French 3 Factor model to reach the required return to equity of the company. One last important detail is that the concept of Full Segmentation from Bodnar, Dumas and Marston (2003) will be assumed to be true in the estimation of the required return to equity shareholders of Under Armour Inc, so the factors used will be taken from the company's domestic financial market.

2.2.1.4. Risk-Free Rate

The risk-free rate plays an important part in valuation, particularly in calculating the required return to equity holders.

Damodaran states two conditions for an investment to be risk-free: the absence of default risk and the absence of reinvestment risk. The first condition rules out any corporate securities, leaving only government securities. The second condition is linked to the timing of the investment. The utopian way to use the risk-free rate would be using year-specific risk-free rates. However, "the present value effect of using year-specific risk-free rates tends to be small"

(Damodaran, Investment Valuation, 2002) comparing to using a risk-free proxy with the duration of the where the duration of the cash flows in the analysed.
One other important factor referred by the author is the currency in which the risk-free proxy is emitted as "the risk-free rate used to come up with expected returns should be measured consistently with how the cash flows are measured" (Damodaran, Investment Valuation, 2002). Concluding, Damodaran (Investment Valuation, 2002) advises the use of the government bond with the lowest default risk possible (ideally zero), which has same currency as the measured cash flows, as a proxy for the risk-free rate.

2.2.1.5. Market Risk Premium, Small Minus Big and High Minus Lows

The main methods for estimating the Market Risk Premium are well summarized in Zenner, Hill, Clark and Mago (2008). Two methods try to connect dividends with the MRP. As already referred, paying dividends is currently a very politicized decision so the dividend discount and dividend yield methods will not be used in this valuation.
Another method tries to measure a portfolio's excess return per unit of risk – the constant Sharpe Ratio method. Since it assumes that this ratio remains constant but there is "some evidence that the Sharpe ratio will change over time" (Zenner, Hill, Clark, & Mago, 2008) this approach is also abandoned.
The fourth method presented is the Bond-market implied risk premium, focused on the relation between expected returns for bonds and their beta. This is a method which depends entirely on the CAPM, and since the Fama French 3 factor model has proved to explain better the variations on market returns than CAPM, the possibility of using this method was abandoned as well, in this valuation.
A survey evidence method, is based on polls made to academics, investors, CFOs and other people working in finance is another possibility to estimate the Market Risk Premium. The results of those polls, however, found "wide differences in opinion" (Zenner, Hill, Clark, & Mago, 2008), so it seems to be a less reliable method.
Finally, the method that will be applied in this valuation is the historical average realized returns method. There are two approaches for this method – the geometric and the arithmetic average. In this case, we will consider the geometric mean since it "better reflects asset returns investors should expect over long horizons" (Zenner, Hill, Clark, & Mago, 2008). This method simply

uses the average of the return of a portfolio of the market risk premium subtracted of the risk-free rate for the same period, whether it is one or thirty years.

The last detail to decide upon is the duration of the data used in the historical average realized returns method. Fernández (2004) argues that "the required market risk premium … is an expectation and has little to do with history" (Fernández, 80 Common Errors in Company Valuation, 2004). Also, it is a fact that "the historical U.S. equity risk premium changes considerably depending on the interval used" (Fernández, 80 Common Errors in Company Valuation, 2004).

The period chosen will be the last 20 years (1996-2016). This way, the sample of data will not be so extended that it included values that would not reflect the current market expectation defended by Fernández. It would not be so small either to only reflect the singularity of current returns in the market, which have been influenced by very low interest rate levels practised in the present but not expected to be maintained in the long-term.

The method chosen will be used, not only for the market risk factor, but also for the small minus big and the high minus low factors.

2.2.1.6. DCF – Weighted Average Cost of Capital (WACC)

The weighted average cost of capital is defined as "the rate at which the Free Cash Flows (FCF) must be discounted…" (Fernández, WACC: Definition, Misconceptions and Errors, 2010).

WACC, as it is commonly known, may be calculated in the following manner:

$$WACC = \frac{D}{D+E+P} * kd * (1-T) + \frac{E}{D+E+P} * ke + \frac{P}{D+E+P} * kp,$$

where D , E and P equal the market values of each financing alternative used by the company, in this example debt, common equity and preferred equity. Also, kd represents the cost of debt for the company, and ke and kp represent the required rate of return for common and preferred shareholders, respectively.

"In the 1970s discounted-cash-flow analysis (DCF) emerged as best practice for valuing corporate assets. And one particular version of DCF became standard." (Luehrman, What's it Worth? A General Manager's Guide to Valuation, 1997). This method was the weighted average cost of capital and it definitely became the standard for a very long time, potentially, up to the present. However, in academia, some authors argue that the "WACC-based standard is obsolete" (Luehrman, What's it Worth? A General Manager's Guide to Valuation, 1997).

In the same rate, WACC allows the user to incorporate the capital structure and the value of interest tax shields enabled by that capital structure. One problem with the attempt to simplify calculations to only one discount rate, is that when debt securities in question are not standard ones, and for example convertible debt or tax-exempt debt come into play, the overly simplistic approach of condensing all effects on one discount rate may distort the value of the object of valuation. Another thing that makes it more difficult to use this approach is "that we use book values to generate the weights in WACC, whereas the procedure is valid only with market values" (Luehrman, Using APV: A Better Tool for Valuing Operations, 1997).

But the disadvantages go on, and if the WACC method addresses "tax effects only – and not very convincingly" (Luehrman, Using APV: A Better Tool for Valuing Operations, 1997), it neglects other financing side-effects, for example costs of financial distress. One other drawback of the WACC method is that it implies a static capital structure or else it needs to be adjusted "period by period within each project" (Luehrman, What's it Worth? A General Manager's Guide to Valuation, 1997), ending up being probably more complicated to use than alternative methods.

Nevertheless, WACC continues to be widely used and supported by some authors, who argue that "If the firm has an optimal or target debt ratio then APV and CCF add little, if anything, to a conventional WACC valuation" (Booth, 2007).

2.2.1.7. DCF – Adjusted Present Value (APV)

While DCF-WACC has been generating criticism among academics in the last two decades, the same group of researchers has defended one other approach. This approach is called the Adjusted Present Value (APV). APV analyses "financial maneuvers separately and then adds their value to that of the business" (Luehrman, Using APV: A Better Tool for Valuing Operations, 1997). Its formula may be summarized in the following manner:

$$APV = Base\ Case\ Value + Value\ of\ all\ financing\ side\ effects\ ,$$

where the base case value is the "value of the project as if it were financed entirely with equity" (Luehrman, Using APV: A Better Tool for Valuing Operations, 1997) and the financing side effects may be such as "interest tax shields, costs of financial distress, hedges, issue costs, other costs" (Luehrman, Using APV: A Better Tool for Valuing Operations, 1997).

As in the DCF-WACC approach, the first stage of the APV method is to forecast the free cash flows to the firm. After that, they are discounted to present values but at the unlevered cost of

equity, which is the required return by shareholders to projects with the same operating risk as the firm in question, in the case they were financed totally with equity. All financing side effects are then valued and added to the hypothetical unlevered value of the firm.

Frequently, firms do not suffer from such a wide variety of financing side effects. Some firms do not enjoy subsidies or do not practice hedging strategies, for example. In these cases, APV takes the following shape:

$$APV = Base\ Case + PV\ Tax\ Shields - Expected\ Costs\ of\ Financial\ Distress$$

One benefit of APV is it "is exceptionally transparent: you get to see all the components of value in the analysis. None are buried" (Luehrman, Using APV: A Better Tool for Valuing Operations, 1997). The level of transparency present in this approach may, for example, "help managers analyse not only how much an asset is worth but also where the value comes from" (Luehrman, Using APV: A Better Tool for Valuing Operations, 1997) and ultimately, maximize the firm's value.

On the disadvantages side, the calculation of the Present Value of Tax Shields and the Expected Costs of Financial Distress do not generate consensus among academics, as will be presented next.

2.2.1.8. Present Value of Tax Shields

"Because the interest on debt is tax deductible, by financing with debt the firm reduces its tax liability, thereby reducing the portion of the pie given away to the government… Therefore, stockholders get to pocket the tax savings that are achieved by financing with debt." (Graham, 2001).

Modigliani and Miller (1963) were the first to present a way to calculate tax savings, in the case there was zero risk of bankruptcy. However, zero risk of bankruptcy is not applicable to the large majority of the situations in real world. Later, Myers (1974), proposed that it would be possible to calculate the Present Value of Tax Shields, using the following formula:

$$PV(Tax\ Shields) = \frac{Tc * kd * D}{kd} = Tc * D,$$

where Tc is the tax rate applicable, kd is the cost of debt and D is the total amount of debt. Harris and Pringle (1985), on the contrary, argued that "interest tax shields have the same systematic risk as the firm's underlying cash flows and, therefore should be discounted at the required return to assets" (Harris & Pringle, 1985). The formula for calculating them will then be:

$$PV(Tax\ Shields) = \frac{Tc * kd * D}{ku},$$

where ku is the required return to unlevered equity. Miles and Ezzel (1980) state that in the case the firm has an optimal debt to equity ratio, the tax shields should be discounted at the cost of debt in the first year and at the required return to unlevered equity in the following years. This theory ends up valuing the Present Value of Tax Shields in the following manner:

$$PV(Tax\ Shields) = \left(\frac{Tc * kd * D}{ku}\right) * \left(\frac{1 + ku}{1 + kd)}\right)$$

For the purpose of this valuation, we will consider correct both formulas by Harris and Pringle and Miles and Ezzel, in the case the company has a fixed amount of debt or an optimal debt to capital ratio, respectively.

2.2.1.9. Expected Costs of Financial Distress

Costs of financial distress may be defined as "the costs associated with the greater possibility of financial distress" (Almeida & Philippon, 2008).

These costs may be divided into two categories: direct costs of financial distress and indirect costs of financial distress. The first ones are usually litigation fees and costs associated directly to the process of bankruptcy of companies. The indirect costs of financial distress are usually not so obvious and easy to observe. Among them we can count "damage to the firm's reputation, the loss of key employees and customers, and … the loss of value from foregone investment opportunities" (Almeida & Philippon, 2008).

The standard model to compute the value of Expected Costs of Financial "requires the estimation of the probability of default with the additional debt and the direct and indirect cost of bankruptcy" (Damodaran, Investment Valuation, 2002). The value will then be reached by multiplying the probability of default (which is associated to the rating of the company) with the sum of the indirect and direct costs of distress/bankruptcy.

One specific finding, that questions the validity of this approach, is the tendency of the probability of distress to increase for all firms in the market, when economic recessions happen, thus showing a "systematic component" (Almeida & Philippon, 2008). Almeida and Philippon (2008) were also able to come up with a model that, by using risk-adjusted probabilities instead of historical probabilities, can incorporate the systematic risk premium into the valuation of the Expected Costs of Financial Distress. The model is the following:

$$\emptyset = \frac{q}{q + rf} * \varphi,$$

where $\emptyset$ stands for the total Expected Costs of Financial Distress, φ stands for the costs of financial distress (indirect + direct), at the time they happen and as a percentage of the firm's value, rf for the risk-free rate and q stands for the risk-adjusted probability that the firm will enter the stage of financial distress, in each year of operation. In the same paper, the authors give their estimates of the component q in the equation.

Moving on to the parameter φ, Martin J. Gruber and Jerold B. Warner (1977) made a deep analysis of direct costs of financial distress, arriving at values between 3 and 5% of the total value of the firm, at the time the firm enters that state. It is the indirect costs that present a bigger problem.

First, indirect costs of financial distress vary relatively to the business in question. For example, indirect costs for an automotive company may be high for the drop in consumers' willingness to pay for a car that might have less substitution parts or a lower easiness to be resold in the future. On the contrary, for example a company selling tableware will be less affected by indirect costs of financial distress, since service after purchase is much less frequent and necessary. Another aspect concerning this type of costs is the difficulty in distinguishing them as being such – indirect costs of financial distress – and not related to a drop in performance related to any other issue. The most formal studies of indirect bankruptcy costs, up to the present, "estimate that these costs are 10 to 20 percent of firm value" (Andrade & Kaplan, 1998).

2.2.2. Returns Based Approach – Economic Value Added (EVA)

The Economic Value Added model, or EVA, was born, states Damodaran (Investment Valuation, 2002), due to a need to assess the performance of firms, since the volatility of stock prices did not make them good tools for this task.

EVA "measures the dollar surplus value created by an investment or a portfolio of investments." (Damodaran, Investment Valuation, 2002). The way to compute it is the following:

$$EVA = (Return\ on\ Capital\ Invested - Cost\ of\ Capital) *$$

$$Capital\ Invested\ in\ Assets = Net\ Operating\ Profits\ After\ Taxes - Cost\ of\ Capital * Capital\ Invested,$$

where Net Operating Profits After Taxes (NOPAT) may be calculated by subtracting taxes to the EBIT of the company, in each year.

The first input needed is the Capital Invested in Assets. Since the firm's market value also "includes capital invested not just in assets in place but in expected future growth" (Damodaran, Investment Valuation, 2002), the best proxy available for the input tends to be the book value.
The second input is the return on invested capital. To get this input "we need an estimate of the after-tax operating income (NOPAT) earned by a firm on these investments." (Damodaran, Investment Valuation, 2002).
Lastly, one needs the Cost of Capital to put the model into work. The Cost of Capital is calculated in the same manner as it is in the DCF – WACC, with the weighted average of the after-tax cost of debt and the required rate of return, by market values.
After we arrive at the Economic Value Added in each term, for the given company, the firm value might be reached through using the following formula from A. Damodaran (Investment Valuation, 2002):

$$Value\ of\ the\ Firm = Capital\ Invested_{aip} + \sum_{t=1}^{t=\infty} \frac{EVA_{t,aip}}{(1+ke)^t} + \sum_{t=1}^{t=\infty} \frac{EVA_{t,future\ projs.}}{(1+ke)^t}$$

2.3. Equity Methods

2.3.1. Cash Flow Approach – Dividend Discount Model (DDM)

In theory, "the only cash flow you receive from a firm when you buy publicly traded stock is the dividend" (Damodaran, Investment Valuation, 2002), so the Dividend Discount Model stands as a very intuitive equity valuation model. Under its simplest form, The Gordon Growth Model stands in the following way:

$$Value\ of\ Stock\ = \frac{DPS}{ke - g}$$

where DPS equals the expected dividend payed one year from now to the stockholders of the company, ke is again the required return of equity of the company in question and g is the perpetual growth rate in dividends.
The major problems linked to this model were, on one hand, policies of some firms to pay no dividends to shareholders for long periods, when they could enjoy high growth rates. On the other hand, the increase in share repurchases, as a way to compensate investors, "focusing strictly on dividends paid as the only cash returned to stockholders exposes us to the risk that we might be missing significant cash returned to stockholders in the form of stock buybacks"

(Damodaran, Investment Valuation, 2002) and, for that reason, the model was adjusted in order to include these repurchases in following manner:

$$Modified\ Dividend\ Payout\ Ratio = \frac{Dividends + Stock\ Rep. - L\ T\ Debt\ Issues}{Net\ Income}$$

The reason for subtracting Long-Term Debt Issues is "firms may sometimes buy back stock as a way of increasing financial leverage" (Damodaran, Investment Valuation, 2002). Since this adjustment has an impact in the growth in earnings per share, the new measurement may be calculated by:

$$Modified\ growth\ rate\ = (1 - Modified\ payout\ ratio) * Return\ on\ equity$$

The version of the Dividend Discount Model that may be used for valuation purposes depends a lot on the fit of the company. Accounting for Under Armour Inc's characteristics, the version that best applies is the Three Stage Dividend Discount Model.

The Three Stage Dividend Discount Model "allows for an initial period of high growth, a transitional period where growth declines and a final stable growth phase" (Damodaran, Investment Valuation, 2002). Side by side with the declining and stabilization of growth, the model assumes the maturing of the company comes with shifts in the dividend payout policy, which starts as null or very low, moves through a period of increase and ends up in the state of a high payout ratio.

The Three Stage Dividend Discount Model stands as such:

$$Stock\ Price = \sum_{t=1}^{t=n1} \frac{EPS_0 * (1+g_a)^t * \pi_a}{(1+ke_{HG})^t} + \sum_{t=1}^{t=n2} \frac{DPS_t}{(1+ke_T)^t} + \sum_{t=1}^{t=n1} \frac{EPS_{n2} * (1+g_n) * \pi_n}{(ke_{ST} - g_n) * (1+r)^n},$$

where EPS_t equals earnings per share in year t; DPS_t equals dividends per share in year t; $g_a$equals the growth rate in high growth phase (lasts n1 periods); g_n equals growth rate in stable phase; π_a equals the payout ratio in high growth phase; π_n equals payout ratio in stable growth phase; ke equals required return to equity in high growth (HG), transition (T) and stable growth (ST), respectively.

In this valuation, due to the lack of strong theoretical approaches to calculate the required return to equity in the transition and growth phases, it will be maintained at current levels.

A critic sometimes attributed to the DDM is that "as the market rises, fewer and fewer stocks will be found to be undervalued using the dividend discount model" (Damodaran, Investment Valuation, 2002). However, there is no evidence that DDM undervalues the stocks comparing

to their intrinsic value, simply that, in certain situations, it may lead to more conservative valuations than other approaches.

Concluding, the DDM will be used as a complementary model, but bearing in mind the limitations associated to the very politicized decisions of distributing dividends and the lack of strong theoretical background to forecast the future required return to equity.

2.4. Multiples/Relative Approaches

Relative Valuation's "objective is to value assets, based upon how similar assets are currently priced in the market" (Damodaran, Investment Valuation, 2002).

There are two parts to any Relative Valuation – deciding what are the similar assets present in the market to the one we are valuing and what is the component/multiple which we are taking into consideration as a common measurement of value, both in the asset we are valuing, as in the group of similar assets.

Firstly, to solve for the latter part of the problem, one must understand the different types of measurements of value, commonly called multiples. Multiples may be divided, just as the other valuation methods, in two wide categories: enterprise multiples and equity multiples.

When having to decide upon which multiples to use, Foushee, Koller and Mehta (2012) claim that "most sophisticated investors and bankers compare companies relative to peers using an enterprise-value multiple – usually either EV/EBITA or EV/EBITDA. Such multiples are preferable because they are not burdened with the distortions that affect earnings ratios." The main distortions that the authors refer are of two types. First, equity multiples tend to be affected by debt and thus will yield different values for a company with the exact same prospects, except for capital structure ratios. Second, the multiples stated are not so easy to be manipulated as if one used for example EBIT or Net income in the denominator, since these two captions already reflect some non-operating decisions of the firm. Also, by using sales instead of EBITDA, for example, we would only account for the revenue generating capacity of the assets and would disregard the operating costs that the companies incur on. For this reason, enterprise-value multiples, and specifically EV/EBITDA, will be given priority in this valuation.

One other problem in choosing the definition of multiples to use, regard timing. There are basically three different types of multiples in this sense: Current Multiples – which use accounting figures from the last financial year; Trailing Multiples – which include accounting figures from the last four quarters; Forward Multiples – based on using expected or forecasted

accounts for the next financial year. Goedhart, Keller and Wessels (2005) state that using forward multiples, when there are available forecasts, or at least the most recent data possible, yields much more accurate results than using Current Multiples.

Moving on to the second problem of Relative Valuation – finding comparable companies, it is known by analysts that it is impossible to find a group of firms with the exact same characteristics as the firm in question.

