Equity Valuation
Manchester United PLC

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Dissertation written under the supervision of Professor José Tudela Martins

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Executive Summary

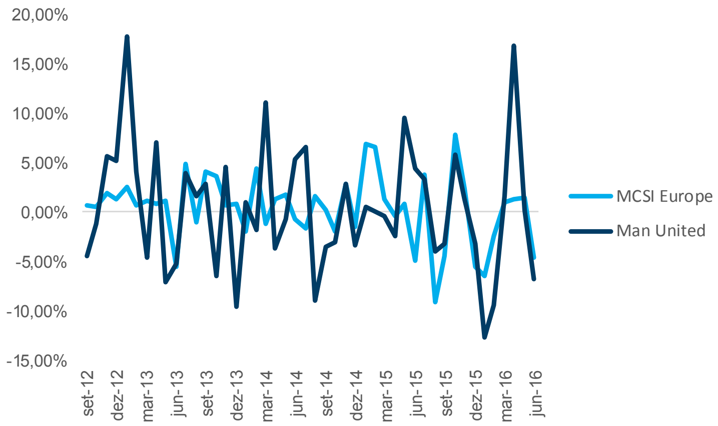
The football industry has been subject of exponential growth, particularly over the past decade, mainly related with the expansion to Asian and North American markets, which only recently started to pay attention to the sport. Manchester United has been capitalizing its brand awareness, and investing in well-known players, as part of its growing strategy. The return of the club into the Champions League, together with the new commencement of the Adidas partnership, provide a good outlook for the seasons to come.

Also, revenues are expected to grow considerably in result of the negotiation of both the UEFA Champions League and Premier League broadcasting rights, with the Management of Manchester United intending to keep pursuing the strategy to stabilize the club's debt level and increase financial flexibility.

In the seasons to come, revenues are expected to stabilize at circa £600 and Adjusted EBITDA at circa £200M, meaning a Net Debt / EBITDA ratio of circa 1.4x.

Hence, the author finds Manchester United's shares to be a great investment opportunity, an opinion shared by J. P. Morgan's Head of UK Small and Mid-Cap Research Team.

Price Performance (Excess Returns vs. Benchmark)



<u>Equity Research Rating:</u>

Undervalued

<u>Recommendation:</u>

BUY

<u>Target price:</u>

£13.5

<u>Company Information (30th June 2016):</u>

Equity Value: £1.946M

Net Debt & NOAL: £(252)M

Shares: 164M

Market Quote: 11.9£

52-week range: £10.6 – £13.7

<u>J. P. Morgan Valuation (30th June 2016):</u>

Target Price: £14.5

Recommendation: Buy

Outlook 2017:

- Revenue ~ £535M
- Adj. EBITDA ~ £175M

Abstract (English)

The purpose of this thesis is to issue a buy or sell recommendation for Manchester United's shares, as of 30^{th} June 2016. To do so, different valuation methodologies may be applied. The author decided to use Discounted Cash Flows and Multiples. The first, due to its flexibility to build different scenarios (in a case of a football club linked to sports performance) and because Manchester United is expected to sustain its D/E ratio. The second was useful to triangulate results.

Through DCF, and based on the weighted average of 3 scenarios, the author reached a target price of **13.5£** per share, meaning the firm is **undervalued** (Market Quote = 11.9£), and yielding a buy recommendation. With the Multiples approach, the target price attained amounted to **12.1£**, lower than with the first method. However, in the case of football clubs, a Multiples valuation is hard to perform due to the low number of public companies and the structural differences among countries. The average EV/ EBITDA multiple of 12x presents an incredibly high standard deviation. Hence, the author sustained the target price of **13.5£** per share.

The author also compared its valuation results with an Equity Research performed by J. P. Morgan. Using the same methodologies, their report also concluded that Manchester United's shares are undervalued, with a target price of **14.5£**. However, and unlike the author, their price was achieved by averaging 50%/50% the valuation results of the Multiples and the DCF approaches.

Sumário (Português)

A presente tese serve o propósito de emitir uma opinião de compra / venda às ações do Manchester United, à data de 30 de junho de 2016. Para o efeito, é possível aplicar diferentes metodologias. O autor optou por utilizar DCF e Múltiplos. A primeira metodologia permite construir diversos cenários (correlacionados com a performance desportiva) e medir o seu impacto na performance financeira do clube, podendo ser utilizada uma vez que o Manchester United pretende manter o seu rácio de alavancagem. A segunda foi realizada numa ótica de confirmação de resultados.

Através do DCF (e utilizando 3 cenários de avaliação) o preço-alvo por ação estimado foi de **13.5£**, significando que ao autor considera que ações do clube estão subvalorizadas (Preço Mercado = 11.9£), recomendando a sua compra. Através da avaliação por Múltiplos o preço obtido foi inferior (**12.1£)**. Não obstante, esta metodologia é pouco fiável de aplicar em clubes desportivos. Assim, a recomendação do autor mantém-se nos **13.5£** por ação.

Adicionalmente, o autor realizou uma comparação entre as suas conclusões e um relatório elaborado pela J. P. Morgan. Utilizando as mesmas metodologias, o relatório da J. P. Morgan partilha da mesma opinião, mas com um preço-alvo superior, i.e., **14.5£**. Contudo, e ao contrário do autor da presente tese, o preço-alvo é determinado pela média aritmética das duas metodologias.

Acknowledgments

Since I'm already working on the Corporate Finance practice, this thesis was a great opportunity to review and deepen my theoretical knowledge of firm valuation and blend it with the practical component that belongs to my every day routine.

I would like to start by expressing my gratitude towards Professor José Carlos Tudela Martins, for the availability to answer to all my questions arising during the preparation of this thesis.

Secondly, I wish to demonstrate my deepest appreciation to Man United's investor relations office and to Alexander Mees' team at J. P. Morgan, for the fast replies and information provided, which helped to improve significantly the quality of the report.

Additionally, I want to show the greatest appreciation to all my closest friends, for all the encouragement during the last couple of months, and to João Ribeiro and André Vilaça, for the technical help in different components of this report.

Finally, and most importantly, I would like to thank my parents for all the love, caring and financial support throughout the years.

On balance, this report would not have been completed without the support of all people stated above, to whom I hereby demonstrate my deepest gratitude.

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1. Introduction

An Equity Valuation consists of estimating a target price for a listed company.

In this case, the author chose Man United (listed on NYSE), as of 30th June 2016. The author suggests a Target Price of **13.5£** (vs. Market Quote = **11.9£**), meaning Man United shares are undervalued.

The structure of this thesis is comprised of a Literature Review, where the author presents the most widely accepted valuation methodologies; a brief presentation of the soccer industry and the history and outlook of the Club; and Valuation Chapters where the author explains why Discounted Cash Flows (FCFF) and Multiples are the most suitable approaches to value Man United.

To assess the fairness of the results obtained, the thesis includes a comparison with an Equity Research performed by J. P. Morgan, which also concludes Man United shares to be undervalued, suggesting a Target Price of **14.5£**.

Additionally, a VaR analysis will be performed to better understand the riskiness of the Target Price obtained.

2. Literature Review

Within the world of finance, there is a long lasting utopic search for the perfect valuation model. Nonetheless, those actions have proven innocuous, as different companies comprise distinct characteristics, demanding dissimilar approaches. Hence, the focus of both academics and professionals should be to develop valuation models that best adapt to each case.

In the next section the author presents the most widely accepted methodologies, used today in the world of finance.

2.1. The Multiples Valuation

Also known as Relative Valuation, a Multiples Valuation "is generated by multiplying a value driver (such as earnings) by a multiple which is based on the ratio of stock price to that value driver for a group of comparable firms", as Liu et al 2006 describes. As referred by Koller et al (2010) comparable firms are those which are expected to yield very similar cash flows in the future as well as equal drivers of value, i.e., growth and ROIC.

A Multiples Valuation is seen by many as a valuable instrument as it is easy to comprehend and explain. Its straightforwardness and simple computation allows for a fast assessment of a firm's value.

Nonetheless, Multiples offer some important drawbacks that can't be ignored. In the first place, comparable firms aren't easy to find, as prospects of growth and ROIC vary among them. Second, in the process of computing the analysis one should assume that comparable companies are fairly priced in the market, which isn't necessarily true. In the third place, it is common to observe a wide range of values within an industry multiple. Consequently, the question arises whether to position the firm in the low or the high end of the interval. Finally, despite this technique may provide some guidance towards understanding if a certain firm is over or underpriced within its industry, Multiples do not help determining if the whole industry is over or underpriced, as shown during the Tech Bubble on the late 1990s, as described by Berk et al (2007).