In the present valuation, the method chosen to control for the differences among the valued firm and the Peer Group will be a statistical tool designated cluster analysis. By taking Under Armour's characteristics as "anchors", or centres, the firms that are distanced the less to those characteristics will be chosen as peers. Since "every multiple… is a function of the same three variables – risk, growth and cash flow generating potential" (Damodaran, Investment Valuation, 2002), these were the characteristics in which the cluster analysis was focused, to reach the best comparable firms to value Under Armour. As a proxy for risk, the 5-year stock volatility of each firm was used, as a proxy for growth, the forecasted revenue growth rate until 2020 (Thomson Reuters forecasts) was used and as a proxy for cash flow generating potential, the trailing EBITDA margin was used.

2.5. Conclusion

After reviewing the state-of-the-art literature some decisions have been reached regarding the methods and processes that will be used in the present valuation of Under Armour Inc.

Among Enterprise Methods, Discounted Cash Flow, more specifically the Adjusted Present Value version, will play a central part in valuing Under Armour Inc. It is a possibility that the valuation reached through the Adjusted Present Value method is not the intrinsic value of the equity of the firm in question, since the method to calculate Costs of Financial Distress and Present Value of Interest Tax Shields still does not generate consensus. However, it should be closer to it than if WACC was to be used, considering this method does not even account for the effects of financing side effects other than tax shields, and even tax shields are included in a very opaque way. The Economic Value Added approach will be left out, mainly due to the problems usually associated to it – the difficulty in finding a good proxy for the Capital Invested and the high dependency of this model on the Weighted Average Cost of Capital, that we left out due to its limitations.

Among Equity Methods, the Dividend Discount Model will be used, as another component that shall add consistency to this valuation, and due to its conservative character, which should help defining a lower bound for the valuation. The specific version of the DDM which will be used is the Three Stage Dividend Discount Model.

Lastly, a Relative Valuation will be put to practice, using a cluster analysis, to control for differences in comparable companies and giving priority to enterprise multiples, EV/EBITDA more than any other.

3. Company Overview

Under Armour Inc is an American born firm operating in the Global Sportswear Industry. The company was created in 1996, by the then Football Special Teams Captain of the University of Maryland – Kevin Plank. In that year, UA targeted the lack of performance-driven football shirts available, with the creation of the first product of the kind by the founder, designated by "Prototype 0037", which was soft, tight and able to wick sweat in a better way than any existing products.

Innovativeness stands at the core of the company's mission – "to make all athletes better through passion, design and the relentless pursuit of innovation", and this characteristic is still presently associated to the company, which stands at number 6 in the Forbes 2016 "The World's Most Innovative Companies" ranking.

On November 18, 2005 Under Armour's IPO took place. The company's underpricing was a record one, with UA becoming the first United States based IPO to double on its first day of trading in the five years prior to that date, opening at 31$ per share against the original price of 13$ per share. The offering's underwriting group, Goldman Sachs, valued the equity of the company at 157,3 million dollars.

The huge growth of the company, however, would not stop at that point. In the period between the Initial Public Offering and 2010, UA almost quadruplicated its revenues, surpassing $1 billion in annual revenues.

At the present date, Under Armour defines its activities as developing, marketing and distributing of their branded performance apparel products and is ranked 6th in the world in the global sportswear industry revenue-wise and totalizes a market capitalization of over $16.5 Billion. The company presently enjoys three revenue sources – sportswear sales, licensing revenues and Connected Fitness revenues, which are revenues derived from an investment made by Under Armour in a mobile app as well as devices that are connected to such app and make it possible for users to save and share their fitness performance with each other.

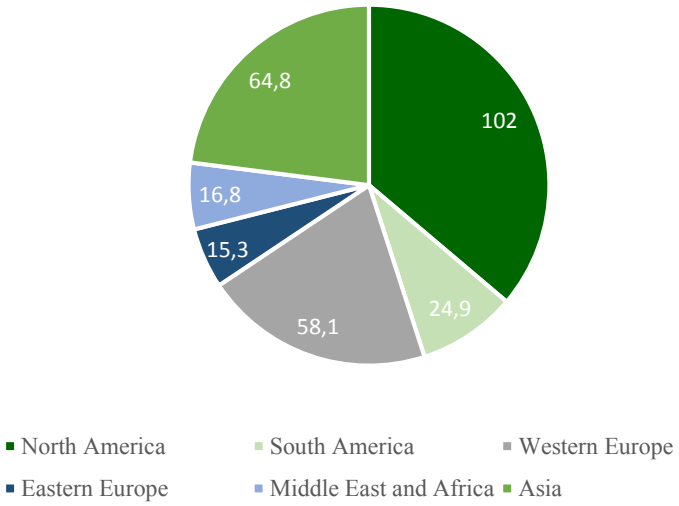
By enjoying a 5-year compound net revenues growth rate of 30.1%, Under Armour is currently competing head-to-head for global athletic apparel market share, against companies with extremely large size, strong financial resources, and very well established brands.

4. Industry Overview

4.1. Macro Analysis

Sportswear, comprised of sports apparel and footwear is an industry that has been experiencing exponential growth in the recent past. The worldwide market was estimated to have grown at a CAGR of 6% (Societe Generale, 2016) since 2010, adding up to $281,9 bn in 2015. The main macro tailwinds that the industry has been exposed to were the increase in the participation of sports by youth, and mainly the general increase in awareness for health and the necessity to exercise. Consumption by continent in $ bilion stands as follows:

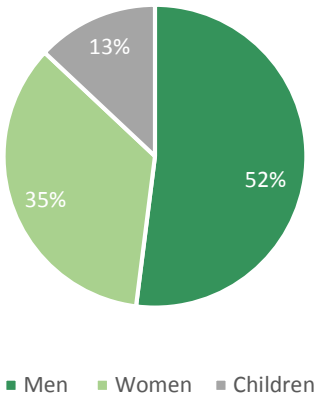
Figure 1 - Sportswear Consumption by Region, 2015 ($bn)



Source: Societe Generale "Global Sportswear Industry: Steadily Growing but Fragmented"

North America continues to lead the global consumption, almost doubling the registered figures from Western Europe and Asia. In gender terms, the market is still dominated by men but it has been showing a trend of gender uniformisation, with the women segment gaining ground due to social tailwinds, after being neglected for a long time.

Figure 2 - Sportswear Industry Consumer by Gender



Source: Societe Generale "Global Sportswear Industry:Steadily Growing But Fragmented"

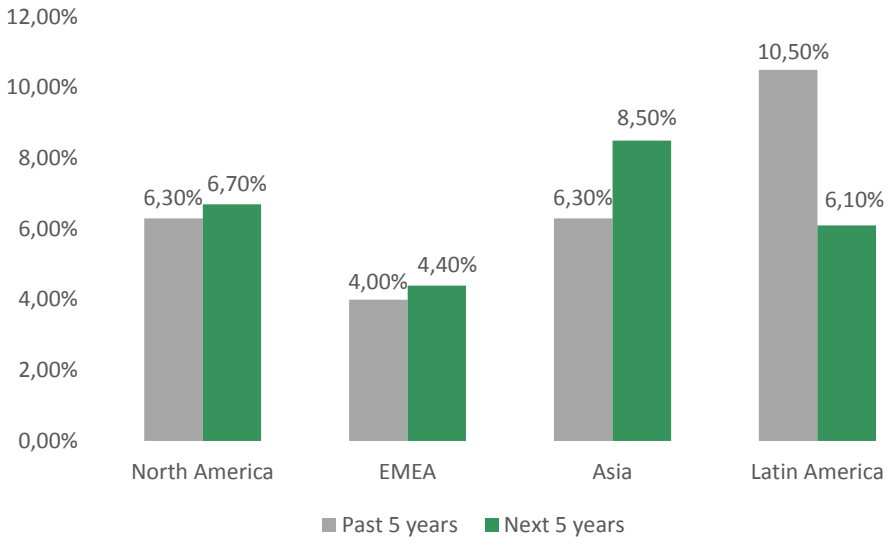
The recent overall growth experienced by the industry is expected to continue in the future. Societe Generale's estimates place growth expectations at a CAGR of 5,3%, implying possible sales values of $365 bn by 2020.

This growth is dependent on a variety of macro factors that affect this industry. First, major sporting events such as the Uefa Euro 2016 and Rio 2016 Olympic Games are expected to boost the annual 2016 sales figures. Wage increases are expected both in developed countries as well as emerging ones. Private consumption is expected to grow benefiting from the increase in disposable income. However, at the same time, production costs are expected to rise as a direct effect of the wage improvement in the areas where companies manufacture goods, in general. One specific area of the industry which should continue to gain traction is e-commerce, with firms expected to increase digital spending even further.

Positive social factors are also expected to be maintained, as health consciousness and trends regarding social fitness are expected to grow even further. This trend should help the women segment to grow strongly. Maintained investment in the children segment in the shape of incentives to participation in sports and encouragement to have healthier lifestyles are expected to continue helping this segment's growth as well.

Industry consumption annual growth rates vary depending on the region:

Graph 1 - Industry Regional Average Annual Growth



Source: Societe Generale "Global Sportswear Industry: Steadily Growing but Fragmented"

North America and EMEA are both expected to enjoy an increase in growth rates due to the economic and social factors already addressed. On the other side, Latin America should lose some acceleration, as the deep recessions felt in Brazil and Argentina, political instability and high inflation across the region are expected to play an important part in the industry's development. Forecasts point at Asia as having the biggest percentage increase in growth in the next five years, also benefiting from strong industrial activities, increases in wage levels and low oil prices.

4.2. Micro Analysis

To assess the current attractiveness of the global athletic apparel industry, one may use the Porter's 5 Forces model.

Firstly, product differentiation within the industry is limited, in general terms, with the same materials (such as fabrics) and main technologies being available to a majority, if not all, of firms. Together with rapid product cycles and the existence of relatively high economies of scale, the threat of new entry is weak.

On the other hand, the high similarity of products used between firms, the very low cost of switching costs and the importance of some retailer customers make the customer bargaining power to be moderately strong.

In terms of product substitution, the low switching costs are more than offset by the low availability of high performance product substitutes, turning the threat of substitute products in a moderately weak one.

Regarding the bargaining power of suppliers, mostly raw materials, the low number of firms supplying high quality raw materials and the increasing demand for these raw materials turns this force into a moderately strong one.

Finally, the competitive rivalry is considered a strong one. Although the high number of firms weakens the effect, the bi-modal character of the industry (has a group of very large global firms dominating demand, and a high number of much smaller firms competing for niche markets and local demand), the high maturity of the industry, also associated to a low average growth rate, rapid changes in consumer preferences and product cycles, and the difficulty to get fabric or process patents have a very strong effect in increasing competition. The Porter's 5 Forces model will stand as follows:

Figure 3- Global Sportswear Industry Porter's 5 Forces

Source: Own Analysis

The similarity of production costs among the largest firms, together with the relatively high product similarity have two very important effects in the industry dynamics. The first one is the enormous competition for retailer space, that pressures prices of those businesses down.

The second effect, and even a more important one, is each firm's necessity to distinguish itself from competition. One of the direct consequences of this necessity is the incredibly high marketing costs incurred by each of the larger firms in business, with the tendency to have promotion, advertising and demand creation expenses adding up to more than 10% of gross revenues, for larger firms.

Other consequences are the constant increase in the pace of product development and introduction and a growing number of trademarks and patents that each firm claims. Trademarks in this industry are sometimes considered one of the most valuable assets owned by firms due to the differentiating power they confer.

One last, but very important factor in the industry is the quality of human capital. Since the market requires an enormous deal of innovativeness in product development, marketing and brand strengthening, strong leadership and highly qualified personnel are key to the success in this market.

5. Valuation Inputs– APV

The present valuation relied in a group of factors to forecast Under Armour's operations. One of them, and already presented in the Macro Analysis, is the growth of the Global Sportswear Industry and the demand for such products, in this case given by Societe Generale's research. The given growth combined with the evolution of Under Armour's market share shall combine and reflect the company's operations scale in future years.

By putting this factors in perspective, together with the company's expectations on the evolution of its own operations and the potential of other industry players, the final result should be a well-informed valuation, supported by the most reliable and concrete data possible.

5.1. Revenue estimation

In the 2015 FY, Under Armour ended up reporting $3.96 bn in revenue, experiencing a yoy revenue growth of approximately 28.5% and capturing a market share of 3.39% in North America and 0.25% globally (excluding North America).

UA's future revenue growth used in this valuation model stands as such:

Table 1 - UA Revenue Segmentation by Region

Revenue by region ($ Thousands)	2011	2012	2013	2014	2015
North America	1 383 346	1 726 733	2 193 739	2 796 374	3 455 737
International	89 338	108 188	137 244	268 771	454 161
Connected Fitness - Global	0	0	1 068	19 225	53 415
Total Net revenues	1 472 684	1 834 921	2 332 051	3 084 370	3 963 313

Source: Own Analysis and Company Reports

Table 2- UA Revenue Forecast

Revenue Forecast ($ 000)	2016 E	2017 F	2018 F	2019 F	2020 F
North America	4 153 796	4 606 881	5 118 574	5 543 870	5 993 631
International	4 910 428	6 023 556	7 266 220	8 849 613	10 593 452
Connected Fitness - Global	91 179	136 769	202 418	297 555	384 980
Global Net Revenues	5 001 608	6 160 325	7 468 638	9 147 168	10 978 432

Revenue Forecast ($ 000)	2021 F	2022 F	2023 F	2024 F	2025 F	2026 F
North America	6 592 750	7 023 719	7 401 851	7 790 177	8 188 283	8 670 450
International	12 630 581	14 502 805	16 302 441	17 765 229	19 136 270	20 628 803
Connected Fitness - Global	443 333	509 048	572 216	623 560	671 683	724 071
Global Net Revenues	13 073 915	15 011 854	16 874 657	18 388 788	19 807 953	21 352 874

Source: Own Analysis and Company Reports

The forecast of future revenues in this model was anchored in three main factors. The first one was expected industry growth, based both on Societe Generale's forecasts and author inputs. The second one was the market share evolution for Under Armour. The third one was the company's own forecasts, which set revenue expectations for 2018 at slightly under $7.5 bn (in line with this model) and revenue growth at between 20 and 25%, for next few years.

The figures above are linked to the following revenue growth and market share, in each year:

Table 3 - UA Revenue and Market Share Evolution

Year	Revenue Growth Rate	N. America Mkt Share	Int. Market share
2016	26.20%	3.93%	0.40%
2017	23.17%	4.20%	0.70%
2018	21.24%	4.50%	1.00%
2019	22.47%	4.70%	1.45%
2020	20.02%	4.90%	1.90%
2021	19.09%	5.20%	2.35%
2022	14.82%	5.35%	2.75%
2023	12.41%	5.45%	3.10%
2024	8.97%	5.55%	3.30%
2025	7.72%	5.65%	3.45%
2026	7.80%	5.80%	3.60%

Source: Own Analysis and Company Reports

Independent forecasts made by Thomson Reuters and FactSet place revenue forecasts for Under Armour very close to the figures shown in this model, which further demonstrates the high likelihood of this scenario.

5.2. Cost of Goods Sold / Gross Margin

For a retail company, such as the one currently in discussion, gross margin assumes an essential figure in determining the success of a firm.

Table 4 - UA COGS and Growth Margin Forecast

	2011	2012	2013	2014	2015	2016 E	2017 F	2018 F
COGS	759 848	955 624	1 195 381	1 572 164	2 057 766	2 645 850	3 258 812	3 950 910
Gross Margin	48.40%	47.92%	48.74%	49.03%	48.08%	47.10%	47.10%	47.10%

	2019 F	2020 F	2021 F	2022 F	2023 F	2024 F	2025 F	2026 F
COGS	4 838 852	5 807 591	6 916 101	7 941 271	8 926 694	9 727 669	10 478 407	11 295 670
Gross Margin	47.10%	47.10%	47.10%	47.10%	47.10%	47.10%	47.10%	47.10%

Source: Own Analysis and Company Reports

At a first glance, it might seem out of context to forecast the future gross margin at a value lower than recent past ones. However, despite registering an average gross margin of 48.43% for the last 5 fiscal years, Under Armour has seen its third quarter 2015 gross margin lowered to 47.3%. The factors presented in the micro analysis such as increased competition for retailer space may pressure prices down even more, hence the low margin forecast.

The recent drop in share price registered by the company is closely linked to this "margin crushing", as well as to the lower revenue growth expectations, both referred in the 2015 Investor Day. Thomson Reuters estimates also place gross margins at lower than historical values – average of 47.5% between 2016 and 2020. This model will use a slightly more conservative approach of maintaining the figure at 47.1% in future.

5.3. Selling, General and Administrative Expense

This caption in the company's statement of income comprises all operating expenses other than costs of goods sold. The evolution of these costs stands as such:

Table 5 - UA Historical and Forecasted SG&A

	2011	2012	2013	2014	2015	2016 E	2017 F	2018 F
SG&A Expense	550 069	670 602	871 572	1 158 251	1 497 000	1 900 368	2 317 094	2 811 476
Marketing Costs	167 900	205 400	246 500	333 000	417 800	531 973	655 215	794 368
Other SGA costs	382 169	465 202	625 072	825 251	1 079 200	1 368 395	1 661 879	2 017 108
O. Hand. Costs	26 100	34 800	46 100	55 300	63 700	90 487	111 450	135 119
Depreciation	32 700	39 800	48 300	63 600	87 100	103 684	127 705	154 826
Int. Amortization	3 601	3 282	2 249	8 493	13 840	37 365	21 796	26 845
Rent Expense	26 700	31 100	41 800	58 000	83 000	96 136	118 408	143 555
Acquisitions	0	0	0	1	6	0	0	0
R&D	34 347	41 748	57 031	74 989	97 456	119 470	147 843	181 104
Personnel	258 721	314 472	429 592	564 868	734 098	921 253	1 134 679	1 375 659

	2019 F	2020 F	2021 F	2022 F	2023 F	2024 F	2025 F	2026 F
SG&A Expense	3 442 628	4 132 410	4 920 491	5 652 551	6 355 851	6 928 143	7 463 584	8 045 516
Marketing Costs	972 897	1 167 672	1 390 548	1 596 668	1 794 797	1 955 841	2 106 784	2 271 102
Other SGA costs	2 469 730	2 964 738	3 529 943	4 055 882	4 561 054	4 972 302	5 356 800	5 774 414
O. Hand. Costs	165 486	198 617	236 527	271 587	305 288	332 681	358 356	386 306
Depreciation	189 622	227 585	271 025	311 198	349 815	381 203	410 622	442 649
Int. Amortization	32 546	39 861	47 841	56 973	65 418	73 535	80 134	86 318
Rent Expense	175 818	211 016	251 294	288 543	324 348	353 451	380 729	410 423
Acquisitions	0	0	0	0	0	0	0	0
R&D	221 428	265 526	315 153	362 526	408 019	444 375	478 504	515 702
Personnel	1 684 830	2 022 133	2 408 103	2 765 055	3 108 167	3 387 057	3 648 455	3 933 016

Source: Own Analysis and Company Reports

The basis for each caption forecasts stands below:

Table 6 – UA SG&A Expenses Inputs

	2011	2012	2013	2014	2015	2016 E	2017 F	2018 F
Marketing / Revenues	11.40%	11.19%	10.57%	10.80%	10.54%	10.64%	10.64%	10.64%
O. Handling Costs / Revenues	1.77%	1.90%	1.98%	1.79%	1.61%	1.81%	1.81%	1.81%
Depreciation / gross PPE	11.94%	12.20%	12.19%	12.18%	10.47%	11.80%	11.80%	11.80%
Intangible Amort. / LY Intangibles	--	59.30%	50.17%	35.25%	52.76%	49.37%	49.37%	49.37%
Rent Expense / Op. Leases	14.42%	15.33%	12.90%	12.27%	13.25%	12.81%	12.81%	12.81%
R&D Expenses / Revenues	2.33%	2.28%	2.45%	2.43%	2.46%	2.39%	2.39%	2.39%
Personnel Costs / Revenues	17.57%	17.14%	18.42%	18.31%	18.52%	18.42%	18.42%	18.42%

	2019 F	2020 F	2021 F	2022 F	2023 F	2024 F	2025 F	2026 F
Marketing / Revenues	10.64%	10.64%	10.64%	10.64%	10.64%	10.64%	10.64%	10.64%
O. Handling Costs / Revenues	1.81%	1.81%	1.81%	1.81%	1.81%	1.81%	1.81%	1.81%
Depreciation / gross PPE	11.80%	11.80%	11.80%	11.80%	11.80%	11.80%	11.80%	11.80%
Intangible Amort. / LY Intangibles	49.37%	49.37%	49.37%	49.37%	49.37%	49.37%	49.37%	49.37%
Rent Expense / Op. Leases	12.81%	12.81%	12.81%	12.81%	12.81%	12.81%	12.81%	12.81%
R&D Expenses / Revenues	2.39%	2.39%	2.39%	2.39%	2.39%	2.39%	2.39%	2.39%
Personnel Costs / Revenues	18.42%	18.42%	18.42%	18.42%	18.42%	18.42%	18.42%	18.42%

Source: Own Analysis and Company Reports

Marketing expenses tend to have major weight in sportswear companies and in this model's case, these expenses are forecasted to grow at 10.64% of revenues. This value is reached

through the average of the last 3 fiscal years' ratios, and not the last 5 years, since Under Armour registered a decrease in these costs since 2013, comparing to the two periods before that one.
Outbound handling costs are costs related to materials used in shipping products, and they are forecasted to be maintained, on average and as a percentage of revenues, relatively to the last 5 years.
Depreciation is forecasted through a percentage of gross power, plant and equipment. This percentage is 11.8%, which corresponds to the last 5-year average.
Intangible amortization is expected to remain at 49.37% of the previous year's intangibles, also according to its past average.
Rent expense for Under Armour represents the expenses related to lease payments and they will be forecasted at 12.81% of operating leases outstanding in each year. This percentage was reached through an average of the last 3 years, since the company lowered this expenses, comparing to 2011 and 2012, in percentage.
Research and development expenses are set, in the model at 2.39% of revenues, with this being the average percentage value for the past 5 years, for UA.
Lastly, personnel costs are forecasted at 18.42% of net revenues. This value was reached through the average of the last 3 years. The reason for the choice of the 3-year period was the increase in this type of costs felt by Under Armour, comparing to 2011 and 2012. This inflated personnel costs may be related to the macro economic factors explained in a previous sector and those factors are expected to be maintained, if not increased.

5.4. Debt Outstanding and Interest Expense

For the time being, Under Armour has some public debt outstanding – since the issuance of $600m worth of bonds in the beginning of June, 2016. Besides this type, the company still has some debt outstanding derived from a revolving credit facility, besides a high value outstanding for operating leases.
The full inputs and forecast for the debt outstanding may be consulted in the Appendix 7 -Debt Forecast Inputs.

5.5. Other expense

The other expense rubric comprises, for Under Armour, income mainly related to derivatives and foreign currency exchange rate contracts, used for hedging.

Since hedging may be considered an activity directly linked to the operations level of the company, these expenses were forecasted to grow with operations, at 0.12% of the net revenues – the past 5-year historic average.

5.6. Effective tax-rate

During the period analysed (2011-2015), the company's effective tax rate has been maintained at relatively stable levels (between 36.7% and 39.85%). With that said, this rate is forecasted to be maintained at 38.36% in the future, an average of the past 5 years.

5.7. Working Capital

The generic method to forecast future working capital requirements was through a past analysis of the Days of Sales Outstanding (DSO), Days Payable Outstanding (DPO) and Days of Inventory Held (DIH).

The ratios were maintained at an average of the past 5-year period, with three exceptions: accounts receivable, accounts payable and deferred income taxes. Since Under Armour has seen a gradual change in working capital requirements, the DSO related to accounts receivable have increased and the DPO related to accounts payable have decreased, up to the present. Since using an average may provide biases, the DPO and DSO values witnessed in 2015 were maintained in the future.

Deferred income taxes-current assets are stated at zero in 2015 and in all the years after that. The reason for that is an accounting standards update issued by the FASB, requiring deferred tax assets and liabilities to be reclassified as non-current on the balance sheet. This amendment was applied prospectively by Under Armour.

5.8. Capitalizing R&D

R&D expenses are capitalized in our model in an off-balance sheet method. According to such method, R&D expense in each period is added to the capital expenditures (otherwise only comprised of the purchases in property, plant and equipment), and amortized through time. The R&D amortizable life period used was 2 years – period used for special retail lines.

In the capitalization process, adjusted operating income after tax (NOPAT), capex and depreciations and amortizations values were reached.

5.9. Capitalizing Operating Leases

Operating leases outstanding in each period are to be capitalized in this model. This process gains extreme importance since the company analysed is a retail company, which usually rely a lot on operating leases to finance points of sale and offices. If operating leases are not to be capitalized, then the amount of debt associated to the company may be severely understated. Once again, capitalization of operating leases was done in an off-balance sheet fashion, and after the R&D capitalization.

Associated to this process, NOPAT was once again adjusted, and so were depreciations and amortizations values for each year.

5.10. Free Cash Flows to the firm

The FCFs to the firm, in each year were the following:

Table 7 - UA Historical and Forecasted Free Cash Flows

($ 000)	2012	2013	2014	2015
EBIT	241 826	289 890	385 047	453 391
(-) Taxes on EBIT	(88 749)	(109 587)	(150 963)	(180 698)
NOPAT	153 077	180 303	234 084	272 694
(+) Depreciation and Amortization	22 544	96 247	141 105	191 084
(+) non-cash charges	17 710	20 776	20 669	14 296
(-) Investment in Working Capital	(18 893)	141 003	103 884	368 553
(-) Capital Expenditures	(106 545)	(150 682)	(228 694)	(431 363)
(-) R&D	(41 748)	(57 031)	(74 989)	(97 456)
Free Cash Flow to the Firm	26 145	230 616	196 058	317 808

($ 000)	2016	2017	2018	2019	2020	2021
EBIT	501 381	639 495	773 078	947 650	1 133 486	1 345 426
(-) Taxes on EBIT	(192 307)	(245 281)	(296 517)	(363 475)	(434 754)	(516 044)
NOPAT	309 074	394 214	476 560	584 175	698 732	829 382
(+) Depreciation and Amortization	250 342	329 982	382 488	467 491	567 985	683 872
(+) non-cash charges	(2 706)	13 204	14 325	19 473	20 725	23 655
(-) Investment in Working Capital	183 613	258 476	292 430	374 086	408 645	467 666
(-) Capital Expenditures	(497 165)	(476 233)	(562 840)	(700 809)	(813 500)	(955 924)
(-) R&D	(119 470)	(147 148)	(178 399)	(218 493)	(262 235)	(312 289)
Free Cash Flow to the Firm	123 687	372 496	424 565	525 922	620 352	736 362

($ 000)	2022	2023	2024	2025	2026
EBIT	1 531 548	1 707 695	1 843 380	1 973 780	2 125 606
(-) Taxes on EBIT	(587 432)	(654 994)	(707 037)	(757 052)	(815 286)
NOPAT	944 116	1 052 701	1 136 344	1 216 728	1 310 320
(+) Depreciation and Amortization	809 521	936 783	1 057 261	1 165 822	1 267 929
(+) non-cash charges	22 153	21 106	17 169	16 154	17 527
(-) Investment in Working Capital	432 228	415 658	337 843	316 592	344 705
(-) Capital Expenditures	(1 027 103)	(1 107 015)	(1 128 648)	(1 183 846)	(1 278 450)
(-) R&D	(358 579)	(403 074)	(439 242)	(473 140)	(510 043)
Free Cash Flow to the Firm	822 337	916 160	980 728	1 058 309	1 151 988

Source: Own Analysis and Company Reports

Table 8 - UA D&A and Capital Expenditures Ratio Evolution

Year	D&A / Capex
2012	21.16%
2013	63.87%
2014	61.70%
2015	44.30%
2016	50.35%
2017	69.29%
2018	67.96%
2019	66.71%
2020	69.82%
2021	71.54%
2022	78.82%
2023	84.62%
2024	93.67%
2025	98.48%
2026	99.18%

Source: Own Analysis and Company Reports

Forecasts were made until the year of 2026 (the beginning of the stable state) since, this was the year in which D&A approximately equalled capital expenditures. From this year on, the company is expected to remain on a stable state.

5.11. Required Return to Equity

For the matter of calculating the required return to equity, UA excess stock returns were regressed relatively to the 3 Fama French factors. The coefficients found were then multiplied

by the 20-year annual premium geometric average of each factor retrieving the following results:

Table 9 - Data for the Required Return to Equity Calculation

	Market Risk Premium	Size Premium (SMB)	Value Premium (HML)
Annual Geometric Average	5.28%	2.04%	1.68%
UA beta - levered	1.068	0.429	0.400
UA beta - unlevered	0.968	0.389	0.363
Regression Adjusted R-squared		18.60%	
10-year U.S. T. Bond (18-11-16)		2.34%	
UA levered ke		9.52%	
UA unlevered ke / ku		8.85%	

Source: Own Analysis, Company Reports and Thomson Reuters Eikon Platform

5.12. Long-term growth rate

The long-term growth rate used in the computation of the terminal value was 5.12%. The complete amount of data used to calculate it may be witnessed in the Appendix 4 – GDP and CPI Data.

6.Valuation Exercise – APV

6.1. Base-Case

The base case valuation was reached by discounting the free cash flows to the firm at the unlevered ke of 8.85%. The valuation for both the forecasted period and the terminal value stands as such:

Table 10 - APV Base-Case Valuation

$(000)	Valuations
PV of Forecasting period FCF	4 641 151
PV of Terminal Value	11 792 128
Total Unlevered Value	16 433 279

Source: Own Analysis

6.2. PV of Tax-Shields

The present value of tax shields was calculated by discounting the interest tax shield at each year of the forecasting period at the cost of debt – 3.25%, and adding the terminal value of tax shields. The final valuation for this component stands below:

Table 11 - APV Tax Shields Valuation

$(000)	Valuations
PV of Discounted Tax shields	940 506
Terminal Value of Tax Shields	798 353
Total Present Value of Tax Shields	1 738 859

Source: Own Analysis and Company Reports

6.3. Costs of Financial Distress

The costs of financial distress were calculated using Almeida and Philippon (2008) risk-adjusted probabilities, using the formula: $\emptyset = \frac{q}{q+rf} * \varphi,$. The model held the following results:

Table 12 - APV Costs of Financial Distress Valuation

	Risk Adjusted CFD
Probability of Default - q	2.20%
Direct CFD as %	4.00%
Indirect CFD as %	12.00%
Direct+ Indirect CFD - φ	16.00%
Total CFD as % of firm value - ∅	7.75%
Total CFD ($000)	1 408 941

Source: Own Analysis and Company Reports

6.4. From Enterprise Value to Share Value

After adding up the three components of Enterprise Value presented before (Base-case + PVTS + CFD), we reach a valuation of $16 763 197 thousand for Under Armour. To get from here to Equity Value some adjustments are needed. These adjustments are sometimes known as the enterprise value to Market cap "bridge".

From there, we will divide the Equity value by the total number of common shares outstanding, to arrive at the share value.

Table 13 – From Enterprise Value to Market Cap

$(000)	Enterprise Value to Market Cap Bridge
Enterprise Value	**16 763 197**
Debt Valuation	(1 505 611)
Excess Cash and Cash Equivalents	91 646
Other Adjustments	(3 998)
Equity Valuation	**15 345 235**

Source: Own Analysis

To the Enterprise value found, Net Debt should be subtracted. Net debt comprises the total debt amount at market value minus excess cash and equivalents. In the table above debt and cash equivalents appear separated but the effect is the same. Excess cash is the amount of cash held by the company excluding restricted cash, which is destined to finance the daily operations of the company. Due to the lack of discrimination between restricted and excess cash by the company, this model assumes that restricted cash amounts to 3.28% of revenues in each year, since this was the lowest percentage held by the company in the last 5-years. The cash above that percentage, at the time of the valuation, was $91 646 thousand, as shown in the table. The caption is only composed of cash, since the company had no cash equivalents at this moment. Lastly, "other adjustments" needed to be made. Their discrimination may be found in the Appendix 18 - APV Valuation.

UA's equity under this model is valued at $15 345 235 thousand. From this value, the following share values were reached:

Table 14 - From Equity to Share Value

except per share amounts $(000)	From Equity to Share Value
Equity Valuation	15 345 235
Class A and B Partial Valuation	8 233 755
Class C Partial Valuation	7 111 479
Class A and B Stock Valuation	**37.76**
Diluted Class A and B Stock Valuation	**37.07**
Class C Stock Valuation	**32.36**
Diluted Class C Stock Valuation	**31.78**

Source: Own Analysis

Under Armour currently has 3 outstanding types of stock. Class A and Class C common stock are publicly traded.

According to the characteristics of the stock, class A and B are valued equally, while between Class A and C there is a spread associated to the voting rights difference. This spread was maintained in percentage, from the difference in quotes between both assets, found at 28 December, 2016. Explanation on each class differences may be found in Appendix 5 – Main Model Assuptions.

The final diluted valuations place Class A and B stock at $37.07 per share and Class C at $31.78 per share.

7. Valuation Exercise – DDM

As was already referred, an assumption was made regarding restricted cash, stating that it would be maintained at the recent past minimum historic levels of 3.28% of revenues. Until the present, Under Armour has never paid any cash dividends to its shareholders, and nothing indicated that this will change soon.

It makes sense that the company only starts distributing dividends when the cash reserves start to be consistently higher than the restricted cash amount. With that said, the present model assumes that in the future, when cash exceeds 3.28% of revenues, UA will distribute dividends, and that happens for the first time in 2021.

Table 15 - Dividend Payout Ratio and Dividends Evolution

$(000)	2016	2017	2018	2019	2020
Dividend Payout Ratio	0.00%	0.00%	0.00%	0.00%	0.00%
Cash Dividend	0	0	0	0	0

$(000)	2021	2022	2023	2024	2025	2026
Dividend Payout Ratio	8.97%	42.53%	57.11%	78.94%	87.27%	86.73%
Cash Dividend	66 621	363 099	548 397	825 818	983 806	1 054 783

Source: Own Analysis

The dividend payout ratio, starting in 2021 is forecasted to very quickly increase until reaching 86.73% in 2026, the first year of the Infinite Stable Growth Phase.

A slight discrepancy in the payout ratio growth is found in year 2025, but it is due to the very strict criteria used for dividends – the maximum percentage of cash of 3.28% of revenues. In real life, the decrease in payout ratio from 2025 to 2026 would probably be avoided by the

company's management, but it has very little influence in the valuation in this case and to maintain consistent criteria, it was left untouched.

Table 16 - Dividend Discount Model Valuation

$(000) except per share amounts	Valuation
ke	9.52%
Present Value of Discounted Dividends	1 800 328
Long-Term Growth Rate	5.12%
Terminal Value of Dividends	9 655 513
Equity Value	11 455 842
Class A and B Partial Valuation	6 146 833
Class C Partial Valuation	5 309 009
Class A and B Stock Valuation	**28.19**
Diluted Class A and B Stock Valuation	**27.67**
Class C Stock Valuation	**24.16**
Diluted Class C Stock Valuation	**23.73**

Source: Own Analysis

The valuation in this model, unsurprisingly, returned a lower value for Under Armour. Although, and as was stated in the Literature Review, it should be useful in giving a lower bound for our valuation. The diluted class A and B valuation stood at $27.67 dollars per share, while the diluted class C valuation stood at $23.73 per share.

8. Valuation Exercise – Relative Valuation

With the objective of controlling for differences among firms and find the best comparable companies to value Under Armour, a cluster analysis was made. This analysis, which was applied to several firms in the same industry of UA, was based in three different factors – cash flow generating potential, growth and risk.

To have a minimally significant number of companies in the peer group, the 5 firms with the less distanced normalized characteristics to Under Armour were selected to constitute that group. The peer group reached was the following:

Table 17 - UA's Peer Group and Multiples

Peer Group	EV/EBITDA	EV/EBIT	EV/SALES	PEG	P/SALES	P/E
Nike	15.79	18.27	2.38	176.08	2.53	22.55
Adidas	13.86	17.61	1.41	193.66	1.43	55.17
Lululemon	16.31	19.88	3.32	192.69	3.56	30.81
ASOS	52.78	93.09	2.70	526.41	2.77	157.27
Columbia	12.66	15.77	1.60	265.19	1.68	24.38
Average	22.28	32.92	2.28	270.80	2.39	58.04

Source: Own Analysis, GuruFocus, Thomson Reuters Eikon Platform

By taking each average multiple of the peer group, and applying it to Under Armour's financials, the following valuations arose:

Table 18 - Relative Valuation

$(000) except per share amounts	EV/EBITDA	EV/EBIT	EV/SALES	PEG	P/SALES
UA Enterprise Value	16 748 885	14 992 852	11 420 437	--	--
UA Debt Value	(1 505 611)	(1 505 611)	(1 505 611)	--	--
Excess Cash and Equivalents	91 646	91 646	91 646		
Other Adjustments	(3 998)	(3 998)	(3 998)		
Equity Value	15 330 923	13 574 889	10 002 474	--	11 974 092
Class A and B Partial Valuation	8 226 076	7 283 845	5 367 003	--	6 424 909
Class C Partial Valuation	7 104 847	6 291 044	4 635 471	--	5 549 182
Class A and B Stock Valuation	**37.43**	**33.15**	**24.42**	--	**29.24**
Diluted Class A and B Stock Valuation	**37.04**	**32.79**	**24.16**	**43**	**28.93**
Class C Stock Valuation	**32.33**	**28.63**	**21.09**	**--**	**25.25**
Diluted Class C Stock Valuation	**31.76**	**28.12**	**20.72**	**37.52**	**24.80**

Source: Own Analysis and Company Reports

At a first glance, we notice a disparity in valuations. However, as mentioned in the literature review, multiples differ in characteristics, reliability and fit to the company.

Among the multiples reached, the two most worthy of attention are the EV/EBITDA and the PEG. The reasons for the reliability of EV/EBITDA were already explained in the literature review, and the PEG ratio, would be worth using, since it tends to provide good estimates for high-growth firms, such as UA. However, the control for the growth in earnings used were the Thomson Reuters estimates, only for the period 2017-2019. Since it is a very short period, the multiple may provide biases.

Concluding, the most reliable valuation should be the one provided by the EV/EBITDA, of $37.04 per share of diluted common class A and B stock outstanding and $31.76 per diluted class C common stock outstanding.

9. Comparison with *The Buckingham Research Group* Valuation Model

The Buckingham Research Group issued in June 20, 2016 a valuation for Under Armour, placing its price target at $48 per share.