Due to these limitations, Multiples are generally used either/ both as a complement to a more thorough valuation technique, like intrinsic or profitability models, or as a preliminary value analysis. Additionally, Multiples are an accurate method to compute the Terminal Value of a DCF model, if some analyst judgment is incorporated in the process, as explained by Fernández (2013).

The first step towards an accurate Multiples Valuation starts with a careful selection of the firm's peer group. On the academic perspective, one should compute the peer group by using all firms in the industry. However, practitioners tend to focus on small peer groups which they perceive to be true competitors. As a matter of fact, Cooper et al (2008) found that "using ten closely comparable firms is as accurate on average as using the entire cross-section of firms in an industry." To reduce the peer group to a smaller number of firms several tools may be used, either more analytical or more theoretical. These techniques will be explained in the next section.

Past the selection of the peer group one critical question arises: which Multiples to use?

The answer is hardly consensual. Notwithstanding, empirical evidence stress that forward-looking Multiples better explain stock prices, as shown by Liu et al (2002). The underlying explanation, according to Koller et al (2010), is that unlike backward-looking multiples, these are consistent with the base principle of valuation, i.e., the value of a company is driven by its future cash flows. Moreover, in an article by Lui et al (2006) it has been shown that "valuations based on forward earnings Multiples are remarkably close to traded prices, and considerably more accurate than valuations based on cash flow Multiples." One of the most widely used earnings multiple is P/E. However, as described in Liu et al (2002), enterprise based Multiples yield more accurate results. The underlying reason is that P/E does not account for differences in the firms' capital structures neither excludes of the analysis non-operating gains and losses, while enterprise based Multiples do. Thus, Enterprise Value to EBITA is considered "the best multiple for comparing valuations across companies", as mentioned by Koller et al (2010).

Nevertheless, when computing EV/EBITA one should pay special attention to the EBITA figure. As Damodaran (2005) stresses, it is rather important to adjust standardized variables when comparing asset value. According to Koller et al (2010) the most common adjustments required to compute an accurate EBITA figure regard Operating Leases and Pension Expenses.

On balance, due to some technical limitations, Multiples are generally used to triangulate results and test the plausibility of Cash Flow forecasts, rather than as a stand-alone method.

2.1.1. The Peer Group

As mentioned before, on the one side academics defend that all firms within an industry are competitors. However, practitioners tend to use much smaller peer groups. To drill down and understand which firms, within an industry, are truly competitors, different approaches may be taken. Some support more theoretical techniques, others believe to be a highly subjective process.

For Man United the peer group selection will start with an analytical approach, explained in Chapter 8. After a preliminary list of peers is achieved, a cluster analysis, using the K-means algorithm, will be computed to determine whom Man United true peers are. A cluster analysis consists of grouping a set of objects into groups according to the value of certain variables. In the end, similar objects are grouped into clusters. The author considers as peer group the Companies comprised in Man United's cluster.

2.2. Intrinsic Valuation Methods

Intrinsic Valuation Methods assume that a company/ project's value is driven by its ability to generate value in the future, i.e., determined by its Future Cash Flows, growth potential and risk.

Free Cash Flow models primarily consist of the Discounted Cash Flow (DCF) and the Adjusted Present Value (APV), with DCF being a practitioners' favorite. Another well accepted Free Cash Flow valuation method is the Dividend Discount Model (DDM). Nonetheless, DDM is usually restricted to mature companies, with stable dividend distribution policies.

All these models use discount rates to compute the present value of Future Cash Flows. Nonetheless, while the Enterprise DCF approach uses the WACC (a blended cost of capital between equity holders, debt holders and others) the other two valuation models use the cost of equity (the expected return that potential equity holders demand to invest in the company/ project). The reasons for the use of different Discount Rate will be addressed in the current section while the intricate and decomposition will be discussed in section 2.4.

2.2.1. The Discounted Cash Flows Method (DCF)

The Discounted Cash Flow method (DCF) consists of forecasting future cash flows and discounted them at a rate that reflects their riskiness. This method allows to determine either if a company is overvalued/undervalued or if a project can provide certain levels of return demanded by investors. Since this work regards and equity valuation this chapter will focus on how to use DCF to determine the value of a company, which is expressed through the following formula:

$$\text{Enterprise Value} = \frac{\text{CF1}}{(1+i)^1} + \frac{\text{CF2}}{(1+i)^2} + \cdots + \frac{\text{TV}_\text{t}}{(i+i)^t}$$

As one may observe the model considers two different time frames, an explicit one and a Terminal Value. Cash Flows should be calculated in an explicit way until they reach high levels of stability. According to the best practices this shell occur in 5 to 10 years from the valuation starting point. The computation of the Terminal Value will be discussed in section 2.2.1.1.

Two methods are commonly accepted on how to value the claims of investors: The Enterprise and the Equity methods. On the one side, the Enterprise DCF values Operating Cash Flows against all investors claims, thereby determining the Equity value indirectly, i.e., by deducting Net Debt and adding Non-Operational Assets and Liabilities to the Enterprise Value. As so, it uses the Free Cash Flow to the Firm (FCFF) which is computed by adding NOPLAT, Amortizations and Depreciations and subtracting Capital Expenditures and Working Capital variations. On the other side, the Equity method values only the equity holders' claims against operating cash flows, i.e., values Equity directly. To do so, it uses the Free Cash Flow to the Equity (FCFE), which consists of cash flow from operations, minus capital expenditures, minus payments to debt holders. While the first uses the WACC to discount FCFF the second uses the cost of equity to discount FCFE since in the second method the claim of debtholders (interests) have already been deducted from cash flow from operations.

The relationship between the two methods is expressed in the following formula:

$$FCFE = FCFF - Interest * (1 - t) + Net\ debt\ variation$$

As mentioned by Koller et al (2010) "although both methods lead to identical results when applied correctly, the equity method is difficult to apply, since matching equity cash flows with the correct cost of equity is particularly challenging." Thus, practitioners recognize the Enterprise DCF as the primary model to apply.

However, WACC-based models are best suited only when a company sets a target D/V and is expected to maintain it. In other cases, such as of financial distressed companies undertaking major changes, particularly under a Leverage Buyout (LBO) structure, the APV is recommended. This method, discussed in section 2.2.2, allows to value cash flows associated with the capital structure independently, therefore being more agile than the DCF.

There is very little literature on how to value football clubs. A paper from Markham (2013) stresses that the main drawback on using DCF for football clubs relies on the fact that most football clubs present negative results for several years in a row. Nonetheless, it is not the case of Man United, and since it is expected to maintain its D/V target, the Enterprise DCF will be the method used to assess its value, together with the Multiples approach.

2.2.1.1. The Terminal Value

The Terminal Value consists of the value of the company beyond the explicit period, i.e., how much the company is worth after all components of Cash Flow are stable. Since this element represents a large piece of the pie which is firm's value, special care should be taken on the assumptions made, always guaranteeing they're realistic and in line with those of the explicit period. If so, this method allows estimating continuing value using formulas, rather than doing it explicitly and facing a higher probability of producing mistakes.

Overtime different methods have been proposed to compute Terminal Value, which can be classified in two sections: Cash Flow methods and Non-Cash Flow methods.

The Cash Flow approach, also known as the perpetuity growth model, assumes that after the explicit period the company will continue to operate at a constant pace, i.e., that it will grow at a yearly constant growth rate. The most common approach is to use the last year of the explicit period as the numerator of the perpetuity, expressed in the following formula:

$$\text{Continuing Value}_t = \frac{\text{NOPLAT}_{t+1}\left(1 - \frac{g}{\text{RONIC}}\right)}{\text{WACC} - g}$$

As so, it is of the outmost importance to guarantee that once the last year of projections is reached the company is already at a steady state rhythm. Additionally, it should be taken in consideration that the growth rate used should be smaller than the growth rate of the economy, otherwise the company would eventually take over all economic activity, which is quite unreasonable.

The Non-Cash Flow methods consist primarily of the Multiples approach, the Replacement Cost and the Liquidation Value.