The model presented here and the one issued by *The Buckingham Research Group* differ firstly in the approach used. BRG used a valuation based on a PE multiple (which was analysed in the literature review and considered far from the best option) based on estimated earnings per share in 2021 fiscal year of $2.8 and discounted to the present at a rounded discount factor of 9%.. To reach the valuation, the group used a multiple of 25, and took as comparison a peer group of companies with current average sales growth of 12%, which returned a PE multiple of 28. The calculation of the discount factor is not made clear in the report, neither is the usage of a multiple of 25 instead of the 28 found.

There is one main common point in BRG's estimates for Under Armour, comparing to the ones in the present model – the revenue forecast. In 2021, BRG estimated revenues at $13.05bn, extremely close to the $13.07bn forecast used in the present value.

However, margin forecast was completely different. BRG estimated an operating margin increase from 10.3% in 2015 to 13.7% in 2021, against the assumption of an operating margin of 9.5% in 2021, used in the present model. BRG's forecasts, at least until now, fell very far away from reality, as Under Armour is estimated to finish fiscal year 2016 with a 9.1% operating margin. The overestimated margins together with the unusual model, resulted in a valuation of $48 per share, very far both from the estimates of this model ($37/share) as from Under Armour's current share price ($29/share).

The final appreciation of *The Buckingham Research Group* was a Buy recommendation, predicting at least 15% total return over a course of 6-12 months. However, since this recommendation and up to the present, Under Armour's stock registered a share price performance of -22.8%, between June 20,2016 and December 28, 2016, arriving at a current stock price of $29.42 per share as of the latter date.

Summarizing, the author relies confident that the present appraisal on Under Armour's stock will be closer to the company's reality and prospects than BRG's.

10. Conclusion

In the end of this equity valuation dissertation, it was possible to arrive at a target valuation range for Under Armour. This range stands between $37.04 (output of the EV/EBITDA multiple) and $37.07 (output for the APV valuation) per share of diluted Class A and B common stock and between $31.76 (output of the EV/EBITDA multiple) and $31.78 (output for the APV valuation) per share of diluted Class C common stock.

The DDM valuation held a value of $27.67 of diluted Class A common stock and $23.73 for diluted Class C common stock. It may seem that these values contradict the valuations under the other two models. However, as referred, dividend distribution decisions have become very politicized and hard to predict in the long-term. Also, the lack of proven ways to arrive at future required returns to equity may underestimate the company's value. The model may be important to provide a lower bound for the valuation or even the downside potential of the company under the assumptions given, but it is not the most precise one when trying to arrive at a price target. For that reason, the recommendation given puts aside the valuation under the DDM.

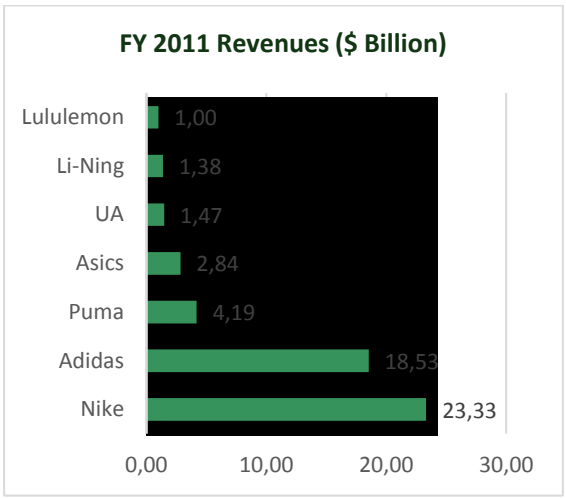
All the data used in the present research was publicly available and it is once again good to bear in mind that the valuation process presented is dependent not only on publicly available facts but also on the author's interpretation of such facts. Also for that reason, the valuation outputs were subject to a sensitivity analysis that may be found on the Appendix 21 – Sensitivity Analysis to APV and Appendix 22- Sensitivity Analysis to DDM.

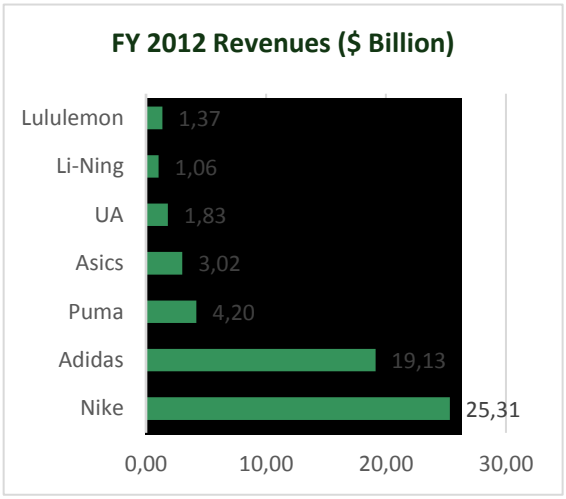
There is a strong desire from the author that this valuation process adds value to someone.

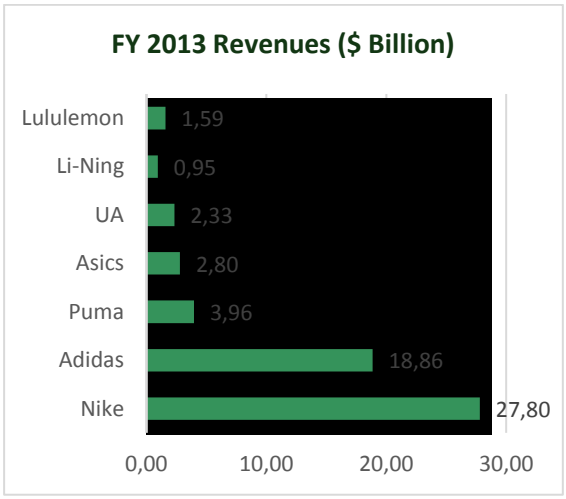
11. Appendix Section

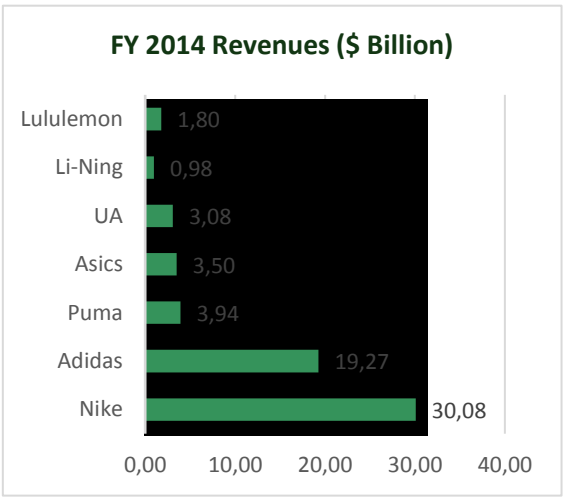
Appendix 1 – Global Sportswear Industry Data

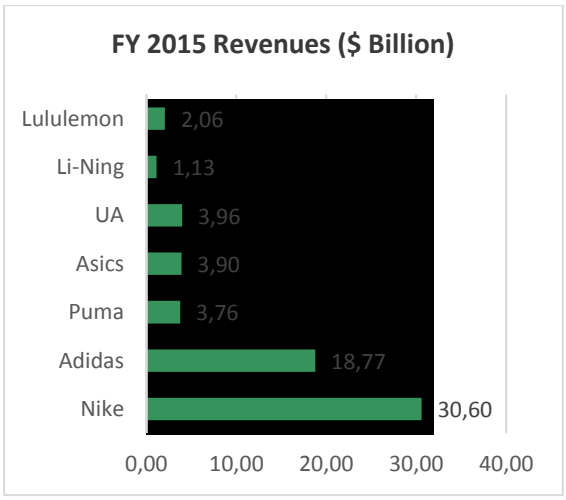
Figure 4 - Sportswear Companies Annual Revenues and 2015 Market Share

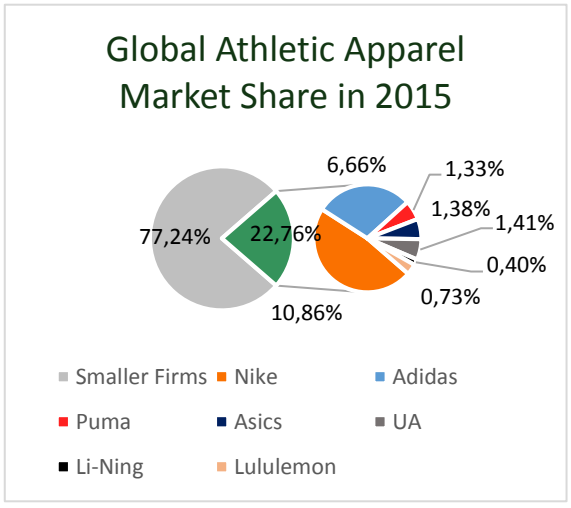












Source: Own Analysis and Company Reports

Appendix 2 – Company Additional Information

Figure 5 - UA's Key Management (as of 28-12-2016)




Kevin Plank, *CEO and Chairman*

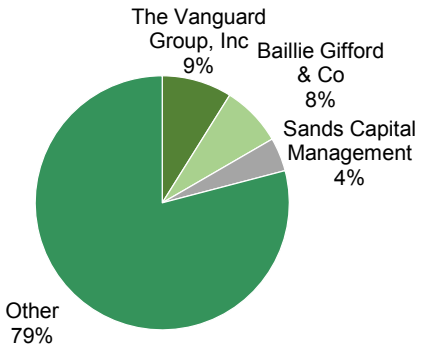
Lawrence Molloy, *CFO*

Michael Lee, *CDO*

Paul Fipps, *CIO*

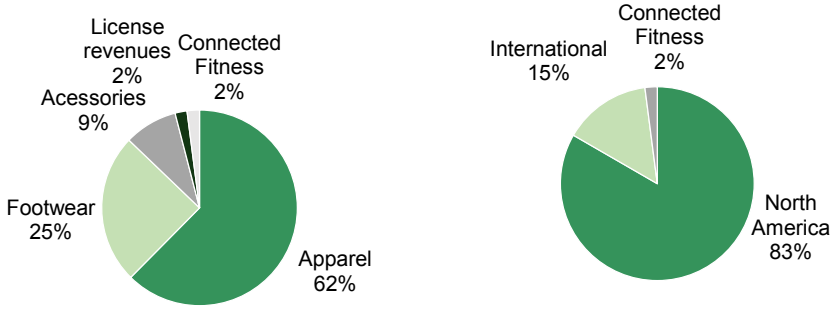
Source: Company Website

Figure 6 - UA's Shareholding Structure (as of 28-12-2016)



Source: Thomson Reuters Eikon Platform

Figure 7 - Revenue Segmentation by Business Line and Region



Source: Company Reports

Appendix 3 – Under Armour's Historical Revenue Discrimination

Table 19 - UA Historical Revenue Discrimination

Revenue by region ($ 000)	2011	2012	2013	2014	2015
North America	1 383 346	1 726 733	2 193 739	2 796 374	3 455 737
International	89 338	108 188	137 244	268 771	454 161
Connected Fitness - Global	0	0	1 068	19 225	53 415
Total Net revenues	1 472 684	1 834 921	2 332 051	3 084 370	3 963 313

Revenue by product category ($ 000)	2011	2012	2013	2014	2015
Apparel	1 122 031	1 385 350	1 762 150	2 291 520	2 801 062
Weight	76.19%	75.50%	75.60%	74.76%	71.64%
Footwear	181 684	238 955	298 825	430 987	677 744
Weight	12.34%	13.02%	12.82%	14.06%	17.33%
Accessories	132 400	165 835	216 098	275 409	346 885
Weight	8.99%	9.04%	9.27%	8.99%	8.87%
Total net sales	1 436 115	1 790 140	2 277 073	2 997 916	3 825 691
Licensing revenues	36 569	44 781	53 910	67 229	84 207
Weight	2.48%	2.44%	2.31%	2.19%	2.15%
Total Net revenues except c. fitness	1 472 684	1 834 921	2 330 983	3 065 145	3 909 898
Connected Fitness - Global	0	0	1 068	19 225	53 415
Total Net revenues	1 472 684	1 834 921	2 332 051	3 084 370	3 963 313

Source: Company Reports

Appendix 4 – GDP and CPI Data

Table 20 - Summary of World Output Evolution

Real GDP									Projections		
2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
4.28%	1.83%	-1.72%	4.33%	3.17%	2.45%	2.40%	2.64%	2.43%	2.39%	2.83%	2.96%
									2.73%		
									Average of Projection		

Source: WorldBank Data

Table 21 - World Inflation Evolution

World Inflation									Projections		
2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
5.47%	7.86%	2.40%	4.49%	5.69%	3.59%	2.27%	2.11%	1.43%	2.10%	2.40%	2.50%
									2.33%		
									Average of Projection		

Source: WorldBank Data,and PWC Global Economic Watch Projections

Table 22 - Summary of World Output Evolution

Nominal GDP									Projections		
2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
9.99%	9.84%	0.64%	9.01%	9.04%	6.13%	4.73%	4.80%	3.90%	4.54%	5.30%	5.53%
									5.12%		
									Average of Projection		

Source: Own Extrapolation from given data

Appendix 5 – Main Model Assumptions

The valuation model developed under the three different methods was based in some common assumptions, needed due to the uncertainty on the firm's financial and strategic decisions for the future. The assumptions were the following:

1- **The model assumes no further financing of the company by issuing new stock**. The extraordinary financing needs, if any, will be solved through debt financing.

2 – **No further acquisitions of companies will be made by Under Armour**. The company has acquired three companies in recent years, but there are no signals as of December, 2016 that it will acquire any other in the future. As these decisions are impossible to forecast, this assumption had to be made.

3 – **Due to the lack of discrimination between R&D and personnel costs in UA's reporting, an assumption was made that the division between both followed the division of the same captions in Puma's operations**, since this was the only similar company operating in the industry that reported such difference. This difference, for the last annual exercise, resulted in Puma's R&D constituting approximately 11.72% of its personnel costs.

4 – **Class A and B stock are valued the same, while Class C is valued below, at the spread, relatively to Class A, witnessed as of 28-12-2016**. This spread valued Class C at approximately 86.37% of Class A common stock. The reason for Class C to be valued below is he absence of voting rights, against 1 voting right entitlement for each share of Class A. The reason why Class B is valued at the same price as Class A is that it only entitles 10 voting rights while under certain conditions, as discriminated in the company's 2015 Annual Report, page 70. Although they may be of higher value to the holder – Kevin Plank, they are worth the same as Class A, to the open market, as they will convert if they change ownership.

5 – **The company's revolving credit facility will be repaid as soon as there is liquidity for that.** Under Armour currently has debt outstanding in the shape of a revolving credit facility. This model assumes that this debt will be repaid sooner than Long-term Debt outstanding, and sooner than any other repayment options.

6 – **The company will not purchase any financial assets with purposes other than hedging.** Historical purchase of financial assets by Under Armour has been rare, except for Foreign Currency Exchange Rate and other Derivatives, with hedging purposes. With that said, an assumption was made that these financial assets would grow with the level of operations but no other financial assets would be purchased.

7 – **When cash reserves surpass 3.28% of revenues in each year, the company will distribute dividends.** Dividend distribution has become a very politicized decision. In the absence of signals of when and how Under Armour will start distributing dividends, an assumption was made that this will happen when the cash and cash equivalents surpass this percentage level, since it is the lowest value witnessed in the recent past.

8 – **The Deferred Income Taxes (current asset) caption holds a value of zero for 2015 forward.** The reason for that is the Accounting Standards Update issued in November 2015, that requires tax liabilities and assets to be accounted as non-current. From 2015 onwards, the caption was estimated as zero but the average historical percentage of the caption relatively to the revenues was moved to the Deferred Income Taxes – Long-Term Asset caption.

9 – **The model assumed that regions contained within "International", would all hold the same market share.** Since no discrimination for regional revenues, other than North America / International, this assumption had to be made, in order to apply different market growths to the different regional revenues.

Appendix 6 – Complete Revenue Forecast Inputs

Table 23 - Forecasted Industry's Regional Growth

Forecasted Region Growth %	2016	2017	2018	2019	2020
North America	3.70%	3.70%	3.70%	3.70%	3.70%
South America	6.10%	6.10%	6.10%	6.10%	6.10%
Western Europe	4.40%	4.40%	4.40%	4.40%	4.40%
Eastern Europe	4.40%	4.40%	4.40%	4.40%	4.40%
Middle East and Africa	3.70%	3.70%	3.70%	3.70%	3.70%
Asia and Australia	8.50%	8.50%	8.50%	8.50%	8.50%

Forecasted Region Growth %	2021	2022	2023
North America	3.65%	3.55%	3.45%
South America	6.00%	5.70%	5.40%
Western Europe	4.30%	4.15%	4.00%
Eastern Europe	4.30%	4.15%	4.00%
Middle East and Africa	3.60%	3.50%	3.40%
Asia and Australia	8.40%	7.90%	7.40%

Forecasted Region Growth %	2024	2025	2026
North America	3.35%	3.25%	3.15%
South America	5.10%	4.80%	4.50%
Western Europe	3.85%	3.70%	3.55%
Eastern Europe	3.85%	3.70%	3.55%
Middle East and Africa	3.30%	3.20%	3.10%
Asia and Australia	6.90%	6.40%	5.90%

Source: Societe Generale & Own Analysis

Table 24 - Forecasted UA's Market Share

Forecasted Mkt Share %	2015	2016 E	2017 F	2018 F
North America	3.39%	3.93%	4.20%	4.50%
International	0.25%	0.40%	0.70%	1.00%

Forecasted Mkt Share %	2019 F	2020F	2021 F	2022 F
North America	4.70%	4.90%	5.20%	5.35%
International	1.45%	1.90%	2.35%	2.75%

Forecasted Mkt Share %	2023 F	2024 F	2025 F	2026 F
North America	5.45%	5.55%	5.65%	5.80%
International	3.10%	3.30%	3.45%	3.60%

Source: Own Analysis and Company Reports

Table 25 - Industry Regional Market Size

Regional Mkt Size (000)	2016 E	2017 F	2018 F	2019 F
North America	105 774 000	109 687 638	113 746 081	117 954 686
South America	26 418 900	28 030 453	29 740 311	31 554 469
Western Europe	60 656 400	63 325 282	66 111 594	69 020 504
Eastern Europe	15 973 200	16 676 021	17 409 766	18 175 795
Middle East and Africa	17 421 600	18 066 199	18 734 649	19 427 831
Asia and Australia	70 308 000	76 284 180	82 768 335	89 803 644

Regional Mkt Size (000)	2020F	2021 F	2022 F	2023 F
North America	122 319 009	126 783 653	131 284 472	135 813 787
South America	33 479 292	35 488 050	37 510 868	39 536 455
Western Europe	72 057 406	75 155 875	78 274 844	81 405 837
Eastern Europe	18 975 530	19 791 478	20 612 825	21 437 338
Middle East and Africa	20 146 660	20 871 940	21 602 458	22 336 942
Asia and Australia	97 436 954	105 621 658	113 965 769	122 399 235

Regional Mkt Size (000)	2024 F	2025 F	2026 F
North America	140 363 549	144 925 364	149 490 513
South America	41 552 815	43 547 350	45 506 980
Western Europe	84 539 962	87 667 941	90 780 153
Eastern Europe	22 262 675	23 086 394	23 905 961
Middle East and Africa	23 074 061	23 812 431	24 550 616
Asia and Australia	130 844 783	139 218 849	147 432 761

Source: Societe General & Own Analysis

Table 26 -UA's Thomson Reuters & FactSet Revenue Estimates

Thomson Estimates	2016	2017	2018	2019	2020
Revenue	4929790	6060520	7439920	9014670	10905000
Difference to the model	-1%	-2%	0%	-1%	-1%

Factset Estimates	2016	2017	2018	2019	2020
Revenue	4931000	6065000	7463000	9038000	10948000
Difference to the model	-1%	-2%	0%	-1%	0%

Source: Thomson Reuters Eikon Platform & Factset Platform

Appendix 7 – Debt Forecast Inputs

Table 27 - UA's Historical and Forecasted Debt

Book Value of Debt($000)	2011	2012	2013	2014	2015	2016 E	2017 F	2018 F
Current Port. of LT Debt	6 882	9 132	4 972	28 951	42 000	42 000	42 000	0
Operating Lease/Rent Expense	(26 700)	(31 100)	(41 800)	(58 000)	(83 000)	(96 136)	(118 408)	(143 555)
Rent Expense / Operating Leases	-14.42%	-15.33%	-12.90%	-12.27%	-13.25%	-12.81%	-12.81%	-12.81%
Operating Leases Outstanding	185 178	202 895	323 924	472 575	626 411	750 523	924 396	1 120 717
Operating leases Yearly Increase		9.57%	59.65%	45.89%	32.55%	19.81%	23.17%	21.24%
Operating leases/net revenues	12.57%	11.06%	13.89%	15.32%	15.81%	15.01%	15.01%	15.01%
Revolving credit facility	0	0	0	0	275 000	0	0	0
Interest on Revolving credit facility	0	0	0	0	(6 339)	0	0	0
Implied Interest Rate on Long-Term Debt	-4.94%	-8.37%	-5.54%	-1.88%	-2.10%	--	--	--
Interest on Long-Term Debt	(3 841)	(5 183)	(2 933)	(5 335)	(8 289)	(23 640)	(21 915)	(21 073)
Long-Term Debt, net of current maturities	70 842	52 757	47 951	255 250	352 000	796 768	714 768	674 768
Extra repayment of debt	--	--	--	--	--	0	(40 000)	(40 000)
Total Debt Outstanding	262 902	264 784	376 847	756 776	1 295 411	1 589 291	1 681 164	1 795 485

Book Value of Debt ($000)	2019 F	2020 F	2021 F	2022 F	2023 F	2024 F	2025 F	2026 F
Current Port. of LT Debt	0	0	0	0	0	0	600 000	0
Operating Lease/Rent Expense	(175 818)	(211 016)	(251 294)	(288 543)	(324 348)	(353 451)	(380 729)	(410 423)
Rent Expense / Operating Leases	-12.81%	-12.81%	-12.81%	-12.81%	-12.81%	-12.81%	-12.81%	-12.81%
Operating Leases Outstanding	1 372 591	1 647 384	1 961 825	2 252 625	2 532 151	2 759 356	2 972 311	3 204 136
Operating leases Yearly Increase	22.47%	20.02%	19.09%	14.82%	12.41%	8.97%	7.72%	7.80%
Operating leases/net revenues	15.01%	15.01%	15.01%	15.01%	15.01%	15.01%	15.01%	15.01%
Revolving credit facility	0	0	0	0	0	0	0	0
Interest on Revolving credit facility	0	0	0	0	0	0	0	0
Implied Interest Rate on Long-Term Debt	--	--	--	--	--	--	--	--
Interest on Long-Term Debt	(20 231)	(19 500)	(19 500)	(19 500)	(19 500)	(19 500)	(19 500)	(19 500)
Long-Term Debt, net of c. maturities	634 768	600 000	600 000	600 000	600 000	600 000	0	600 000
Extra repayment of debt	(40 000)	(34 768)	0	0	0	0	0	600 000
Total Debt Outstanding	2 007 359	2 247 384	2 561 825	2 852 625	3 132 151	3 359 356	3 572 311	3 804 136

Source: Own Analysis and Company Reports

Main assumptions behind debt evolution:

1 - priority in repaying the short-term portion – revolving credit facility, and maintaining the $600m permanently – since the company expressed no will to change the long-term debt policy or its level.

2 - Operating leases forecasted as growing with UA's level of operations, at 15.01% of net revenues, which constitutes the last 3-year period average for the company, since their level increased, comparing to 2011 and 2012.

3 - Revolving credit facility debt will be repaid in the current year, leaving the company with only $196.768m worth of long-term loans and $600m worth of public debt

4 - Interest expense was computed by applying the fixed coupon rate of 3.25% to the public debt and an interest rate 2.1% to the long-term loans, which corresponds to the last year interest level.

Table 28 - UA's Debt at Market Value

Market Value of Debt ($000)	2011	2012	2013	2014	2015	2016 E	2017 F	2018 F
Operating Leases Outstanding	185178	202895	323924	472575	626411	750523	924396	1120717
Revolving credit facility	--	--	--	--	246644	0	0	0
Long-Term Debt, net of c. maturities	59 645	44 799	44 880	225 948	456 861	755 087	727 609	675 320
Total Debt outstanding	244 823	247 694	368 804	698 523	1 329 916	1 505 611	1 652 006	1 796 037

Market Value of Debt($000)	2019 F	2020 F	2021 F	2022 F	2023 F	2024 F	2025 F	2026 F
Operating Leases Outstanding	1372591	1647384	1961825	2252625	2532151	2759356	2972311	3204136
Revolving credit facility	0	0	0	0	0	0	0	0
Long-Term Debt, net of c. maturities	666 334	657 291	648 110	638 786	629 315	619 695	609 924	600000
Total Debt outstanding	2 038 925	2 304 675	2 609 935	2 891 411	3 161 465	3 379 051	3 582 235	3 804 136

Source: Own Analysis and Company Reports

Appendix 8 – Income Statement Inputs

Table 29 - Income Statement Inputs

Inputs For Income Statement Forecast	2011	2012	2013	2014	2015	2016	2017	2018
Depreciation / gross PPE	11.94%	12.20%	12.19%	12.18%	10.47%	11.80%	11.80%	11.80%
COGS / Net revenues	51.60%	52.08%	51.26%	50.97%	51.92%	52.90%	52.90%	52.90%
Marketing / Net Revenues	11.40%	11.19%	10.57%	10.80%	10.54%	10.64%	10.64%	10.64%
Outbound Handling Costs / Net Revenues	1.77%	1.90%	1.98%	1.79%	1.61%	1.81%	1.81%	1.81%
R&D Expenses / Net Revenues	2.33%	2.28%	2.45%	2.43%	2.46%	2.39%	2.39%	2.39%
Personnel Costs / Net Revenues	17.57%	17.14%	18.42%	18.31%	18.52%	18.42%	18.42%	18.42%
Other Expense Net / Net Revenues	0.14%	0.00%	0.05%	0.21%	0.18%	0.12%	0.12%	0.12%
Intangible Amort. / Last Year Intangibles	--	59.30%	50.17%	35.25%	52.76%	49.37%	49.37%	49.37%
Effective tax rate	38.21%	36.70%	37.80%	39.21%	39.85%	38.36%	38.36%	38.36%

Inputs For Income Statement Forecast	2019	2020	2021	2022	2023	2024	2025	2026
Depreciation / gross PPE	11.80%	11.80%	11.80%	11.80%	11.80%	11.80%	11.80%	11.80%
COGS / Net revenues	52.90%	52.90%	52.90%	52.90%	52.90%	52.90%	52.90%	52.90%
Marketing / Net Revenues	10.64%	10.64%	10.64%	10.64%	10.64%	10.64%	10.64%	10.64%
Outbound Handling Costs / Net Revenues	1.81%	1.81%	1.81%	1.81%	1.81%	1.81%	1.81%	1.81%
R&D Expenses / Net Revenues	2.39%	2.39%	2.39%	2.39%	2.39%	2.39%	2.39%	2.39%
Personnel Costs / Net Revenues	18.42%	18.42%	18.42%	18.42%	18.42%	18.42%	18.42%	18.42%
Other Expense Net / Net Revenues	0.12%	0.12%	0.12%	0.12%	0.12%	0.12%	0.12%	0.12%
Intangible Amort. / Last Year Intangibles	49.37%	49.37%	49.37%	49.37%	49.37%	49.37%	49.37%	49.37%
Effective tax rate	38.36%	38.36%	38.36%	38.36%	38.36%	38.36%	38.36%	38.36%

Source: Own Analysis and Company Reports

Table 30 - UA's Historical and Forecasted Margins

	2011	2012	2013	2014	2015	2016	2017	2018
Gross Profit Margin	48.40%	47.92%	48.74%	49.03%	48.08%	47.10%	47.10%	47.10%
Thomson Estimates	--	--	--	--	--	47.34%	47.37%	47.46%
Operating Margin	11.05%	11.37%	11.37%	11.48%	10.31%	9.10%	9.50%	9.49%
Thomson Estimates	--	--	--	--	--	9.08%	8.57%	8.10%
Net Profit Margin	6.58%	7.02%	6.96%	6.75%	5.87%	5.25%	5.56%	5.61%
Thomson Estimates	--	--	--	--	--	5.44%	5.12%	4.92%

	2019	2020	2021	2022	2023	2024	2025	2026
Gross Profit Margin	47.10%	47.10%	47.10%	47.10%	47.10%	47.10%	47.10%	47.10%
Thomson Estimates	47.57%	47.90%	--	--	--	--	--	--
Operating Margin	9.50%	9.49%	9.49%	9.47%	9.46%	9.45%	9.45%	9.45%
Thomson Estimates	8.72%	9.57%	--	--	--	--	--	--
Net Profit Margin	5.65%	5.67%	5.68%	5.69%	5.69%	5.69%	5.69%	5.70%
Thomson Estimates	5.50%	6.27%	--	--	--	--	--	--

Source: Own Analysis and Company Reports

Appendix 9 – Income Statement Forecast

Table 31 - UA's Historical and Forecasted Income Statement

UA's Income Statement ($ 000)	2011	2012	2013	2014	2015	2016 E	2017 F	2018 F
Revenues	1 472 684	1 834 921	2 332 051	3 084 370	3 963 313	5 001 608	6 160 325	7 468 638
Cost of Goods Sold	(759 848)	(955 624)	(1 195 381)	(1 572 164)	(2 057 766)	(2 645 850)	(3 258 812)	(3 950 910)
Gross Profit	712 836	879 297	1 136 670	1 512 206	1 905 547	2 355 757	2 901 513	3 517 729
Marketing Costs	(167 900)	(205 400)	(246 500)	(333 000)	(417 800)	(531 973)	(655 215)	(794 368)
Other SGA costs	(382 169)	(465 202)	(625 072)	(825 251)	(1 079 200)	(1 368 395)	(1 661 184)	(2 014 403)
Outbound Handling Costs	(26 100)	(34 800)	(46 100)	(55 300)	(63 700)	(90 487)	(111 450)	(135 119)
Depreciation	(32 700)	(39 800)	(48 300)	(63 600)	(87 100)	(103 684)	(127 705)	(154 826)
Intangible Amortization	(3 601)	(3 282)	(2 249)	(8 493)	(13 840)	(37 365)	(21 796)	(26 845)
Rent Expense	(26 700)	(31 100)	(41 800)	(58 000)	(83 000)	(96 136)	(118 408)	(143 555)
Acquisitions	0	0	0	(1)	(6)	0	0	0
R&D	(34 347)	(41 748)	(57 031)	(74 989)	(97 456)	(119 470)	(147 148)	(178 399)
Personnel	(258 721)	(314 472)	(429 592)	(564 868)	(734 098)	(921 253)	(1 134 679)	(1 375 659)
Operating Income (EBIT)	162 767	208 695	265 098	353 955	408 547	455 389	585 113	708 958
Interest Expense, Net	(3 841)	(5 183)	(2 933)	(5 335)	(14 628)	(23 640)	(21 915)	(21 073)
Other, expense, net	(2 064)	(73)	(1 172)	(6 410)	(7 234)	(5 849)	(7 204)	(8 734)
Net Income Before Taxes	156 862	203 439	260 993	342 210	386 685	425 900	555 994	679 150
Provision for Income Taxes	(59 943)	(74 661)	(98 663)	(134 168)	(154 112)	(163 356)	(213 254)	(260 491)
Net Income After Taxes	96 919	128 778	162 330	208 042	232 573	262 544	342 740	418 659

UA's Income Statement ($ 000)	2019 F	2020 F	2021 F	2022 F	2023 F	2024 F	2025 F	2026 F
Revenues	9 147 168	10 978 432	13 073 915	15 011 854	16 874 657	18 388 788	19 807 953	21 352 874
Cost of Goods Sold	(4 838 852)	(5 807 591)	(6 916 101)	(7 941 271)	(8 926 694)	(9 727 669)	(10 478 407)	(11 295 670)
Gross Profit	4 308 316	5 170 842	6 157 814	7 070 583	7 947 963	8 661 119	9 329 546	10 057 203
Marketing Costs	(972 897)	(1 167 672)	(1 390 548)	(1 596 668)	(1 794 797)	(1 955 841)	(2 106 784)	(2 271 102)
Other SGA costs	(2 466 795)	(2 961 447)	(3 527 078)	(4 051 935)	(4 556 110)	(4 967 169)	(5 351 436)	(5 768 755)
Outbound Handling Costs	(165 486)	(198 617)	(236 527)	(271 587)	(305 288)	(332 681)	(358 356)	(386 306)
Depreciation	(189 622)	(227 585)	(271 025)	(311 198)	(349 815)	(381 203)	(410 622)	(442 649)
Intangible Amortization	(32 546)	(39 861)	(47 841)	(56 973)	(65 418)	(73 535)	(80 134)	(86 318)
Rent Expense	(175 818)	(211 016)	(251 294)	(288 543)	(324 348)	(353 451)	(380 729)	(410 423)
Acquisitions	0	0	0	0	0	0	0	0
R&D	(218 493)	(262 235)	(312 289)	(358 579)	(403 074)	(439 242)	(473 140)	(510 043)
Personnel	(1 684 830)	(2 022 133)	(2 408 103)	(2 765 055)	(3 108 167)	(3 387 057)	(3 648 455)	(3 933 016)
Operating Income (EBIT)	868 623	1 041 723	1 240 188	1 421 980	1 597 056	1 738 110	1 871 326	2 017 346
Interest Expense, Net	(20 231)	(19 500)	(19 500)	(19 500)	(19 500)	(19 500)	(19 500)	(19 500)
Net Income Before Taxes	837 695	1 009 384	1 205 398	1 384 924	1 557 822	1 697 104	1 828 661	1 972 874
Provision for Income Taxes	(321 301)	(387 154)	(462 336)	(531 194)	(597 510)	(650 932)	(701 391)	(756 705)
Net Income After Taxes	516 393	622 230	743 062	853 730	960 313	1 046 172	1 127 270	1 216 170

Source: Own Analysis and Company Reports

Appendix 10 – Balance Sheet Inputs

Table 32 - Balance Sheet Inputs

Inputs for captions forecast	2011	2012	2013	2014	2015	2016	2017	2018	2019
Deferred income taxes / Revenues	1.10%	1.26%	1.65%	1.73%	0.00%	0.00%	0.00%	0.00%	0.00%
Prepaid expenses and other current assets / Revenues	2.69%	2.39%	2.74%	2.80%	3.84%	2.89%	2.89%	2.89%	2.89%
Intangibles, net / Net Revenues	0.38%	0.24%	1.03%	0.85%	1.91%	0.88%	0.88%	0.88%	0.88%
Property, plant and equipment - Gross / Revenues	18.59%	17.77%	16.98%	16.94%	20.99%	17.57%	17.57%	17.57%	17.57%
Gross PPE growth rate		19.10%	21.45%	31.88%	59.23%	5.66%	23.17%	21.24%	22.47%
Other Long-Term Assets / Net Revenues	3.33%	2.48%	2.04%	1.85%	1.98%	2.34%	2.34%	2.34%	2.34%
Other current liabilities / Net Revenues	0.47%	0.78%	0.96%	1.12%	1.10%	1.06%	1.06%	1.06%	1.06%
Other Long-Term Liabilities / Net Revenues	3.33%	2.48%	2.04%	1.85%	1.98%	2.34%	2.34%	2.34%	2.34%
Deferred Income Taxes – L.Term Asset / Revenues	1.08%	1.23%	1.33%	1.09%	2.33%	2.33%	2.33%	2.33%	2.33%
Accumulated other comprehensive income / Revenues	0.14%	0.13%	0.09%	-0.48%	-1.14%	-0.25%	-0.25%	-0.25%	-0.25%

Inputs for captions forecast	2019	2020	2021	2022	2023	2024	2025	2026
Deferred income taxes / Net Revenues	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Prepaid expenses and other current assets / Revenues	2.89%	2.89%	2.89%	2.89%	2.89%	2.89%	2.89%	2.89%
Intangibles, net / Net Revenues	0.88%	0.88%	0.88%	0.88%	0.88%	0.88%	0.88%	0.88%
Property, plant and equipment - Gross / Revenues	17.57%	17.57%	17.57%	17.57%	17.57%	17.57%	17.57%	17.57%
Gross PPE growth rate	22.47%	20.02%	19.09%	14.82%	12.41%	8.97%	7.72%	7.80%
Other Long-Term Assets / Revenues	2.34%	2.34%	2.34%	2.34%	2.34%	2.34%	2.34%	2.34%
Other current liabilities / Revenues	1.06%	1.06%	1.06%	1.06%	1.06%	1.06%	1.06%	1.06%
Other Long-Term Liabilities / Revenues	2.34%	2.34%	2.34%	2.34%	2.34%	2.34%	2.34%	2.34%
Deferred Income Taxes – L.Term Asset / Revenues	2.33%	2.33%	2.33%	2.33%	2.33%	2.33%	2.33%	2.33%
Accumulated other comprehensive income / Revenues	-0.25%	-0.25%	-0.25%	-0.25%	-0.25%	-0.25%	-0.25%	-0.25%

Source: Own Analysis and Company Reports

Appendix 11 – Balance Sheet Forecast

Table 33 - UA's Historic and Forecasted Asset Captions

UA's Balance Sheet	2011	2012	2013	2014	2015	2016 E	2017 F	2018 F
Assets ($ 000)								
Current Assets								
Cash & Cash Equivalents	175 384	341 841	347 489	593 175	129 852	255516	191909	174326
Accounts Receivable, net	134043	175524	209952	279835	433638	547241	674020	817166
Inventories	324409	319286	469006	536714	783031	992358	1222257	1481837
Prepaid Expenses and other current assets	39643	43896	63987	86371	152242	144742	178274	216135
Deferred Income Taxes	16184	23051	38377	53304	0	0	0	0
Total Current Assets	689 663	903 598	1 128 811	1 549 399	1 498 763	1 939 857	2 266 459	2 689 464
Property/Plant/Equipment, Total - Net	159 135	180 850	223 952	305 564	538 531	775 177	954 761	1 157 531
Goodwill, Net	0	0	122 244	123 256	585 181	585 181	585 181	585 181
Intangibles, Net	5 535	4 483	24 097	26 230	75 686	44 150	54 378	65 926
Defered Income Taxes – Long-Term Asset	15 885	22 606	31 094	33 570	92 157	116 300	143 243	173 665
Other Long-Term Assets	48 992	45 546	47 543	57 064	78 582	116 842	143 910	174 473
Total Assets	**919 210**	**1 157 083**	**1 577 741**	**2 095 083**	**2 868 900**	**3 577 506**	**4 147 932**	**4 846 240**