The Multiples approach, similarly to Relative Valuation discussed in section 2.1, consists of multiplying a value driver (generally from the last year of projections where the Cash Flows are expected to be stable) by a certain market Multiple to determine the Terminal Value. The base principle is that today's Multiples consider future prospects of growth. The main drawback of this methodology is that prospects of growth in the explicit and non-explicit periods are likely to be different, and since Multiples consider both periods is difficult to assess the fairness of the results.

The Replacement Cost method states that one company's Terminal Value is equal to the cost of replacing its assets. Thus, this method should only be used in situations where all intangible assets are replaceable and no intangible assets exist on the balance sheet; otherwise it will understate the firm's value.

Unlike all other approaches, the Liquidation Value assumes that the company will cease to exist after the explicit period (applied to concessions or specific projects), i.e., all assets will be sold and liabilities paid. This method is rarely applied in the valuation of companies, unless there is a solid reason to consider that the company will be liquidated.

On balance, the Cash Flow approach is the most commonly used due to its flexibility and accordance to the drivers of value. Thus, it will be the method applied to Man United.

2.2.2. The Adjusted Present Value (APV)

As mentioned in section 2.2., the APV method arises as an alternative to DCF, by allowing to value companies with volatile debt structures. Additionally, since the model separates economic performance from capital structure, it provides managers with a meaningful sense on how capital structure is impacting the value of the company, as stated by Luehrman (1996).

As a first step of the model, the company is valued as if it had no debt. For this reason, and unlike WACC-based models, this method does not take in consideration debt in the Discount Rate, discounting the set of Cash Flows (equal in both methods) at the cost of equity.

Once the unlevered value is determined (V_U), the effects of debt in the capital structure are computed.

First, the present value of interest tax shields is added (VTS). Interest tax shields (ITS) exist in countries where the costs of finance (interests) can be incorporated as a cost in P&L, therefore reducing the amount of taxes profitable companies pay. If debt is expected to remain constant than VTS are computed using the formula below; otherwise there is the need for annual computation.

$$\mathrm{PVTS_t} = \frac{\mathrm{D} * \mathrm{r_d} * \mathrm{T}}{(1 + \mathrm{r_d})^{\mathrm{t}}}$$

If only these two components were taken in consideration than increasing debt infinitely would create infinite value. However, as debt rise so do the risks of the firm falling into bankruptcy. As so, a third and final component is incorporated in the model: Bankruptcy costs, which may be direct or indirect.

The first regard the costs with lawyers and other necessary consultants of such a process or even the devaluation of certain assets if they are to be sold in a "fire sale" event. Examples of indirect bankruptcy costs are such as the loss of business that occurs because potential customers do not wish to take the risk of using a company that may not be able to deliver its goods or services or the decrease in productivity of employees that occurs in this type of situations.

As one can imagine, the process of quantifying indirect costs is quite hard and for this reason DCF is still a practitioner's favorite. Nevertheless, APV comes handy in the case of volatile debt structures, being a viable alternative in those cases.

2.2.3. The Dividend Discount Model (DDM)

The Dividend Discount Model, also referred to as The Gordon Model, is a simple model stating that the intrinsic value of a share is the result of the present value of expected dividend payments plus the value of the stock when sold, as mentioned by Chaplinsky et al (1998). On a going concern basis the investor's cash flow stream is than restricted to expected dividends. Thus, Gordon Growth Model

(GGM) enounces that stock price is driven by the formula shown below, where DPS_1 is the expected dividend per share on year from now, k_e is the cost of equity and g is the dividend's growth rate in perpetuity.

$$\text{Value of Stock} = \frac{DPS_1}{k_e - g}$$

However, and per Damodaran (2012), assuming a constant dividend growth rate, usually based on historical data, is quite an unrealistic assumption. As so, other models have been tested overtime, where some flexibility is introduced in the payout ratios and growth rates. An example is the three-stage DDM which assumes an initial stage of high growth, a transactional period where growth declines and finally a stage of stable growth. Even though more realistic, it removes most of the simplicity and straightforwardness of the GGM, since several extra inputs are required.

Empirical evidence has proven DDM to be quite useful, particularly in the look for undervalued firms, especially those with low P/E ratios and high dividend yield stocks, as explained by Damodaran (2012). Notwithstanding, it is quite limited in its use. It is so because even if a company does not pay dividends that doesn't mean it has no intrinsic value. For instance, Apple has been seated in piles of cash for many years but it didn't pay any dividends to its shareholders from 1995 until 2012. Does that mean it didn't had any value over the course of 17 years? The answer is obviously no and shows one clear limitation of this model. Thus, DDM should only be used for large and stable companies, present in mature markets and with a somewhat predictable rate of dividends' growth.

2.3 Valuations Methods based on Profitability

As mentioned before DCF is a practitioners' favorite since relies exclusively on the cash flows of a company/ project. However, DCF is often criticized as single years' cash flows provide little insight regarding the performance of the company. Thus, Economic-profit-based models are often used as a complementary valuation method highlighting how and when a company creates value, as explained by Koller et al (2010). The most widely used is the Economic Value Added (EVA).

2.3.1. The Economic Value Added Model (EVA)

EVA determines a company/ project's ability to generate value each year through the difference between the return of firm's assets and the cost to make that investment available, i.e., it states that a company is only able to generate economic value if the return on invested capital (ROIC) exceeds its cost of capital.

The Market Value Added model consists on the sum of each year's EVA, allowing to determine firm's value. As expressed in the following formula, the firm's value of a company is equal to the book value of the invested capital plus the present value of each year's economic profit.

$$V_{firm} = IC_0 * \sum_{t=1}^{\infty} \frac{IC_{t-1} * (ROIC_t - WACC)}{(1+WACC)^t}$$

2.4. The Discount Rate

As mentioned earlier both intrinsic and profitability-based models discount Cash Flows or Economic Profit at a certain discount rate. Depending on the model chosen the rate used may either be the WACC or the cost of equity. How to compute each of them will be discussed in the next sections.

2.4.1. The WACC

The Weighted Average Cost of Capital (WACC) is a formula that blends both the opportunity costs of debtholders, equityholders, and others, when applicable.

Since DCF uses FCFF, the WACC and the DCF are tied together for decades.

$$\mathrm{WACC} = \frac{\mathrm{D}}{\mathrm{D+E+P}} * \mathrm{r_d} * (1-\mathrm{t}) + (\frac{\mathrm{P}}{\mathrm{D+E+P}} * \mathrm{r_p}) + \frac{\mathrm{E}}{\mathrm{D+E+P}} * \mathrm{r_e}$$

However, over the past years both the DCF and the WACC have been considered obsolete. The major critiques are that not all companies target their debt level (one of the assumptions of WACC) and that as more and more new and exotic instrument appear in the markets the less agile WACC is to value their impact in the firms' value. Nevertheless, they are still the most commonly used by practitioners' due to its straightforwardness. Additionally, the company under valuation on this report has no exotic debt instruments, which strengths the argument that WACC is the discount rate for valuation purposes.

2.4.2. The Cost of Equity

"The cost of equity is determined by three factors: the risk-free rate of return, the market-wide risk premium (the expected return of the market portfolio less the return of risk-free bonds), and a risk adjustment that reflects each company's riskiness relative to the average company.", as explained by Koller et al (2010).

The most widely used model is the CAPM (asset pricing model) which states that investors should be compensated both for the time value of money and for the riskiness of the company. The first is represented by the risk-free, while the second derives from the multiplication of a risk-premium equal for all companies and adjusted through the correlation of the company with the market.

$$CAPM = Rf + \beta * MRP + CRP$$

The Country Risk Premium was added to the formula, for the reasons explained ahead in section 2.4.2.4..

Additionally, even though new models have been proposed, such as the Fama-French three-factor or the Carhart four-factor models, which use more than one explanatory variable to determine the returns of the market, CAPM is still the biggest industry reference and the one used to compute Man United's Cost of Equity.

2.4.2.1. The Risk-free Rate

When figuring the risk-free rate of a project or company the most accurate approach would be to compute a portfolio that had no covariance with the market, i.e., a zero-beta CAPM. However, due to the implied complexity of the process, most practitioners resort to government bonds, which they perceive as a sufficiently good proxy. However, to do so, certain precautions must be held.