UA's Balance Sheet	2019 F	2020 F	2021 F	2022 F	2023 F	2024 F	2025 F	2026 F
Assets ($ 000)								
Current Assets								
Cash & Cash Equivalents	186679	291823	428824	492389	553489	603152	649701	700374
Accounts Receivable, net	1000819	1201183	1430456	1642492	1846307	2011973	2167248	2336282
Inventories	1814870	2178207	2593968	2978470	3348065	3648480	3930054	4236578
Prepaid Exp. and other current assets	264710	317705	378346	434428	488336	532154	573223	617931
Deferred Income Taxes	0	0	0	0	0	0	0	0
Total Current Assets	3 267 078	3 988 919	4 831 595	5 547 779	6 236 197	6 795 759	7 320 226	7 891 166
Property/Plant/Equipment, Total - Net	1 417 679	1 701 498	2 026 268	2 326 620	2 615 328	2 849 996	3 069 946	3 309 387
Goodwill, Net	585 181	585 181	585 181	585 181	585 181	585 181	585 181	585 181
Intangibles, Net	80 743	96 907	115 404	132 511	148 954	162 319	174 846	188 483
Def. Income Taxes – L.Term Asset	212 695	255 276	304 001	349 063	392 378	427 586	460 585	496 508
Other Long-Term Assets	213 685	256 465	305 417	350 689	394 206	429 577	462 730	498 821
Total Assets	**5 777 060**	**6 884 247**	**8 167 867**	**9 291 844**	**10 372 244**	**11 250 418**	**12 073 514**	**12 969 546**

Source: Own Analysis and Company Reports

Table 34 - UA's Historical and Forecasted Liabilities and Shareholders' Equity

Liabilities ($ 000)	2011	2012	2013	2014	2015	2016 E	2017 F	2018 F
Accounts Payable	100 527	143 689	165 456	210 432	200 460	257 749	317 461	384 883
Accrued Expenses	69 285	85 077	133 729	147 681	192 935	253 883	312 700	379 110
Notes Payable/Short-Term Debt	0	0	100 000	0	0	0	0	0
Current maturities of Long-Term debt	6 882	9 132	4 972	28 951	42 000	42 000	42 000	0
Other Current Liabilities	6 913	14 330	22 473	34 563	43 415	56 995	70 199	84 524
Total Current Liabilities	183 607	252 228	426 630	421 627	478 810	610 627	742 360	848 517
Long-Term Debt, net of current maturities	70 842	52 757	47 951	255 250	352 000	796 768	714 768	674 768
Revolving credit facility, L.Term Debt	0	0	0	0	275 000	0	0	0
Other long-term liabilities	28 329	35 176	49 806	67 906	94 868	116 842	143 910	174 473
Total Liabilities	**282 778**	**340 161**	**524 387**	**744 783**	**1 200 678**	**1 524 237**	**1 601 039**	**1 697 759**
Shareholders' Equity ($ 000)								
Preferred Stock	0	0	0	0	0	0	0	0
Common Stock	34	35	70	71	72	72	72	72
Additional Paid-In Capital	268 206	321 338	397 248	508 350	636 630	767 650	929 024	1 124 670
Retained Earnings (Accumulated Deficit)	366 164	493 181	653 842	856 687	1 076 533	1 330 560	1 662 810	2 068 752
Accumulated other comprehensive loss	2 028	2 368	2 194	(14 808)	(45 013)	(45 013)	(45 013)	(45 013)
Total Shareholder's Equity	**636 432**	**816 922**	**1 053 354**	**1 350 300**	**1 668 222**	**2 053 270**	**2 546 894**	**3 148 481**
Total Liabilities & Shareholders' Equity	**919 210**	**1 157 083**	**1 577 741**	**2 095 083**	**2 868 900**	**3 577 506**	**4 147 932**	**4 846 240**

Liabilities ($ 000)	2019 F	2020 F	2021 F	2022 F	2023 F	2024 F	2025 F	2026 F
Accounts Payable	471 383	565 754	673 741	773 609	869 606	947 634	1 020 768	1 100 383
Accrued Expenses	464 313	557 269	663 636	762 006	856 563	933 421	1 005 458	1 083 879
Notes Payable/Short-Term Debt	0	0	0	0	0	0	0	0
Current maturities of Long-Term Debt	0	0	0	0	0	0	600 000	0
Other Current Liabilities	103 997	124 721	148 376	170 529	191 635	208 805	224 959	242 486
Total Current Liabilities	1 039 693	1 247 744	1 485 753	1 706 145	1 917 804	2 089 859	2 851 185	2 426 748
Long-Term Debt, net of current maturities	634 768	600 000	600 000	600 000	600 000	600 000	0	600 000
Revolving credit facility, Long-Term Debt	0	0	0	0	0	0	0	0
Other Long-Term liabilities	213 685	256 465	305 417	350 689	394 206	429 577	462 730	498 821
Total Liabilities	**1 888 146**	**2 104 209**	**2 391 171**	**2 656 834**	**2 912 010**	**3 119 436**	**3 313 915**	**3 525 568**
Shareholders' Equity ($ 000)								
Preferred Stock	0	0	0	0	0	0	0	0
Common Stock	72	72	72	72	72	72	72	72
Additional Paid-In Capital	1 364 287	1 651 874	1 994 354	2 387 600	2 829 643	3 311 349	3 830 232	4 389 585
Retained Earnings (Accumulated Deficit)	2 569 569	3 173 104	3 827 283	4 292 351	4 675 532	4 864 573	4 974 308	5 099 334
Accumulated other comprehensive loss	(45 013)	(45 013)	(45 013)	(45 013)	(45 013)	(45 013)	(45 013)	(45 013)
Total Shareholder's Equity	**3 888 914**	**4 780 038**	**5 776 696**	**6 635 010**	**7 460 234**	**8 130 982**	**8 759 599**	9 443 978
Total Liabilities & Shareholders' Equity	**5 777 060**	**6 884 247**	**8 167 867**	**9 291 844**	**10 372 244**	**11 250 418**	**12 073 514**	**12 969 546**

Source: Own Analysis and Company Reports

Appendix 11 – Simplified Cash Flow Statement Forecast

Table 35 - UA's Historical and Simplified Cash Flow Statement

UA's Simpplified Cash Flow Statement	2011	2012	2013	2014	2015	2016 E	2017 F	2018 F
Cash Flow-Operating Activities ($ 000)								
Net Income/Starting Line	96 919	128 778	162 330	208 042	232 573	262 544	342 740	418 659
Adjustments to reconcile n. income to n. cash used in op. activities								
Non-Cash Items								
Stock-based Compensation		19 845	43 184	50 812	60 376	77 346	95 264	115 496
Depreciations and Amortizations		43 082	50 549	72 093	100 940	141 049	149 500	181 671
Other Non-Cash Items		17 710	20 776	20 669	14 296	(2 706)	13 204	14 325
Change in net operating assets		4 755	(157 634)	(118 450)	(435 992)	(221 336)	(298 623)	(337 177)
Cash from Operating Activities		214 170	119 205	233 166	(27 807)	256 897	302 086	392 975
Cash Flow-Investing Activities ($ 000)								
Purchases of property and equipment		(64 797)	(93 651)	(153 705)	(333 907)	(377 695)	(329 085)	(384 441)
Purchases of other assets		1 052	(141 858)	(3 145)	(511 381)	31 536	(10 228)	(11 549)
Cash Dividends		0	0	0	0	0	0	0
Cash from Investing Activities		(63 745)	(235 509)	(156 850)	(845 288)	(346 158)	(339 313)	(395 990)
Cash Flow-Financing Activities ($ 000)								
Issue / Repayment of Debt		(15 835)	91 034	131 278	384 799	169 768	(82 000)	(82 000)
Proceeds from Additional Paid-in capital in stock issuances		3 247	3 404	12 067	19 135	0	0	0
Tax benefits from stock-based compensation arrangements		17 670	17 163	36 965	45 917	53 675	66 110	80 150
Exercise of Stock options		12 370	12 159	11 258	2 852	0	0	0
Other comprehensive loss		340	(174)	(17 002)	(30 205)	0	0	0
Shares withheld		(1 761)	(1 669)	(5 197)	(12 727)	(8 517)	(10 490)	(12 718)
Increase in common stock		1	35	1	1	0	0	0
Net cash provided by financing activities		16 032	121 952	169 370	409 772	214 926	(26 380)	(14 568)
Cash and Cash Equivalents								
Beginning of period		175 384	341 841	347 489	593 175	129 852	255 516	191 909
End of period		341 841	347 489	593 175	129 852	255 516	191 909	174 326

UA's Simplified Cash Flow Statement	2019 F	2020 F	2021 F	2022 F	2023 F	2024 F	2025 F	2026 F
Cash Flow-Operating Activities ($ 000)								
Net Income/Starting Line	516 393	622 230	743 062	853 730	960 313	1 046 172	1 127 270	1 216 170
Adjustments to reconcile n. income to n. cash used in op. activities								88 899
Non-Cash Items								
Stock-based Compensation	141 453	169 772	202 177	232 146	260 952	284 367	306 313	330 204
Depreciations and Amortizations	222 169	267 446	318 866	368 171	415 232	454 738	490 756	528 967
Other Non-Cash Items	19 473	20 725	23 655	22 153	21 106	17 169	16 154	17 527
Change in net operating assets	(432 589)	(471 951)	(540 045)	(499 443)	(480 080)	(390 220)	(365 746)	(398 155)
Cash from Operating Activities	466 899	608 222	747 714	976 757	1 177 524	1 412 227	1 574 748	1 694 713
Cash Flow-Investing Activities ($ 000)								
Purchases of property and equipment	(482 317)	(551 265)	(643 635)	(668 524)	(703 940)	(689 407)	(710 706)	(768 407)
Purchases of other assets	(14 817)	(16 165)	(18 497)	(17 106)	(16 443)	(13 365)	(12 527)	(13 637)
Cash Dividends	0	0	(66 621)	(363 099)	(548 397)	(825 818)	(983 806)	(1 054 783)
Cash from Investing Activities	(497 133)	(567 430)	(728 753)	(1 048 730)	(1 268 780)	(1 528 590)	(1 707 039)	(1 836 827)
Cash Flow-Financing Activities ($ 000)								
Issue / Repayment of Debt	(40 000)	(34 768)	0	0	0	0	0	0
Proceeds from Additional Paid-in capital in stock issuances	0	0	0	0	0	0	0	0
Tax benefits from stock-based compensation arrangements	98 163	117 815	140 303	161 100	181 091	197 340	212 569	229 149
Exercise of Stock options	0	0	0	0	0	0	0	0
Other comprehensive loss	0	0	0	0	0	0	0	0
Shares withheld	(15 576)	(18 695)	(22 263)	(25 563)	(28 735)	(31 313)	(33 730)	(36 361)
Increase in common stock	0	0	0	0	0	0	0	0
Net cash provided by financing activities	42 587	64 353	118 040	135 537	152 356	166 026	178 840	192 788
Cash and Cash Equivalents								
Beginning of period	174 326	186 679	291 823	428 824	492 389	553 489	603 152	649 701
End of period	186 679	291 823	428 824	492 389	553 489	603 152	649 701	700 374

Source: Own Analysis and Company Reports

Appendix 15 – Capitalizing R&D Expenses

Table 36 -Capitalizing R&D

Year	2011	2012	2013	2014	2015	2016	2017	2018
R&D expense	34 347	41 748	57 031	74 989	97 456	119 470	147 148	178 399
Amortization of prior R&D	--	17 173	38 047	49 389	66 010	86 223	108 463	133 309
Value of outstanding prior R&D		17 173	20 874	28 515	37 495	48 728	59 735	73 574
Value of R&D Asset	34 347	58 921	77 905	103 505	134 950	168 198	206 883	251 973
Adjusted Operating income		233 270	284 081	379 555	439 993	488 636	623 798	754 047
Adjusted Operating income after taxes		318 878	391 473	528 365	615 350	676 055	863 059	1 043 266
Adjusted Net Income		153 353	181 313	233 642	264 019	295 792	381 425	463 749
Book value of capital		714 156	878 811	1 206 277	1 634 501	2 337 222	2 892 038	3 303 662
Adjusted Book Value of Capital		755 904	935 842	1 281 266	1 731 957	2 456 692	3 039 185	3 482 060
Return on capital		42.19%	41.83%	41.24%	35.53%	27.52%	28.40%	29.96%
Capital expenditures		(106 545)	(150 682)	(228 694)	(431 363)	(497 165)	(476 233)	(562 840)
Depreciations and Amortizations		60 255	88 596	121 482	166 950	227 271	257 963	314 980

Year	2019	2020	2021	2022	2023	2024	2025	2026
R&D expense	218 493	262 235	312 289	358 579	403 074	439 242	473 140	510 043
Amortization of prior R&D	162 773	198 446	240 364	287 262	335 434	380 827	421 158	456 191
Value of outstanding prior R&D	89 199	109 246	131 118	156 144	179 289	201 537	219 621	236 570
Value of R&D Asset	307 692	371 481	443 406	514 723	582 364	640 779	692 761	746 613
Adjusted Operating income	924 343	1 105 512	1 312 112	1 493 297	1 664 697	1 796 524	1 923 308	2 071 198
Adjusted Operating income after taxes	1 278 879	1 529 537	1 815 379	2 066 058	2 303 199	2 485 589	2 661 002	2 865 615
Adjusted Net Income	572 113	686 020	814 987	925 047	1 027 953	1 104 587	1 179 252	1 270 021
Book value of capital	3 823 249	4 523 682	5 380 038	6 376 696	7 235 010	8 060 234	8 730 982	9 359 599
Adjusted Book Value of Capital	4 041 742	4 785 917	5 692 326	6 735 275	7 638 085	8 499 475	9 204 122	9 869 642
Return on capital	31.64%	31.96%	31.89%	30.68%	30.15%	29.24%	28.91%	29.03%
Capital expenditures	(700 809)	(813 500)	(955 924)	(1 027 103)	(1 107 015)	(1 128 648)	(1 183 846)	(1 278 450)
Depreciations and Amortizations	384 942	465 892	559 230	655 433	750 666	835 565	911 914	985 158

Source: Own Analysis, Company Reports and A.Damodaran's Amortizable Lives Look-up table

Appendix 16 – Capitalizing Operating Leases

Table 37 - Capitalizing Operating Leases

$ (000)	2011	2012	2013	2014	2015	2016	2017	2018
Leases Outstanding	185 178	202 895	323 924	472 575	626 411	750 523	924 396	1 120 717
R&D Adjusted Operating Income		233 270	284 081	379 555	439 993	488 636	623 798	754 047
Operating Lease Expense		31 100	41 800	58 000	83 000	96 136	118 408	143 555
Depreciation on Leased Asset		(22 544)	(35 992)	(52 508)	(69 601)	(83 391)	(102 711)	(124 524)
Adjusted Operating Income		241 826	289 890	385 047	453 391	501 381	639 495	773 078
Adjusted NOPAT		330 574	399 477	536 009	634 089	693 688	884 776	1 069 595
Adjusted D&A		22 544	96 247	141 105	191 084	250 342	329 982	382 488
Adjusted Book Value of Capital		958 799	1 259 766	1 753 841	2 358 368	3 207 216	3 963 582	4 602 778

$ (000)	2019	2020	2021	2022	2023	2024	2025	2026
Leases Outstanding	1 372 591	1 647 384	1 961 825	2 252 625	2 532 151	2 759 356	2 972 311	3 204 136
R&D Adjusted Operating Income	924 343	1 105 512	1 312 112	1 493 297	1 664 697	1 796 524	1 923 308	2 071 198
Operating Lease Expense	175 818	211 016	251 294	288 543	324 348	353 451	380 729	410 423
Depreciation on Leased Asset	(152 510)	(183 043)	(217 981)	(250 292)	(281 350)	(306 595)	(330 257)	(356 015)
Adjusted Operating Income	947 650	1 133 486	1 345 426	1 531 548	1 707 695	1 843 380	1 973 780	2 125 606
Adjusted NOPAT	1 311 126	1 568 240	1 861 469	2 118 980	2 362 689	2 550 417	2 730 832	2 940 892
Adjusted D&A	467 491	567 985	683 872	809 521	936 783	1 057 261	1 165 822	1 267 929
Adjusted Book Value of Capital	5 414 333	6 433 301	7 654 151	8 987 900	10 170 235	11 258 831	12 176 433	13 073 778

Source: Own Analysis and Company Reports

Appendix 17 – Net Working Capital Forecast

Table 38 - UA's Historical and Forecasted Net Working Capital

NWC captions ($000)	2011	2012	2013	2014	2015	2016	2017	2018
Accounts receivable	134 043	175 524	209 952	279 835	433 638	547 241	674 020	817 166
Days Sales Outstanding (DSO)	33	35	33	33	40	40	40	40
Prepaid Expenses and other current assets	39 643	43 896	63 987	86 371	152 242	144 742	178 274	216 135
Days Sales Outstanding (DSO)	10	9	10	10	14	11	11	11
Inventories	324 409	319 286	469 006	536 714	783 031	992 358	1 222 257	1 481 837
Days inventory held (DIH)	(156)	(122)	(143)	(125)	(139)	(137)	(137)	(137)
Deferred Income Taxes	16 184	23 051	38 377	53 304	0	0	0	0
Days Sales Outstanding (DSO)	4	5	6	6	0	--	--	--
Accounts payable	100 527	143 689	165 456	210 432	200 460	257 749	317 461	384 883
Days Payable Outstanding (DPO)	(48)	(55)	(51)	(49)	(36)	(36)	(36)	(36)
Accrued Expenses	69 285	85 077	133 729	147 681	192 935	253 883	312 700	379 110
Days Payable Outstanding (DPO)	(33)	(32)	(41)	(34)	(34)	(35)	(35)	(35)
Other Current Liabilities	6 913	14 330	22 473	34 563	43 415	56 995	70 199	84 524
Days Payable Outstanding (DPO)	(3)	(5)	(7)	(8)	(8)	(8)	(8)	(8)
Total Working Capital	337 554	318 661	459 664	563 548	932 101	1 115 714	1 374 190	1 666 621
Changes in Working Capital		**(18 893)**	**141 003**	**103 884**	**368 553**	**183 613**	**258 476**	**292 430**

NWC captions ($000)	2019	2020	2021	2022	2023	2024	2025	2026
Accounts receivable	1 000 819	1 201 183	1 430 456	1 642 492	1 846 307	2 011 973	2 167 248	2 336 282
Days Sales Outstanding (DSO)	40	40	40	40	40	40	40	40
Prepaid Expenses and other current assets	264 710	317 705	378 346	434 428	488 336	532 154	573 223	617 931
Days Sales Outstanding (DSO)	11	11	11	11	11	11	11	11
Inventories	1 814 870	2 178 207	2 593 968	2 978 470	3 348 065	3 648 480	3 930 054	4 236 578
Days inventory held (DIH)	(137)	(137)	(137)	(137)	(137)	(137)	(137)	(137)
Deferred Income Taxes	0	0	0	0	0	0	0	0
Days Sales Outstanding (DSO)	--	--	--	--	--	--	--	--
Accounts payable	471 383	565 754	673 741	773 609	869 606	947 634	1 020 768	1 100 383
Days Payable Outstanding (DPO)	(36)	(36)	(36)	(36)	(36)	(36)	(36)	(36)
Accrued Expenses	464 313	557 269	663 636	762 006	856 563	933 421	1 005 458	1 083 879
Days Payable Outstanding (DPO)	(35)	(35)	(35)	(35)	(35)	(35)	(35)	(35)
Other Current Liabilities	103 997	124 721	148 376	170 529	191 635	208 805	224 959	242 486
Days Payable Outstanding (DPO)	(8)	(8)	(8)	(8)	(8)	(8)	(8)	(8)
Total Working Capital	2 040 707	2 449 352	2 917 017	3 349 246	3 764 904	4 102 747	4 419 340	4 764 044
Changes in Working Capital	**374 086**	**408 645**	**467 666**	**432 228**	**415 658**	**337 843**	**316 592**	**344 705**