According to Fernández (2015), the use of historical average of government bonds to determine the risk-free rate is a very common mistake that should be avoided, as the yielded results do not reflect the riskiness of future issues, particularly, in periods where interest rates are exceptionally low or high. Instead, one should use forward-looking risk-free rates that match the maturity of each Cash Flow. This last suggestion, however, would go against the great advantage of the WACC, its straightforwardness.

The industry practice is to select one risk-free rate and use it to discount all Cash Flow, irrespective to Cash Flow maturity. Thus, it is of the outmost importance to derive the risk-free rate using as underlying one or more government bonds that better match the maturity of the entire set of Future Cash Flows. Therefore, short-term government bonds should never be used as they "fail to recognize that a bondholder can probably reinvest at higher rate when the short-term bond matures", as stressed by Koller et al (2010). Most practitioners resort to 10 year German bonds, if valuing a European company, or 10 year US government bonds, in the case of U.S. companies.

Additionally, to guarantee that inflation is modeled consistently, the currency of the risk-free rate and of the Cash Flows must be the same. Hence, in the case of Manchester United, the author will resort to a liquid 10 year UK government bond.

2.4.2.2. The Market Risk Premium

The Market Risk Premium, also known as the Equity Risk Premium, represents the difference between the expected return of a market portfolio and a risk-free benchmark (typically the one used for the computation of the risk-free rate). However, investigators find difficult to explain what causes this difference and so diverse approaches may be taken. For instances, Koller et al (2010) suggests 3 different models, being one of them a practitioners' favorite and the most widely used in the industry, which is the Historical Market Risk Premium, consisting, as the name suggests, of the historical average of the difference.

At this point, the discussion arises on which average to use. Damodaran (2005) points out that arithmetic average yields the best unbiased premium, however others suggest the geometric average should be used since the former may overstate the premium.

Additionally, is of the outmost importance that the market chosen to compute MRP truthfully reflects the operations of the company. Also, Koller et al (2010) suggests to compare the market returns over a long-term government bond and to use the longest period possible (excluding periods of crisis, which can adulterate the results). One should always keep in mind that WACC refers to the discount of Future Cash Flows and for this reason all components should consider future risk, instead of past risk. Since in the case of MRP that is very hard to compute, the method chosen must yield the best *proxy* possible.

Despite the drawbacks, Koller et al (2010) stresses that the different models yield similar results, i.e., market risk premiums between 4.5% and 5.5%. For 2016, which is the year of the present valuation, Damodaran suggest an MRP of 6.25%. On chapter 5, the author explains how Man United's MRP is calculated, and will take in consideration these values for comparison purposes.

2.4.2.3. The Beta

The Beta, within the CAPM model, represents the correlation between the market movements and the stock price fluctuations of the company. Nonetheless, estimating Beta is a complex process.

Damodaran (2005) suggests to use empirical estimation, by regressing the returns of the stock on the returns of the market portfolio, expressed by the following formula:

$$Ri = \alpha + \beta l * Rm$$

In this case, a market index will serve as proxy for the market portfolio. As so, one should pay attention to which market index to use and the period and length of data. A large period of data allows for more observations; however, it should be just if it still represents the firm's current characteristics. Monthly data yields better results than daily data, as it eliminates autocorrelation among observations. Koller et al (2010) suggests to use 5 years of monthly data of a liquid market index, also being the industry practice.

However, most practitioners, advise to improve Beta estimation by using industry comparable companies instead of an index, which they perceive to be more representative of the firm's market risk. To do so, one must start with the selection of a peer group. After the peer group is properly established (being the same as in the Multiples valuation), one should compute the average of the Unlevered Beta (which does not consider the finance structure of the companies) of the comparable companies, and then leveraging it using the industry average of the Debt/Equity Ratio and the Statutory Tax Rate, both representing the industry optimal capital structure and tax structure, respectively. The formula to compute the levered beta of the industry, considered in the CAPM computation, is as follows:

$$\beta l = \beta u * (1 + \frac{D}{E} * (1 - tc))$$

The author will compute Beta using industry comparable companies while resorting to Index correlation as a sanity check.

2.4.2.4. The Country Risk Premium

Even though the valuation of businesses in emerging markets follows the same principles as in any other context, it brings to the table supplementary concerns that must be addressed. According to Koller et al (2010), these issues primarily regard macroeconomic uncertainty, illiquid capital markets, barriers to the capital flow, less rigorous standards of accounting and high levels of political risk. Notwithstanding, little agreement exists on how to model them.

The two most common techniques used by practitioners are DCFs using probability-weighted scenarios or to include a country risk premium into the cost of capital. The first technique yields more robust results and a better understanding if value is being created. However, Damodaran (2013) considers that even with the first technique being used, the CRP on emerging markets should only be disregarded if the country risk premium is idiosyncratic and if one assumes that investors invest in global portfolios. Being hardly plausible to assume that all countries have low levels of correlation and that no home bias is present in portfolios, Damodaran (2013) believes equity risk premiums do vary across countries.

Since most of Man United's activity is held in the UK, there is no need to compensate emerging markets risk and so CRP will not be considered in the estimation of the Cost of Equity.

2.4.3. The Cost of Debt

The estimation of the pre-tax cost of debt of a certain company is dependent on the availability of information. If obtainable, the best proxy is the YTM of the company's debt, i.e., the promised rate of return assuming all coupons we'll be paid on time and the principal repaid in full. The YTM may be obtained using the last issued bond or, in case of multiple bonds available, through the weighted-average of the YTM of each bond and the amount issued. Ideally, the YTM should be computed using liquid, option-free, long-term debt, as explained by Koller et al (2010).

In the case of a company with no long-term publicly traded debt or, even if issued, highly illiquid, one should use an indirect method. After determining the company's credit rating, the YTM should be computed by averaging the yield of a portfolio of long-term bonds with an equal credit rating.

To obtain the after-tax cost of debt, used in the WACC, simply multiply the pre-tax cost of debt by 1 minus the marginal tax rate of the company.

2.5. The Option Theory

To correctly assess the value of a company/ project offering a high degree of future managerial flexibility, Koller et al (2010) recommends not to use traditional valuation methods, even in the case where multiple cash flow scenarios are used in a DCF approach. Fernández (2015) states that a "real option exists in an investment when there are future possibilities for action and when the solution of a current uncertainty is known". Obvious examples are the decisions of expanding or deferring investments in commodities such as oil and mining concessions, whether to expand to other geographies or consolidate current ones, bet on research and development of new products or increasing production of profitable ones, and so on.

Over the years two main approaches to option theory have been established: Real-Option Valuation (ROV) and Decision Tree Analysis (DTA). Despite ROV being theoretically superior to DTA, it is not the most appropriate method for all situations. ROV is best suited when Cash Flows are highly correlated to traded commodities, securities or currencies; i.e., when there is available information on non-diversifiable traded assets. It is so because it's the only method providing a clear approach on how to discount the project's contingent Cash Flows. Per Koller et al (2010), in situations where risk is diversifiable DTA is an appropriate and easier to use tool, allowing to discount the Cash Flows at the risk-free rate.

2.5.1. Real-Option Valuation (ROV)

The most common model to evaluate options of a single stock or commodity is the Black-Scholes model. A stock/ commodity option consists on the right to sell or buy a certain underlying asset at some point in the future. When determining the value of a stock option, this model incorporates the option's strike price and the time to the option's expiry as well as the constant price variation of the stock and the time value of money. It assumes however that the price of heavily traded assets follow a geometric Brownian motion with constant drift and volatility. As so, it is a quite accurate method but only applicable to highly liquid stocks with no "jump in asset prices", as stressed by Damodaran (2005). Additionally, as mentioned by Fernández (2015) other precautions must be held to use ROV. For instance, if real options are not replicable, i.e., if no equal portfolio exists in the market, "using financial option formulas, like the Black and Scholes formula, is completely inappropriate".

2.5.2. Decision Tree Analysis (DTA)

As mentioned before ROV is only applicable to a small range of cases. As so, DTA rose as an alternative approach.

The most widely used Decision Tree Analysis is the Binomial Option Pricing Model. This model assumes that at the end of each period there is only 2 possible outcomes. By weighting each outcome with a certain probability of success it is than possible to discount them at a risk-free rate (since the outcomes are known they face no risk) and value the option at stake. Despite of being a simplistic model it is quite accurate, particularly because it uses the same assumption of the Black-Scholes formula – "that option payoffs can be replicated exactly by constructing a portfolio out of a risk-free bond and the underlying stock", as stated by Berk et al (2007).

2.6. Sensitivity Analysis

The sensitivity analysis, within the scope of Corporate Finance and Financial Modeling, consists on attributing different values to key variables, to create valuation intervals. In the case of football clubs, this analysis is even more crucial, as its financial performance, in some areas, is in depth correlated with the sports performance of the club, over the past years. In section 6 of this thesis, the author will present which are the key variables considered to create 3 different scenarios of firm's value, dependent on expected sports performance.

2.7. Value at Risk (VaR)

The Value at Risk (VaR) is a tool that allows to understand the maximum level of risk that an asset is exposed to, given a certain confidence level. This tool is mainly used in financial institutions to measure the risk of portfolios and to adjust investment policies. Nonetheless, more and more practitioners resort to VaR to assess risk for non-financial companies.

There are several models to compute VaR, with each company adjusting it to its specific conditions. According to Manganelli (2001), one may compute VaR using a Monte Carlo Simulation, which is the technique that will be used in the case of Man United.

2.8. LR Conclusion

As mentioned throughout the literature review, several approaches and methods may be applied to valuate a company. Depending of firms' characteristics and capital structure, some methods are more suited than others.

Since Man United has no defined policies on dividends distribution and is expected to maintain its target Debt/Equity Ratio, methods such as DDM or the APV are not suited. Also, it would be very hard to compute a replicating portfolio for Man United's activity, and for this reason the author decided not to apply the ROV model.

As so, DCF will be used to valuate Man United, allowing to consider different scenarios (through sensitivity analysis of crucial variables). Sport clubs' value is in-depth dependent on expectations for future sports performance. As so, 3 different scenarios will be considered. Afterwards, a weighted average of the 3 scenarios will be computed, based on the expected probability of each. The explicit period will endure for 4 years (enough to compute sports performance for each scenario), while the terminal value will be the average of the explicit period cash-flows or a growth percentage applied to the last year of the explicit period, in each scenario.

Additionally, a Multiples valuation, based on Enterprise value, will be computed to cross-check DCF results.

In the end, the author will compare its own results with an Equity Valuation performed by J. P. Morgan (also valuates Man United using DCF and Multiples), and compute the VaR for the company, to better understand the risk of the price target achieved.

3. Industry Analysis

Football was first developed and codified in the XIX century, in England. However, was only turned into and industry in the beginning of the 20th century, with the inception of FIFA (Fédération Internationale de Football Association), in 1904.

Since then the industry has been subject of exponential growth, particularly over the past decade, mainly related with the expansion to Asian and North American markets, which only recently started to pay attention to the sport.

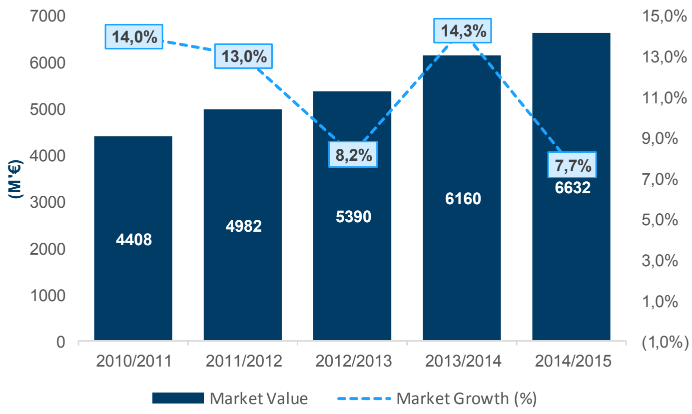

Figure 1 – Accumulated Revenue of the Top 20 Clubs in the World, Source: Deloitte

Like in every other billion-dollar industry, the political environment has grown stronger as structures turn more complex and oversee became necessary. Nowadays, professional football may be split in 3 categories:

i) **National Teams Competitions:** managed by FIFA, which is responsible for the organization of the most important international tournaments. Even though FIFA does not determine the rules of the game, it is the most important government body, as it holds 50% of the voting powers at IFAB (International Football Association Board), whom is responsible to decide the Amendments to the Laws of football. However, since Manchester United is a club and not a Nation, the industry analysis will be focused on the next two categories.

ii) **International Clubs' Competitions:** FIFA has created 6 confederations / associations to supervise and control football competitions between the elite clubs of each region in the globe. Manchester United is incorporated in the UEFA jurisdiction, and for that reason it has the possibility to participate in the most important football competition: UEFA Champions League.

Figure 2 – FIFA Confederations, Source: FIFA website

Nowadays, the UEFA elite competition represents a market worth more than 2 billion Euros. For the clubs, and from 2015 onwards, it represents over 1.2 billion Euros in prizes, split between 724 million Euros in performance prizes and 483 million Euros in the broadcasting market pool. The winner of this competition is awarded with a 100 million Euros total prize. For this reason, the different valuation scenarios of Man United considered in this report present different possible outcomes in the Champions League.

iii) National Clubs' Competitions: each country has its own national competitions, generally split by categories, due to the immensity of clubs nationwide. Manchester United participates in the Premier League of UK Football, the most valuable national competition in the world, which is also worth several billion Euros per year. In this competition, clubs earn their share based on 3 components: i) Merit money, based in the position clubs finished in the previous season ii) Equal TV Rights, £55 million are distributed equally to each club; and iii) Facility fee, distributed according to the number of games each club has broadcasted on TV.

However, top clubs' earnings are generated by more than just broadcasting rights, prizes and Matchday revenues (particularly in the Premiere League where stadiums are always full).

Top clubs are nowadays empowered brands, living out of their commercial rights such as sponsorships and merchandise. According to KPMG, the overall commercial revenue of all clubs present on the Top 5 national leagues (UK, Germany, France, Spain and Italy), in 2015, accounted for over 5.3 billion Euros, meaning this caption has grown 45% since 2010.

Additionally, clubs have also been increasingly active in social networks, helping them to create awareness to the sport worldwide. According to Deloitte, the Top 20 clubs in the world have now more than 500 million likes on Facebook and over 150 million twitter and Instagram followers combined.

On balance, the football industry has been growing and is expected to keep on this track, mainly because of its export to new and very passionate markets (Asia and North America) and due to its ability to stay interesting and innovative. As for Man United, presented in detail in the next section, is fortunate to participate in the two most important and lucrative club competitions: UEFA Champions League and the Premier League.

4. Company Presentation

Manchester United is a professional football club based in Old Trafford, Great Manchester (UK). The club's inception took place in 1878, first named as Newton Heath LYR and then changed to Manchester United, in 1902.

The track record of the club is impressive. The club has won 20 Premier League titles (record), 12 FA Cups, 4 League Cups and 21 FA Community Shields, together holding more titles than any other club in top-performance English football.

Internationally, has attained 3 Champions League titles, 1 UEFA Cup and other relevant titles. Hence, it is no wonder, especially with the internationalization of football to Asia and North America, that Manchester United is one of the most followed and beloved football clubs on earth.

Other clubs hold several activities besides sports, such as insurance, events and others. It is not the case of Manchester United. Its activity is exclusively focused on football, with turnover arising from Broadcasting Rights, Merchandise & Sponsorships and Matchday revenue.

Manchester United was re-listed in the NYSE on August 2012, as part of a strategy to lower the club's leverage level.

4.1. Historical Financial Performance

Per the Management of Man United, the strategy addressed for the development of the club in the past couple of years has been focusing on brand awareness, to leverage the global phenomenon of football.

To do so, and due to the drawback of below average sports performance, the strategy has been achieved through the acquisition of expensive players, i.e., high Capex. The strategy has yielded good results, shown by the growth in Commercial revenues, particularly with the highly profitable agreement signed with Adidas on August 2015. The increase in revenue and Adjusted EBITDA margin (which only considers recurrent and operational costs, i.e., employee expenses, external suppliers' services and operating lease costs) has also allowed to reduce debt levels and allow for higher financial flexibility.