Source: Own Analysis and Company Reports

Appendix 18 - APV Valuation

Table 39 - APV Forecasted Period Valuation

Forecasted Period Valuation	2016	2017	2018	2019	2020
Periods to be discounted	0	1	2	3	4
ku	8.85%				
FCF Discounted Value $ (000)	123 687	342 217	358 348	407 815	441 938
Present Value of Discounted FCF $ (000)	4 641 151				

Forecasted Period Valuation	2022	2023	2024	2025	2026
Periods to be discounted	6	7	8	9	10
ku					
FCF Discounted Value $ (000)	494 464	506 100	497 731	493 446	493 464

Source: Own Analysis

Table 40 - APV Tax Shields Valuation

PV of Interest Tax Shields	2016	2017	2018	2019	2020	2021
Interests Paid	(119 776)	(140 322)	(164 628)	(196 049)	(230 516)	(270 794)
Effective Tax rate	38.36%	38.36%	38.36%	38.36%	38.36%	38.36%
Cost of Debt	--	--	--	--	--	--
Debt Outstanding	--	--	--	--	--	--
Tax Shield	45 940	53 821	63 144	75 196	88 416	103 864
Discounted Tax Shield	45 940	52 127	59 231	68 316	77 798	88 515
PV of Discounted Tax shields	940 506					
Terminal Value of Tax Shields	798 353					
Total Present Value of Tax Shields	1 738 859					

PV of Interest Tax Shields	2022	2023	2024	2025	2026
Interests Paid	(308 043)	(343 848)	(372 951)	(400 229)	(429 923)
Effective Tax rate	38.36%	38.36%	38.36%	38.36%	38.36%
Cost of Debt	--	--	--	--	--
Debt Outstanding	--	--	--	--	--
Tax Shield	118 151	131 884	143 047	153 509	164 899
Discounted Tax Shield	97 521	105 430	110 754	115 113	119 762

Source: Own Analysis

Table 41 - APV Costs of Financial Distress Valuation

	Risk Adjusted CFD
Probability of Default - q	2.20%
Direct CFD as %	4.00%
Indirect CFD as %	12.00%
Direct+ Indirect CFD - φ	16.00%
Total CFD as % of firm value - Ø	7.75%
Total CFD ($000)	1 408 941

Source: Own Analysis

Table 42 - Adjustments from Enterprise Value to Equity Value

UA Valuation $ (000)	
Forecasted Period Valuation	4 641 151
Terminal Value	11 792 128
PVTS	1 738 859
Risk Adjusted CFD	(1 408 941)
Enterprise Value	**16 763 197**
Debt Valuation	(1 505 611)
Excess Cash and Cash equivalents	91 646
Other Adjustments	(3 998)
Equity Valuation	**15 345 235**

Other Adjustments $ (000)	Data from 10-Q, 30-09-16
Minority Interests	0
Investments in associates	0
Other financial assets	0
Deferred Compensation Plan Obligations (Post-tax)	(3 998)
Other Adjustments (Tax losses carried forward)	0
Total Financial Assets Value	(3 998)

Source: Own Analysis and Company Reports

Appendix 19 – Dividend Discount Model

Table 43 - Dividend Discount Model Valuation

	2016	2017	2018	2019	2020	2021
Earnings Growth Phase	High St Gr	High St Gr	High St Gr	High St Gr	High St Gr	Declining Growth
Dividend Payout Phase	Low Pyt Rat	Low Pyt Rat	Low Pyt Rat	Low Pyt Rat	Low Pyt Rat	Increasing Pyt Rat
Dividend Payout Ratio	0.00%	0.00%	0.00%	0.00%	0.00%	8.97%
Cash Dividend	0	0	0	0	0	66 621
ke - levered	9.52%	9.52%	9.52%	9.52%	9.52%	9.52%
Discounted Value of Divindends	0	0	0	0	0	42 276

	2022	2023	2024	2025	2026
Earnings Growth Phase	Declining Gr	Declining Gr	Declining Gr	Declining Gr	Infinite St Gr
Dividend Payout Phase	Increasing Pyt Rat	Increasing Pyt Rat	Increasing Pyt Rat	Increasing Pyt Rat	High Pyt Rat
Dividend Payout Ratio	42.53%	57.11%	78.94%	87.27%	86.73%
Cash Dividend	363 099	548 397	825 818	983 806	1 054 783
ke - levered	9.52%	9.52%	9.52%	9.52%	9.52%
Discounted Value of Divindends	210 383	290 119	398 900	433 896	424 754

$ (000)	Valuation
Present Value of Discounted Dividends	1 800 328
Long-Term Growth Rate	5.12%
Terminal Value of Dividends	9 655 513
Equity Value	11 455 842
Class A and B partial Valuation	6 146 833
Class C partial Valuation	5 309 009
Class A and B Stock Valuation	**28.19**
Diluted Class A and B Stock Valuation	**27.67**
Class C Stock Valuation	**24.16**
Diluted Class C Stock Valuation	**23.73**

Source: Own Analysis and Company Reports

Appendix 20 – Relative Valuation Inputs

Table 44 - Peer Group Information

Company Data	Industry	Revenue G Rate to 2020	5y Stock Volatility	Trailing EBITDA/Revenues
Under Armour	Sportswear	21.72%	0.08	11.90%
Nike	Sportswear	10.73%	0.06	15.10%
Adidas	Sportswear	9.26%	0.07	10.16%
Puma	Sportswear	6.32%	0.07	3.60%
Lululemon	Sportswear	13.53%	0.11	20.33%
Asics	Sportswear	2.35%	0.09	5.76%
Li-ning	Sportswear	12.69%	0.14	5.37%
VF Corp	Fashion Retail	1.80%	0.05	15.15%
Michael Kors	Fashion Retail	-0.22%	0.11	26.67%
Skechers	Footwear	8.64%	0.12	13.07%
ASOS	Retailing (fashion online)	16.62%	0.13	5.12%
Hanesbrands	Apparel Retail	5.60%	0.06	14.19%
Columbia	Apparel and Footwear	6.46%	0.08	12.67%
Foot Locker	Apparel and Footwear Retailer	4.52%	0.06	13.54%
Ralph Lauren	Lifestyle products	-2.27%	0.07	8.57%
Stats	**Mean**	8.57%	0.09	12.33%
	Std Dev	5.86%	0.03	6.07%

Source: Own Analysis, Thomson Reuters Eikon Platform, GuruFocus

Table 45 - Cluster Analysis Results and Peer Group

Company	Distance to the center	Peer Group	Distance
Under Armour	0.00	**Nike**	4.48
Nike	4.48	**Adidas**	4.67
Adidas	4.67	**Lululemon**	4.95
Puma	8.89	**ASOS**	5.29
Lululemon	4.95	**Columbia**	6.80
Asics	12.10	**Skechers**	7.33
Li-ning	8.29		
VF Corp	12.86		
Michael Kors	20.97		
Skechers	7.33		
ASOS	5.29		
Hanesbrands	8.02		
Columbia	6.80		
Footlocker	9.14		
Ralph Lauren	17.10		

Source: Own Analysis

Table 46 - Peer Group Financials

Peer Group	Mkt Value	Enterprise Value	Trail. EBITDA	Trail. EBIT	Trail. Sales	P/share (29/11/2016)	Earnings/share	Fut Earnings G (17-19)
Nike	83 388 000	78 741 000	4 987 000	4 310 000	33 023 000	50.07	2.22	12.81%
Adidas	29 978 000	29 425 000	2 123 000	1 671 000	20 894 000	148.42	2.69	28.49%
Lululemon	7 810 000	7 275 000	446 000	366 026	2 193 729	58.24	1.89	15.99%
ASOS	5 242 000	5 120 000	97 000	55 000	1 894 000	64.48	0.41	29.88%
Columbia	3 969 000	3 785 000	299 000	240 000	2 359 000	58.51	2.40	9.19%

Source: Own Analysis, Thomson Reuters Eikon Terminal, GuruFocus

Appendix 21 – Sensitivity Analysis APV

Table 47 - APV Sensitivity Analysis

APV	-25.00%	-15.00%	-10.00%	-5.00%	Base Case	5.00%	10.00%	15.00%	25.00%
Sensitivity to Foreign Mkt Share	2.70%	3.06%	3.24%	3.42%	3.60%	3.78%	3.96%	4.14%	4.50%
Asset Value	14 682 348	15 552 780	15 946 650	16 397 673	16 763 197	17 128 722	17 579 745	17 973 615	18 844 047
Equity Value	13 264 386	14 134 817	14 528 687	14 979 710	15 345 235	15 710 759	16 161 782	16 555 652	17 426 084
Class A and B Stock Valuation	**32.64**	**34.78**	**35.75**	**36.86**	**37.76**	**38.66**	**39.77**	**40.73**	**42.88**
Class A and B Stock Dil. Valuation	**32.04**	**34.15**	**35.10**	**36.19**	**37.07**	**37.95**	**39.04**	**39.99**	**42.10**
Class C Stock Valuation	**27.97**	**29.81**	**30.64**	**31.59**	**32.36**	**33.13**	**34.08**	**34.91**	**36.75**
Class C Stock Diluted Valuation	**27.47**	**29.28**	**30.09**	**31.03**	**31.78**	**32.54**	**33.48**	**34.29**	**36.09**
Comparison to Base Case Value	-13.56%	-7.89%	-5.32%	-2.38%	0.00%	2.38%	5.32%	7.89%	13.56%
Comparison to Current Mkt. Value	8.92%	16.06%	19.30%	23.00%	26.00%	29.00%	32.71%	35.94%	43.09%

APV	-25.00%	-15.00%	-10.00%	-5.00%	Base Case	5.00%	10.00%	15.00%	25.00%
Sensitivity to U.S. Market Share	4.35%	4.93%	5.22%	5.51%	5.80%	6.09%	6.38%	6.67%	7.25%
Asset Value	15 020 070	15 714 084	16 050 966	16 421 462	16 763 197	17 104 933	17 475 429	17 812 310	18 506 324
Equity Value	13 602 108	14 296 122	14 633 003	15 003 499	15 345 235	15 686 970	16 057 466	16 394 348	17 088 362
Class A and B Stock Valuation	**33.47**	**35.18**	**36.00**	**36.92**	**37.76**	**38.60**	**39.51**	**40.34**	**42.05**
Class A and B Stock Dil. Valuation	**32.86**	**34.54**	**35.35**	**36.24**	**37.07**	**37.90**	**38.79**	**39.60**	**41.28**
Class C Stock Valuation	**28.68**	**30.15**	**30.86**	**31.64**	**32.36**	**33.08**	**33.86**	**34.57**	**36.04**
Class C Stock Diluted Valuation	**28.17**	**29.61**	**30.31**	**31.08**	**31.78**	**32.49**	**33.26**	**33.96**	**35.40**
Comparison to Base Case Value	-11.36%	-6.84%	-4.64%	-2.23%	0.00%	2.23%	4.64%	6.84%	11.36%
Comparison to Current Mkt. Value	11.69%	17.39%	20.15%	23.20%	26.00%	28.81%	31.85%	34.62%	40.32%

APV	-2.50%	-1.00%	-0.50%	Base Case	0.50%	1.00%	2.50%	Close to Hist. Aver. Adidas Fut Est. Margin	Lululemon Fut Est. Margin
Sensitivity to Gross Margin	45.92%	46.63%	46.86%	47.10%	47.34%	47.57%	48.28%	49.00%	51.00%
Asset Value	14 777 929	15 972 455	16 359 414	16 763 197	17 166 981	17 553 940	18 748 465	19 959 815	23 324 677
Equity Value	13 314 133	14 536 237	14 932 129	15 345 235	15 758 340	16 154 233	17 376 337	18 615 653	22 058 199
Class A and B Stock Valuation	**32.76**	**35.77**	**36.74**	**37.76**	**38.77**	**39.75**	**42.75**	**45.80**	**54.27**
Class A and B Stock Dil. Val.	**32.16**	**35.12**	**36.07**	**37.07**	**38.07**	**39.02**	**41.98**	**44.97**	**53.29**
Class C Stock Valuation	**28.08**	**30.65**	**31.49**	**32.36**	**33.23**	**34.07**	**36.64**	**39.26**	**46.52**
Class C Stock Dil.Valuation	**27.58**	**30.11**	**30.93**	**31.78**	**32.64**	**33.46**	**35.99**	**38.56**	**45.69**
Comp. to Base Case Value	-13.24%	-5.27%	-2.69%	0.00%	2.69%	5.27%	13.24%	21.31%	43.75%
Comp. to Current Mkt Value	9.32%	19.36%	22.61%	26.00%	29.39%	32.64%	42.68%	52.86%	81.12%

APV	-25.00%	-15.00%	-10.00%	-5.00%	Base Case	5.00%	10.00%	15.00%	25.00%
Sensitivity to Cost of Debt	2.44%	2.76%	2.93%	3.09%	3.25%	3.41%	3.58%	3.74%	4.06%
Asset Value	16 814 260	16 793 578	16 782 865	16 772 950	16 763 197	16 753 444	16 743 530	16 732 816	16 712 135
Equity Value	15 399 267	15 377 416	15 366 079	15 355 577	15 345 235	15 334 893	15 324 391	15 313 054	15 291 203
Class A and B Stock Valuation	**37.89**	**37.84**	**37.81**	**37.78**	**37.76**	**37.73**	**37.71**	**37.68**	**37.62**
Class A and B Stock Dil. Valuation	**37.20**	**37.15**	**37.12**	**37.09**	**37.07**	**37.04**	**37.02**	**36.99**	**36.94**
Class C Stock Valuation	**32.47**	**32.43**	**32.40**	**32.38**	**32.36**	**32.34**	**32.32**	**32.29**	**32.25**
Class C Stock Diluted Valuation	**31.90**	**31.85**	**31.83**	**31.81**	**31.78**	**31.76**	**31.74**	**31.72**	**31.67**
Comparison to Base Case Value	0.35%	0.21%	0.14%	0.07%	0.00%	-0.07%	-0.14%	-0.21%	-0.35%
Comparison to Current Mkt. Value	26.45%	26.27%	26.17%	26.09%	26.00%	25.92%	25.83%	25.74%	25.56%

APV	-25.00%	-15.00%	-10.00%	-5.00%	Base Case	5.00%	10.00%	15.00%	25.00%
Sensitivity to *ku*	6.63%	7.52%	7.96%	8.40%	8.84%	9.28%	9.73%	10.17%	11.05%
Asset Value	20 259 293	18 738 333	18 048 271	17 394 384	16 763 197	16 132 010	15 478 123	14 788 061	13 267 102
Equity Value	18 841 330	17 320 371	16 630 309	15 976 422	15 345 235	14 714 048	14 060 161	13 370 099	11 849 139
Class A and B Stock Valuation	**46.36**	**42.62**	**40.92**	**39.31**	**37.76**	**36.20**	**34.59**	**32.90**	**29.15**
Class A and B Stock Dil. Valuation	**45.52**	**41.84**	**40.17**	**38.59**	**37.07**	**35.55**	**33.97**	**32.30**	**28.62**
Class C Stock Valuation	**39.73**	**36.53**	**35.07**	**33.69**	**32.36**	**31.03**	**29.65**	**28.20**	**24.99**
Class C Stock Diluted Valuation	**39.03**	**35.88**	**34.45**	**33.09**	**31.78**	**30.48**	**29.12**	**27.69**	**24.54**
Comparison to Base Case Value	22.78%	12.87%	8.37%	4.11%	0.00%	-4.11%	-8.37%	-12.87%	-22.78%
Comparison to Current Mkt. Value	54.71%	42.22%	36.55%	31.18%	26.00%	20.82%	15.45%	9.78%	-2.70%

APV	-25.00%	-15.00%	-10.00%	-5.00%	Base Case	5.00%	10.00%	15.00%	25.00%
Sensitivity to Risk-Free Rate	1.76%	1.99%	2.11%	2.22%	2.34%	2.46%	2.57%	2.69%	2.93%
Asset Value	19 092 082	18 096 893	17 616 893	17 198 254	16 763 197	16 328 141	15 909 502	15 429 501	14 434 313
Equity Value	17 674 119	16 678 931	16 198 930	15 780 291	15 345 235	14 910 178	14 491 539	14 011 539	13 016 350
Class A and B Stock Valuation	**43.49**	**41.04**	**39.86**	**38.83**	**37.76**	**36.69**	**35.66**	**34.48**	**32.03**
Class A and B Stock Dil. Valuation	**42.70**	**40.29**	**39.13**	**38.12**	**37.07**	**36.02**	**35.01**	**33.85**	**31.44**
Class C Stock Valuation	**37.27**	**35.17**	**34.16**	**33.28**	**32.36**	**31.44**	**30.56**	**29.55**	**27.45**
Class C Stock Diluted Valuation	**36.61**	**34.55**	**33.55**	**32.69**	**31.78**	**30.88**	**30.02**	**29.02**	**26.96**
Comparison to Base Case Value	15.18%	8.69%	5.56%	2.84%	0.00%	-2.84%	-5.56%	-8.69%	-15.18%
Comparison to Current Mkt. Value	45.12%	36.95%	33.01%	29.57%	26.00%	22.43%	18.99%	15.05%	6.88%

APV	-25.00%	-15.00%	-10.00%	-5.00%	Base Case	5.00%	10.00%	15.00%	25.00%
Sensitivity to Real GDP Forecasts	2.04%	2.32%	2.45%	2.59%	2.73%	2.86%	3.00%	3.14%	3.41%
Asset Value	15 203 002	15 784 589	16 078 810	16 414 953	16 763 197	17 111 441	17 447 584	17 741 805	18 323 392
Equity Value	13 785 040	14 366 627	14 660 848	14 996 991	15 345 235	15 693 479	16 029 622	16 323 843	16 905 430
Class A and B Stock Valuation	**33.92**	**35.35**	**36.07**	**36.90**	**37.76**	**38.61**	**39.44**	**40.16**	**41.60**
Class A and B Stock Dil. Valuation	**33.30**	**34.71**	**35.42**	**36.23**	**37.07**	**37.91**	**38.72**	**39.43**	**40.84**
Class C Stock Valuation	**29.07**	**30.30**	**30.92**	**31.63**	**32.36**	**33.10**	**33.80**	**34.42**	**35.65**
Class C Stock Diluted Valuation	**28.55**	**29.76**	**30.37**	**31.06**	**31.78**	**32.51**	**33.20**	**33.81**	**35.02**
Comparison to Base Case Value	-10.17%	-6.38%	-4.46%	-2.27%	0.00%	2.27%	4.46%	6.38%	10.17%
Comparison to Current Mkt. Value	13.19%	17.97%	20.38%	23.14%	26.00%	28.86%	31.62%	34.04%	38.81%