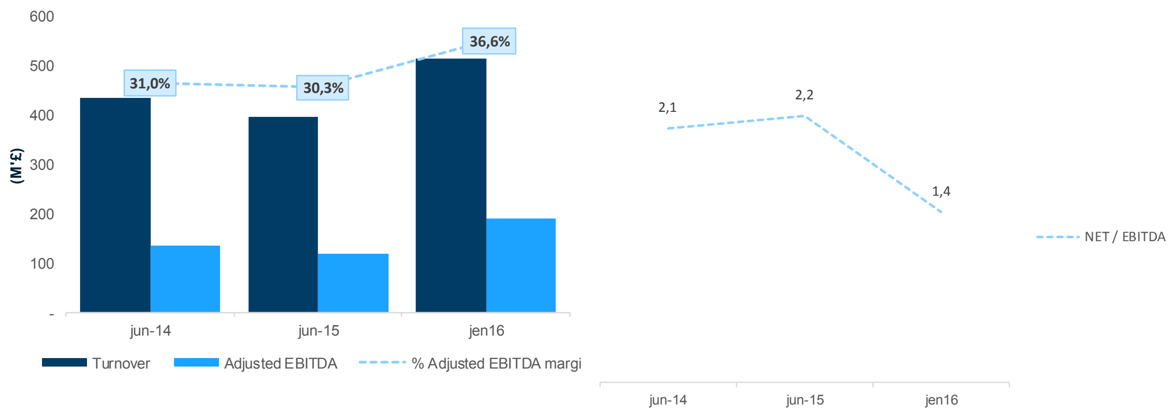

Figure 3 – Man United historical financial performance, Source: Author's analysis

4.2. What the future holds for Manchester United

As mentioned before, the football industry has grown exponentially over the past decades, particularly after high-quality television expanded worldwide. The top clubs at that time are the ones that have being benefited the most of this phenomenon, as people got attached to them at the time of choosing their "favorite international club".

Every year, Deloitte issues one edition of Football Money League, the most respected report about the economics of football. On the report one may find how the top 20 clubs of last season have performed financially and what to expect next season.

The Football Money League key outlook for 2016/2017 is that "Real Madrid complete an eleventh year at the top of the Money League but we expect this to be the last in that sequence as Manchester United look set to be top of the table next year". This conclusion is based on "the return of Manchester United to Champions League football in 2015/16, despite having suffered a disappointing exit from the group stage, plus the commencement of the Adidas partnership, that should help United to top next year's Money League."

Moreover, one should never forget that football is all about passion. For this reason, and despite the underperformance of the club in the past 3 years, the investment in well-known and quite popular players has increased and is expected to continue, at approximately £130M per year, way above the market average. The Management of Man United perceives this strategy as the best to keep worldwide interest in Man United.

However, the activity of Manchester United also holds some risks that must be addressed. On the one side, risks related with the performance on the pitch, such as failure to qualify for UEFA champions league in the next seasons, sustained underperformance in the Premier League or injury of key players. On the other side, the loss of key commercial agreements or the failure to sign new ones.

Apparently, and as one may observe in the valuation sections of this report, the market investors perceive those risks to be higher than both the author and J. P. Morgan, since both target prices surpass Man United's current market value.

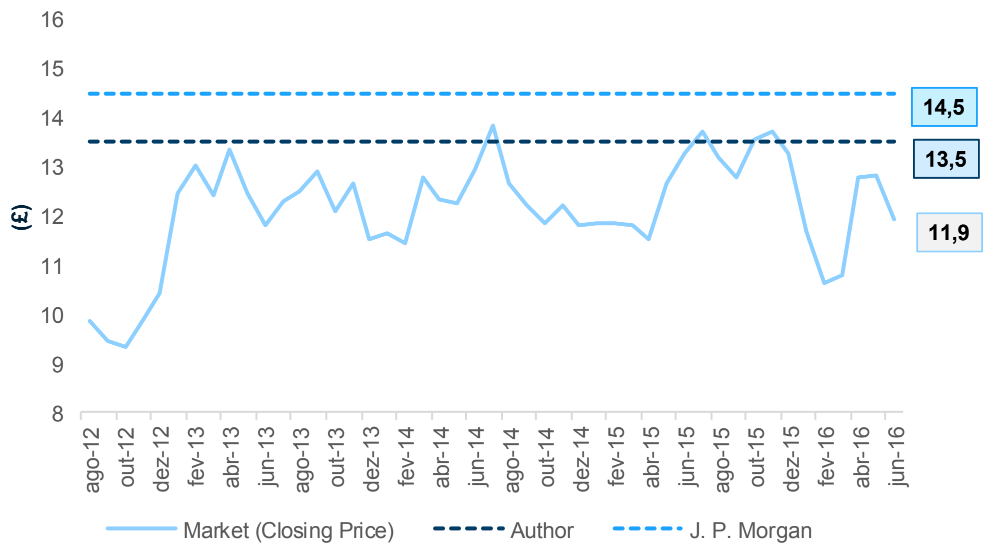

Figure 4 – Man United stock price evolution vs. Target Prices, Source: Author's analysis

5. Weighted Average Cost of Capital

In this section the author presents the methodology used to compute the WACC, which will later be used to discount Future Cash Flows in the DCF model.

As mentioned before, the WACC blends the cost of capital and the cost of debt (and others, when applicable). The variables that compose WACC will be explained in the next sections. However, another important issue is how to determine which blend of debt and equity to use in the WACC.

The weight of each component should represent the market optimal capital structure and not the firms' specific conditions. When valuing a company, one investor should be penalized or compensated for past Management decisions regarding capital structure. Man United's D/E target ratio was computed using the average of its comparable companies, yielding 25.56%, which is quite reasonable for the biggest clubs.

Weighted Average Cost of Capital (WACC)	
Cost of Equity (Ke)	
Risk Free Rate (Rf)	0,87%
Market Risk Premium (MRP)	4,15%
Re-levered Beta	0,85
Unlevered Beta	0,71
Cost of Equity (Ke)	**4,4%**
Cost of Debt (Kd)	
Cost of Debt (Before Tax)	5,3%
Tax Rate	20,0%
Cost of Debt (Kd)	**4,3%**
Market Optimal Capital Structure	
Equity: E/(D+E)	79,6%
Debt: D/(D+E)	20,4%
D/E	25,56%
WACC	**4,4%**

Table 1 – Composition of the WACC

5. 1 The Cost of Equity (Ke)

To compute the Cost of Equity the author resorted to CAPM, with each component explained in detail in the following sections.

5.1.1. The Risk-free rate

In order to thoroughly determine the risk-free rate, the most accurate approach would be to compute a portfolio that had no covariance with the market, i.e., a zero-beta CAPM. However, due to the implied complexity of the process, most practitioners resort to government bonds.

If possible, one should match the maturity of each Cash Flow with the maturity of the risk-free rate used. Nonetheless, the most common method is to derive the risk-free rate from one or several government bonds that better match the maturity of the entire set of Cash Flows estimated for the company.

Thus, for Man United, the author will use the implied YTM of 10-year liber-denominated UK Index (GUKG10 Index). As of 30th June 2016, yields to 0.87%.

5.1.2. Market Risk Premium (MRP)

As mentioned earlier in the literature review, despite the inexistence of consensus regarding a single method to determine the market risk premium, several approaches have been presented overtime, converging to similar results. The most widely used method consists in averaging the annualized excess returns of the market over a long-term risk-free rate, generally 10-year government bonds.

Since the excess returns of the market will later be used in computing Beta, the frequency and length of data will be the same. For this reason, monthly data from August 2012 until June 2016 will be used. Most practitioners use 5 years of monthly data, however Man United only issued its IPO on August 2012.

Also, one should select a well-diversified and liquid index to serve as a market proxy for the company. The Morgan Stanley Capital International Europe (MSCI Europe) is composed of large and mid-cap companies of 15 European countries. As for the risk-free rate, it will be the same used to compute the cost of equity.

This method yielded a MRP of 4.15%, which the author perceives to be quite reasonable when comparing to the interval mentioned in the literature review.

5.1.3. The Beta

As mentioned in the literature review, one should start to compute the Beta by regressing the stock returns against a well-weighted and liquid market index. In the case of Man United the author chose the MSCI Europe, for the reasons stated before. By regressing the historical returns of Man United, between August 2012 and June 2016, with the excess returns of the market, i.e., it yielded a Beta of 0.58.

Nonetheless, and as explained in the literature review, a more accurate method is used by most practitioners, consisting of leveraging to the firm's capital structure, the unlevered beta of the peer group (also using monthly data from August 2012 until June 2016), by using formula stated in the Literature Review.

As for Man United, this method yielded a levered beta of 0.85, higher than the previous method, which is explained by the fact that football clubs tend to have more debt in their optimal capital structure, when compared to other industry that compose the MSCI Europe Index. Hence, we conclude that 0.85 is the Beta that truly translates the correlation between Man United and the Market.

Also, is interesting to notice that D/E vary immensely among clubs, with English clubs being less leveraged when compared to its peers. Man United's D/E ratio is around half of the industry average (12.5% vs. 25%), being part of the club's financial strategy to provide more financial flexibility.

Multiples Valuation

Name	Country	Market Cap. (M'£)	Market Beta (08/2012-06/2016)	Tx Rate	Debt/Equity LF	Unlevered Beta
Juventus	IT	307	0,55	31%	43,5%	0,85
Arsenal	GB	1.145	0,42	20%	0,0%	0,42
Borussia Dortmund	GE	455	0,13	30%	7,0%	0,18
Galatasaray	TU	285	0,70	20%	52,3%	1,12
Fenerbahce	TU	316	0,76	20%	25,0%	0,96
Average Multiple					**25,6%**	**0,71**

Table 2 – Industry Beta (Comparables)

5.2. The Cost of Debt (Kd)

As mentioned earlier, the best proxy for the cost of debt is the YTM of the company's debt, i.e., the promised rate of return assuming all coupons we'll be paid on time and the principal repaid in full, ideally, of liquid, option-free, long-term bond.

Man United issued on 26/06/2015 (4 days prior to the date of this valuation report) a 9-year maturity bond, which as of 30th of June 2016 holds a YTM of 5.34%, which will be used as the pre-tax cost of debt.

6. Valuation Overview

As stated in the Literature Review, Man United will be valued under two different methodologies: DCF and Multiples. Section 6 of this report presents the main assumptions and inputs used to compute the first method.

6.1. Scenarios

The economic performance of a sports club is intrinsically correlated with the results on the field. In the case of Man United, particularly in the short term, the impact of sports performance in the profitability of the club is not immense, since its financial capability is assured by its historical reputation and brand awareness, guaranteed by contracts with sponsors and merchandisers. Nonetheless, if in the long-run Manchester United is not capable to go back to the big stages of European football, its money-making capability stays at risk.To transpose this knowledge into numbers, the author prepared 3 scenarios, which serve as a proxy to different possible performances of Man United, both in the Premier League and in the Champions League, in the upcoming seasons.

Scenarios								
	2016-2017		2017-2018		2018-2019		2019-2020	
	PL	CL	PL	CL	PL	CL	PL	CL
A	3rd	R16	1st	R16	3rd	SF	3rd	R16
B	3rd	R16	1st	R16	3rd	Wiinner	1st	R16
C	3rd	R16	3rd	R16	3rd	R16	3rd	R16

Table 3 –Scenarios for sports performance (per season)

Where, R16 means the round of 16 and SF the Semi-finals.

Based on historical figures, UEFA prize and Tv pools distribution policies updated for the coming years and the new policy on the Premier League TV Pool distribution prizes, the impact of such scenarios is as follows:

Scenarios						
(M'£)		jun-17	jun-18	jun-19	jun-20	TV
A	Broadcasting - UEFA Competitions	20,0	20,0	30,0	20,0	22,5
A	Broadcasting - FAPL	120,0	140,0	120,0	120,0	125,0
A	UEFA prizes	23,5	36,5	23,5	23,5	26,8
A	Season Tickets, Matchday Tickets & Others	100,0	120,0	100,0	100,0	105,0
B	Broadcasting - UEFA Competitions	20,0	20,0	50,0	20,0	27,5
B	Broadcasting - FAPL	120,0	140,0	120,0	140,0	130,0
B	UEFA prizes	23,5	51,5	23,5	23,5	30,5
B	Season Tickets, Matchday Tickets & Others	100,0	130,0	100,0	100,0	107,5
C	Broadcasting - UEFA Competitions	20,0	20,0	20,0	20,0	20,0
C	Broadcasting - FAPL	120,0	120,0	120,0	120,0	120,0
C	UEFA prizes	23,5	23,5	23,5	23,5	23,5
C	Season Tickets, Matchday Tickets & Others	100,0	100,0	100,0	100,0	100,0

Table 4 –Scenarios for sports performance (per season), in numbers

The scenarios will contribute with different weights to the final valuation, as explained ahead in section 7.

6.2. Turnover

Turnover projections are perhaps the most important estimation in an Equity Valuation, as many variable components of the Valuation evolve in accordance with the turnover. Hence, a more thorough analysis has to be made to this caption.

Man United turnover comprises Commercial, Broadcasting and Matchday activities.

Revenue growth, by caption (£'M)

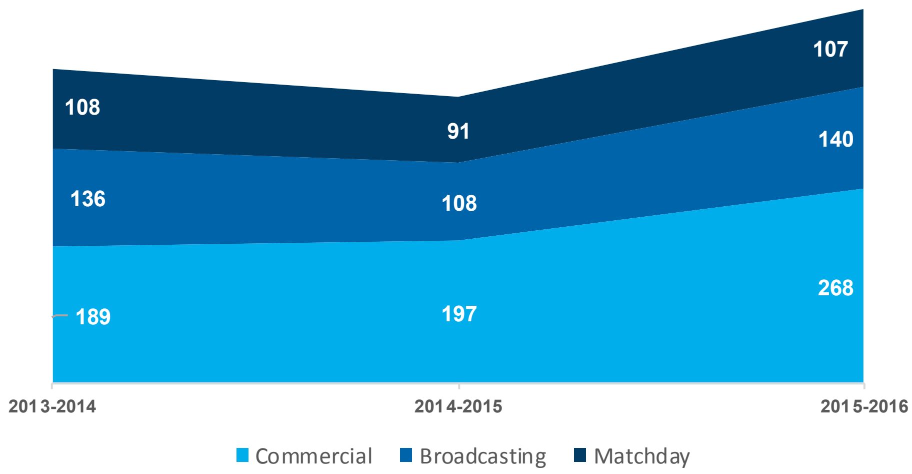

Figure 5 – Man United's turnover's historical growth per business segment

Turnover	Historical		
(M'£)	jun-14	jun-15	jun-16
Commercial	189	197	268
% growth	n/a	4,1%	36,2%
Sponsorships		155	160
% growth		n/a	3,4%
Retail & Merchandise		32	97
% growth		n/a	207,9%
Mobile & Content		10	11
% growth		n/a	4,8%
Broadcasting	136	108	140
% growth	n/a	(20,7%)	30,4%
Broadcasting - FAPL		108	100
% growth		n/a	(7,1%)
Broadcasting - UEFA Competitions		-	40
% growth		n/a	n/a
Matchday	108	91	107
% growth	n/a	(16,2%)	17,7%
UEFA prizes		-	17
% growth		n/a	n/a
Season Tickets, Matchday Tickets & Others		91	90
% growth		n/a	(0,6%)
Turnover	**433**	**395**	**515**
% growth	n/a	(8,7%)	30,4%

Table 5 – Man United's turnover historical growth (detailed)

6.2.1. Commercial

"Commercial revenue comprises revenue receivable from the exploitation of the Manchester United brand through sponsorship and other commercial agreements, including minimum guaranteed revenue, and fees for the Manchester United first team undertaking tours." The Commercial area is divided in 3 major segments: Sponsorship, Retail & Merchandise and Mobile & Content.

Sponsorship

The number and value of regional and global sponsorships has been increasing, having signed 14 new sponsorship deals in 2015/2016.The most important sponsorship deal, with General Motors, was renewed in the 2014/2015 season, with more advantageous conditions. As so, Man United expects this turnover line to grow at a steady pace, now that that have renewed their most important sponsorship.

Retail & Merchandise

The Retail and Merchandise activity has suffered a major twist in July 2015, as Man United swapped Nike for Adidas (as the Nike contract expired), having guaranteed in this new contract a minimum amount of revenues of £75M/year, which is already reflected in the last fiscal year (FY15/16), and explains most of the turnover increase in the Commercial caption.

Additionally, in this last season, Man United has brought the management of the most important store in-house and signed new deals with Sbenu, New Era and Columbia.

This summer Man United has signed several star players such as Pogba, Ibrahimovic and Mkhitaryan. Hence, the Management expects retail and merchandise turnover to have a strong grow in the next couple of years.

Mobile & Content

Year-on-year the revenue regarding Mobile and growth has been very steady, with the management finding hard to growth this segment. Additionally, this revenue is based on signed partnerships, with secured expectation on its renewal, so it is not expected to decrease any time soon.