APV	-25.00%	-15.00%	-10.00%	-5.00%	Base Case	5.00%	10.00%	15.00%	25.00%
Sensitivity to Inflation Forecasts	1.75%	1.98%	2.10%	2.22%	2.33%	2.45%	2.57%	2.68%	2.92%
Asset Value	15 404 504	15 899 385	16 177 596	16 470 998	16 763 197	17 055 397	17 348 798	17 627 010	18 121 891
Equity Value	13 986 541	14 481 422	14 759 634	15 053 035	15 345 235	15 637 435	15 930 836	16 209 047	16 703 928
Class A and B Stock Valuation	**34.41**	**35.63**	**36.32**	**37.04**	**37.76**	**38.48**	**39.20**	**39.88**	**41.10**
Class A and B Stock Dil. Valuation	**33.79**	**34.98**	**35.66**	**36.36**	**37.07**	**37.78**	**38.48**	**39.16**	**40.35**
Class C Stock Valuation	**29.50**	**30.54**	**31.13**	**31.74**	**32.36**	**32.98**	**33.60**	**34.18**	**35.23**
Class C Stock Diluted Valuation	**28.97**	**30.00**	**30.57**	**31.18**	**31.78**	**32.39**	**33.00**	**33.57**	**34.60**
Comparison to Base Case Value	-8.85%	-5.63%	-3.82%	-1.90%	0.00%	1.90%	3.82%	5.63%	8.85%
Comparison to Current Mkt. Value	14.85%	18.91%	21.19%	23.60%	26.00%	28.40%	30.81%	33.09%	37.16%

APV	Min. Hist. Value	-25.00%	-15.00%	-10.00%	-5.00%	Base Case	5.00%	Max Hist Value 10.00%	15.00%	25.00%
Sensitivity to Op. Leases	11.06%	11.26%	12.76%	13.51%	14.26%	15.01%	15.76%	16.51%	17.26%	18.76%
Asset Value	15 894 889	15 938 903	16 269 004	16 434 055	16 599 106	16 763 197	16 927 289	17 092 340	17 257 391	17 587 492
Equity Value	14 492 509	14 535 733	14 859 910	15 021 999	15 184 088	15 345 235	15 506 382	15 668 470	15 830 559	16 154 737
Class A, B Stock Val.	**35.66**	**35.76**	**36.56**	**36.96**	**37.36**	**37.76**	**38.15**	**38.55**	**38.95**	**39.75**
Class A, B Stock Dil. Val.	**35.01**	**35.11**	**35.90**	**36.29**	**36.68**	**37.07**	**37.46**	**37.85**	**38.24**	**39.03**
Class C Stock Valuation	**30.56**	**30.65**	**31.34**	**31.68**	**32.02**	**32.36**	**32.70**	**33.04**	**33.38**	**34.07**
Class C Stock Diluted Val.	**30.02**	**30.11**	**30.78**	**31.12**	**31.45**	**31.78**	**32.12**	**32.45**	**32.79**	**33.46**
Comp. to Base Case Value	-5.56%	-5.28%	-3.16%	-2.11%	-1.05%	0.00%	1.05%	2.11%	3.16%	5.28%
Comp. to Cur. Mkt. Value	19.00%	19.36%	22.02%	23.35%	24.68%	26.00%	27.33%	28.66%	29.99%	28.80%

APV	Maintaining Current Level	Credit Suisse Estimations	Base Case	Optimistic Scenario
Sensitivity to Connected Fitness Revenues	No future Growth	380 000 by 2020	Adjusted to current growth	5% of revenues by 2020
Asset Value	16 288 066	16 755 918	16 763 197	17 400 139
Equity Value	14 870 526	15 338 378	15 345 235	15 982 177
Class A and B Stock Valuation	**36.59**	**37.74**	**37.76**	**39.32**
Class A and B Stock Diluted Valuation	**35.92**	**37.05**	**37.07**	**38.61**
Class C Stock Valuation	**31.36**	**32.35**	**32.36**	**33.70**
Class C Stock Diluted Valuation	**30.80**	**31.77**	**31.78**	**33.10**
Comparison to Base Case Value	-3.09%	-0.04%	0.00%	4.15%
Comparison to Current Market Value	22.10%	25.95%	26.00%	31.23%

Source: Own Analysis

Appendix 22 – Sensitivity Analysis DDM

Table 48 - DDM Sensitivity Analysis

APV	-5.00%	-2.50%	-1.00%	-0.50%	Base Case	0.50%	1.00%	2.50%	5.00%
Sensitivity to *ke*	9.05%	9.28%	9.43%	9.47%	9.52%	9.57%	9.62%	9.76%	10.00%
Equity Value	13 160 289	12 280 731	11 758 867	11 625 936	11 455 842	11 285 747	11 152 816	10 630 952	9 751 394
Class A and B Stock Valuation	**32.38**	**30.22**	**28.93**	**28.61**	**28.19**	**27.77**	**27.44**	**26.16**	**23.99**
Class A and B Stock Dil. Valuation	**31.79**	**29.67**	**28.41**	**28.09**	**27.67**	**27.26**	**26.94**	**25.68**	**23.56**
Class C Stock Valuation	**27.75**	**25.90**	**24.80**	**24.52**	**24.16**	**23.80**	**23.52**	**22.42**	**20.56**
Class C Stock Diluted Valuation	**27.26**	**25.44**	**24.36**	**24.08**	**23.73**	**23.38**	**23.10**	**22.02**	**20.20**
Comparison to Base Case Value	14.88%	7.20%	2.65%	1.48%	0.00%	-1.48%	-2.65%	-7.20%	-14.88%
Comparison to Current Mkt. Value	8.06%	0.84%	-3.45%	-4.54%	-5.93%	-7.33%	-8.42%	-12.71%	-19.93%
APV	-25.00%	-15.00%	-10.00%	-5.00%	Base Case	5.00%	10.00%	15.00%	25.00%
Sensitivity to Risk-Free Rate	1.76%	1.99%	2.11%	2.22%	2.34%	2.46%	2.57%	2.69%	2.93%
Equity Value	13 609 369	12 679 837	12 236 459	11 852 386	11 455 842	11 059 297	10 675 224	10 231 846	9 302 314
Class A and B Stock Valuation	**33.49**	**31.20**	**30.11**	**29.16**	**28.19**	**27.21**	**26.27**	**25.18**	**22.89**
Class A and B Stock Dil. Valuation	**32.88**	**30.63**	**29.56**	**28.63**	**27.67**	**26.72**	**25.79**	**24.72**	**22.47**
Class C Stock Valuation	**28.70**	**26.74**	**25.80**	**24.99**	**24.16**	**23.32**	**22.51**	**21.58**	**19.62**
Class C Stock Diluted Valuation	**28.19**	**26.26**	**25.35**	**24.55**	**23.73**	**22.91**	**22.11**	**21.19**	**19.27**
Comparison to Base Case Value	18.80%	10.68%	6.81%	3.46%	0.00%	-3.46%	-6.81%	-10.68%	-18.80%
Comparison to Current Mkt. Value	8.51%	1.10%	-2.44%	-5.50%	-10.32%	-11.82%	-14.89%	-18.42%	-25.83%
APV	-25.00%	-15.00%	-10.00%	-5.00%	Base Case	5.00%	10.00%	15.00%	25.00%
Sensitivity to Real GDP Forecasts	2.04%	2.32%	2.45%	2.59%	2.73%	2.86%	3.00%	3.14%	3.41%
Equity Value	10 126 590	10 622 089	10 872 759	11 159 145	11 455 842	11 752 538	12 038 925	12 289 594	12 785 094
Class A and B Stock Valuation	**24.92**	**26.14**	**26.75**	**27.46**	**28.19**	**28.92**	**29.62**	**30.24**	**31.46**
Class A and B Stock Dil. Valuation	**24.46**	**25.66**	**26.27**	**26.96**	**27.67**	**28.39**	**29.08**	**29.69**	**30.89**
Class C Stock Valuation	**21.36**	**22.40**	**22.93**	**23.53**	**24.16**	**24.78**	**25.39**	**25.92**	**26.96**
Class C Stock Diluted Valuation	**20.98**	**22.00**	**22.52**	**23.11**	**23.73**	**24.34**	**24.94**	**25.46**	**26.48**
Comparison to Base Case Value	-11.60%	-7.28%	-5.09%	-2.59%	0.00%	2.59%	5.09%	7.28%	11.60%
Comparison to Current Mkt. Value	-19.26%	-15.31%	-13.31%	-11.03%	-8.66%	-6.30%	-4.01%	-2.01%	1.94%
APV	-25.00%	-15.00%	-10.00%	-5.00%	Base Case	5.00%	10.00%	15.00%	25.00%
Sensitivity to Inflation Forecasts	1.75%	1.98%	2.10%	2.22%	2.33%	2.45%	2.57%	2.68%	2.92%
Equity Value	10 298 265	10 719 892	10 956 922	11 206 894	11 455 842	11 704 790	11 954 761	12 191 791	12 613 419
Class A and B Stock Valuation	**25.34**	**26.38**	**26.96**	**27.57**	**28.19**	**28.80**	**29.41**	**30.00**	**31.04**
Class A and B Stock Dil. Valuation	**24.88**	**25.90**	**26.47**	**27.07**	**27.67**	**28.28**	**28.88**	**29.45**	**30.47**
Class C Stock Valuation	**21.72**	**22.61**	**23.11**	**23.63**	**24.16**	**24.68**	**25.21**	**25.71**	**26.60**
Class C Stock Diluted Valuation	**21.33**	**22.20**	**22.70**	**23.21**	**23.73**	**24.24**	**24.76**	**25.25**	**26.13**
Comparison to Base Case Value	-10.10%	-6.42%	-4.36%	-2.17%	0.00%	2.17%	4.36%	6.42%	10.10%
Comparison to Current Mkt. Value	-17.89%	-14.53%	-12.64%	-10.65%	-8.66%	-6.68%	-4.68%	-2.79%	0.57%

Source: Own Analysis

Appendix 23 – R&D Amortizable life by Industry

Figure 8 - Amortizable Lifes Look-up Table

Industry Name	*Amort. Period*
Advertising	2
Aerospace/Defense	10
Air Transport	10
Aluminum	5
Apparel	3
Auto & Truck	10
Auto Parts (OEM)	5
Auto Parts (Replacement)	5
Bank	2
Bank (Canadian)	2
Bank (Foreign)	2
Bank (Midwest)	2
Beverage (Alcoholic)	3
Beverage (Soft Drink)	3
Building Materials	5
Cable TV	10
Canadian Energy	10
Cement & Aggregates	10
Chemical (Basic)	10
Chemical (Diversified)	10
Chemical (Specialty)	10
Coal/Alternate Energy	5
Computer & Peripherals	5
Computer Software & Svcs	3
Copper	5
Diversified Co.	5
Drug	10
Drugstore	3
Educational Services	3
Electric Util. (Central)	10
Electric Utility (East)	10
Electric Utility (West)	10
Electrical Equipment	10
Electronics	5
Entertainment	3
Environmental	5
Financial Services	2
Food Processing	3
Food Wholesalers	3
Foreign Electron/Entertn	5
Foreign Telecom.	10
Furn./Home Furnishings	3
Gold/Silver Mining	5
Grocery	2
Healthcare Info Systems	3
Home Appliance	5
Homebuilding	5
Hotel/Gaming	3
Household Products	3
Industrial Services	3
Insurance (Diversified)	3
Insurance (Life)	3
Insurance (Prop/Casualty)	3
Internet	3
Investment Co. (Domestic)	3
Investment Co. (Foreign)	3
Investment Co. (Income)	3
Machinery	10
Manuf. Housing/Rec Veh	5
Maritime	10
Medical Services	3
Medical Supplies	5
Metal Fabricating	10
Metals & Mining (Div.)	5
Natural Gas (Distrib.)	10
Natural Gas (Diversified)	10
Newspaper	3
Office Equip & Supplies	5
Oilfield Services/Equip.	5
Packaging & Container	5
Paper & Forest Products	10
Petroleum (Integrated)	5
Petroleum (Producing)	5
Precision Instrument	5
Publishing	3
R.E.I.T.	3
Railroad	5
Recreation	5
Restaurant	2
Retail (Special Lines)	2
Retail Building Supply	2
Retail Store	2
Securities Brokerage	2
Semiconductor	5
Semiconductor Cap Equip	5
Shoe	3
Steel (General)	5
Steel (Integrated)	5
Telecom. Equipment	10
Telecom. Services	5
Textile	5
Thrift	2
Tire & Rubber	5
Tobacco	5
Toiletries/Cosmetics	3
Trucking/Transp. Leasing	5
Utility (Foreign)	10
Water Utility	10

Source: A. Damodaran - Damodaran Online

Appendix 24 – Recommendation Criteria

Table 49 - Recommendation Criteria ranges

Rating	Scale
Strong buy	>30%
Buy	>15% and <30%
Hold	>0% and <15%
Sell	>-15% and <0%
Strong sell	<-15%

Source: Own Criteria

12. List of Figures, Graphs and Tables

Figures

Graphs

Tables

13. References

Adidas Group. (2016). *2015 Annual Report.*

Almeida, H., & Philippon, T. (2008). Estimating Risk-Adjusted Costs of Financial Distress. *Journal of Applied Corporate Finance*, 110-114.

Andrade, G., & Kaplan, S. (1998). How Costly is Financial (Not Economic) Distress? Evidence from Highly Leveraged Transactions that Became Distressed. *The Journal of Finance*, 1443-1493.

Badenhausen, K. (2016, January 5). *Forbes*. Retrieved from Forbes Media L.L.C.: http://www.forbes.com/sites/kurtbadenhausen/2016/01/05/under-armour-launches-portfolio-of-digital-fitness-products-at-ces/#783c1a2c3e57

Banz, R. (1981). The Relationship Between Return and Market Value of Common Stocks. *Journal of Financial Economics*, 3-18.

Basu, S. (1983). The Relationship Between Earnings' Yield, Market Value and Return for NYSE Common Stocks: Further Evidence. *Journal of Financial Economics*, 129-156.

Bisch, P. (2015). *World Sports Apparel Market.* Allied Market Research.

Bodnar, G., Dumas, B., & Marston, R. (2003). *Cross-Border Valuation: The International Cost of Capital.* Boston: National Bureau of Economic Research.

Booth, L. (2007). Capital Cash Flows, APV and Valuation. *European Financial Management*, 29-48.

Brealey, R., Myers, S., & Allen, F. (2014). *Principles of Corporate Finance.* Maidenhead: McGraw-Hill Education .

Cortright, J. (2010). *The Athletic and Outdoor Industry Cluster.* Impresa.

Damodaran, A. (2002). *Investment Valuation.* New York: Wiley Finance.

Damodaran, A. (n.d.). *Damodaran Online*. Retrieved from http://pages.stern.nyu.edu/~adamodar/

FactSet. (n.d.). FactSet Platform.

Fama, E., & French, K. (1996). The CAPM is Wanted, Dead or Alive. *The Journal of Finance*, 1947-1958.

Fernández, P. (2004). *80 Common Errors in Company Valuation.* Madrid: IESE Business School.

Fernández, P. (2010). *WACC: Definition, Misconceptions and Errors.* Madrid: IESE Business School.

Foushee, S. N., Koller, T., & Mehta, A. (2012). *Why Bad Multiples Happen to Good Companies.* New York: McKinsey and Company.

Goedhart, M., Koller, T., & Wessels, D. (2005). *The Right Role for Multiples in Valuation.* New York: McKinsey and Company.

Graham, J. (2001). Estimating the Tax Benefits of Debt. *Journal of Applied Corporate Finance*, 42-54.

Gruber, M., & Warner, J. (1977). Bankruptcy Costs: Some Evidence. *The Journal of Finance*, 337-347.

GuruFocus.com, LLC. (n.d.). Retrieved from Guru Focus: http://www.gurufocus.com/

Harris, R., & Pringle, J. (1985). Risk-Adjusted Discount Rates: Extensions from the Average-Risk Case. *The Journal of Financial Research*, 237-244.

International Monetary Fund. (2016). *World Economic Outlook: Subdued Demand, Symptoms and Remedies.*

Krasic, S., & Halsor, K. (2016). *Under Armour, Inc: Equity Research.* The Buckingham Research Group.

Lakonishok, J., Shleifer, A., & Vishny, R. (1994). Contrarian Investment, Extrapolation and Risk. *The Journal of Finance*, 1541-1578.

Lee, C., Myers, J., & Swaminathan, B. (1999). What is the Intrinsic Value of the Dow? *The Journal of Finance*, 1963-1741.

Luehrman, T. (1997). *Using APV: A Better Tool for Valuing Operations.* Boston: Harvard Business Review.

Luehrman, T. (1997). *What's it Worth? A General Manager's Guide to Valuation.* Boston: Harvard Business Review.

Lululemon Athletica. (2016). *Form 10-K, 2015 Annual Report.*

MBA Skool. (n.d.). *Top 10 Sportswear Brands of the World 2016*. Retrieved from MBA Skool: http://www.mbaskool.com/fun-corner/top-brand-lists/16272-top-10-sportswear-brands-of-the-world-2016.html?start=4

Miles, J., & Ezzel, J. (1980). The Weighted Average Cost of Capital, Perfect Capital Markets, and Project Life: A Clarification. *Journal of Financial and Quantitative Analysis*, 719-730.

Modigliani, F., & Miller, M. (1963). Corporate Income Taxes and the Cost of Capital: A Correction. *The American Economic Review*, 433-443.

Myers, S. (1974). Interactions of Corporate Financing and Investment Decisions—Implications for Capital Budgeting. *The Journal of Finance*, 1-25.

Nike. (2016). *Form 10-K, 2016 Annual Report.*

PricewaterhouseCoopers. (2016, December). *Global Economic Watch - Projections*. Retrieved from Pwc Global: http://www.pwc.com/gx/en/issues/economy/global-economy-watch/projections.html

Puma. (2016). *2015 Annual Report.*

Rosenberg, B., Reid, K., & Lanstein, R. (1985). Persuasive Evidence of Market Inefficiency. *The Journal of Portfolio Management*, 9-16.

Schill, M. (2013). *Business Valuation: Standard Approaches and Applications.* Virginia: Darden Business Publishing.

Sharpe, W. (1964). Capital Asset Prices: A Theory of Market Equilibrium Under Conditions of Risk. *The Journal of Finance*, 425-442.

Societe Generale. (2016). *Global Sportswear Industry: Steadily Growing but Fragmented.* Societe Generale Private Banking.

The World Bank. (n.d.). *The WorldBank Open Data*. Retrieved from http://data.worldbank.org/

Thomson Reuters. (n.d.). Thomson Reuters Eikon Platform.

Under Armour. (n.d.). Retrieved from Under Armour Company Website: http://www.uabiz.com/

Under Armour. (2012). *Form 10-K, 2011 Annual Report.*

Under Armour. (2013). *Form 10-K, 2012 Annual Report.*

Under Armour. (2014). *Form 10-K, 2013 Annual Report.*

Under Armour. (2015). *Form 10-K, 2014 Annual Report.*

Under Armour. (2016). *Form 10K, 2015 Annual Report.*

Under Armour. (2016). *Form 10-Q, Quarterly Report.*

Young, M., Sullivan, P., Nokhasteh, A., & Holt, W. (1999). *All Roads Lead to Rome: An Integrated Approach to Valuation Models.* Goldman Sachs Investment Research.

Zenner, M., Hill, S., Clark, J., & Mago, N. (2008). *The Most Important Number in Finance: The Quest for the Market Risk Premium.* JP Morgan.