6.2.2. Broadcasting

"Broadcasting revenue represents revenue receivable from all UK and overseas broadcasting contracts, including contracts negotiated centrally by the FA Premier League and UEFA."

For the period of 2017-2019, FA has announced that Domestic Premier League rights were renegotiated, and will suffer an increase of 70%. For the period of 2016-2018, UEFA has announced that Champions League broadcasting rights were renegotiated and increased in 25%.

Both factors mean the broadcasting revenue of Man United will increase severally, depending on their Premier League and Champions League performance (contemplated in the Scenarios). However, the increase will be gradual over the years.

6.2.3. Matchday

"Matchday revenue includes revenue receivable from all domestic and European match day activities from Manchester United games at Old Trafford and fees for arranging other events at the Old Trafford stadium."

Match day turnover has been kept steady over the years. Man United has an extended waiting list for new members to join the club, meaning all seasons tickets and home games are always sold out. For the grow of this turnover caption the only variable component are European matches, which will be estimated according to each scenario.

6.3. Operational Expenses

The Operational Expenses of Manchester United regard to Employee Expenses, External Services and Supplies, Fixed Costs and Depreciation / Amortizations (explained ahead in Capital Expenditures).

6.3.1. Employees Expenses

As for the last couple of years, Man United employees' expenses range from 45% to 51% of the club's turnover. According to Vice Chairman Ed Woodward "The strong financial performance has enabled us to invest in our squad, team management and facilities to position us to challenge for, and win, trophies in the coming years". This statement translated, among other things, in the acquisition of expensive players in previous seasons. Naturally, expensive players have higher wages, and since this policy is expected to continue, the wages in percentage of turnover are expected to be somewhere in that interval.

Since this caption has such strong impact on the valuation of the company, and together with the investment in players' registrations (explained ahead), will be subject of Sensitivity Analysis scenarios.

6.3.2. External Services and Supplies

ESS refer primarily to match day and training costs. Historically, this caption ranges from 17% to 19% of the club's turnover. Man United Management does not expect savings in the next couple of years, so the author assume ESS will keep stable and evolve at historical pace with turnover.

6.3.3. Fixed Costs

Fixed Costs include Auditor's Remunerations, Operating Lease Costs and Non-Recurring Items, and have little weight in the overall cost structure of the club.

Non-Recurring items were not considered in the Adjusted EBITDA.

6.4. Capital Expenditures (Capex)

Capex	**Historical**		
(M'£)	**jun-14**	**jun-15**	**jun-16**
Players' registrations	205	239	244
Amortization	(55)	(100)	(108)
% amort rate		74,4%	95,4%
CapEx	n/a	(134)	(113)
% turnover		33,9%	21,9%
PPE	255	251	246
Depreciation	(9)	(10)	(10)
CapEx	n/a	(6)	(5)
% turnover		2,6%	2,0%
Fixed Assets	**459**	**490**	**490**
Total CapEx		(140,1)	(118,4)

Table 6 – Man United's historical Capex

6.4.1. Property, Plant and Equipment

As for Man United, PPE mainly comprises the Old Trafford Stadium and the Aon Training Complex. According to the Management, there is no expectation of major renewals of both infrastructures in the near future. For this reason, it is reasonable to assume that the long-term investment will not be higher than the depreciation rate used.

PPE is depreciated at an average rate of 4%, mainly because both the stadium and the training ground possess low deprecation rates.

6.4.2. Players' registrations

As mentioned before, and quoted by Vice Chairman Ed Woodward, Man United is investing heavily and will continue to do it, in order to become once again a Top line team in the Champions League. For this reason, the author considered that the current high levels of Capex - around 22% of turnover - will hold in the coming years.

Players' are registered at acquisition cost, which is amortized according to the length of the contract.

6.5. Net Working Capital

Net Working Capital	Historical		
(M'£)	jun-14	jun-15	jun-16
Trade and Other Receivables (Operational)	104	81	119
DSO Current Op.	73	62	70
Inventories	-	-	1
% turnover	0,0%	0,0%	0,2%
Current Tax Receivable	-	0	-
% turnover	0,0%	0,0%	0,0%
Working Capital (Assets)	**104**	**81**	**120**
Trade and Other Payables (Operational)	(63)	(85)	(125)
DPO Current Op.	65	94	116
Current Tax Liabilities	(3)	(2)	(7)
% variable costs of Operating Expenses	1,0%	0,8%	2,1%
Deferred Revenue	(181)	(187)	(189)
% commcercial turnover	95,5%	94,8%	70,4%
Working Capital (Liabilities)	**(247)**	**(273)**	**(320)**
Net Working Capital	**(143)**	**(193)**	**(201)**
Investment/(Divestment) in Working Capital	n/a	49,8	8,3

Table 7 – Man United's historical Net Working Capital

6.5.1. Working Capital - Assets

Man United Working Capital Needs are comprised of Trade and Other Receivables and Inventories.

All trade receivables ageing over 1 year were reclassified to Non-Operational Assets as they can't be considered as Operational. Historically, the Days of Sales Outstanding (DSO) at Man United are quite stable within the 60 and 70 days' interval.

Since August 2015, Man United brought the management of the most important merchandise store in-house. For that reason, they have started to manage inventory, which the Management perceives to be accounted at fair value, since all purchase are quite recent.

6.5.2. Working Capital - Liabilities

Man United Working Capital Sources mainly regard Trade and Other Payables, Current Tax Liabilities and Deferred Revenue.

Man United has increased its average operational DPO, mainly because it has been acquiring more expensive players and granted with larger paying periods, which are expected to stabilize, already reflecting this policy, which is expected to continue.

Current Tax Liabilities are primarily generated by staff wages contributions and advanced payment of corporate taxes, having very low impact on the overall Balance Sheet of Man United.

Deferred Revenue mainly regards the anticipated recognition of Commercial Revenue, such as Chevrolet and the Retail and Merchandise contracts. In 2016, it has diminished in percentage of Commercial turnover (from ~95% to ~70%), because Man United only recognizes the guaranteed minimum level of turnover assured in the Adidas Contracts, which was much lower in 2015, than the actual turnover, unlike in the previous years with the Nike contract. In the future, the Management expects the Adidas contracts to keep generating similar amounts of revenues, especially with the hiring of such expensive players like Ibrahimovic and Pobga.

6.6. Net Debt

Man United's Net Debt comprises Cash, Borrowings and financial derivatives.

Net Debt	Historical		
(M'£)	jun-14	jun-15	jun-16
Cash and Cash Equivelants	**66**	**156**	**229**
Derivatives financial instruments (Net)	**(2)**	**(6)**	**(2)**
Derivatives (Assets)	-	0	12
Derivatives (Liabilities)	(2)	(6)	(13)
Borrowings	**(342)**	**(411)**	**(490)**
Long-Term	(327)	(410)	(485)
Short-Term	(15)	(0)	(6)
Net Debt	**(278)**	**(261)**	**(263)**

Table 8 – Man United's historical Net Debt

As of the date of this valuation (30th June 2016), the Net Debt amounts to £(263k).

6.7. Non-Operational Assets and Liabilities

Man United's NOAP consists of deferred taxes, long term payables and receivables and an Investment Property.

Non-Operational Assets and Liabilities	Historical		
(M'£)	jun-14	jun-15	jun-16
Assets			
Trade receivables of players' sales (>1year)	21	3	10
Other Trade Receivables (Long-Term)	101	120	142
Investment Property	14	14	13
Non-Operational Assets	**135**	**137**	**166**
Liabilities			
Trade paybles of players' registration (>1year)	(39)	(47)	(75)
Deferred Revenue (Long-Term)	(16)	(22)	(39)
Other Trade Payables (Long-Term)	(42)	(48)	(41)
Non-Operational Liabilities	**(97)**	**(116)**	**(155)**
Non-Operational Assets and Liabilities	**38**	**20**	**10**

Table 9 – Man United's historical NOAL

Long-term payables and receivables were reclassified by the author due to their maturity, which is perceived as no longer being operational.

The Investment Property refers to Manchester International Freight Terminal, at RoadTrafford Park. It is considered by the Management as not necessary for the current activity of the club. In 2015 was subject to an independent RICS valuation, and was considered as being registered at fair value.

7. Discounted Cash Flow

As mentioned before, the author chose DFC rather than other methods to evaluate Man United, based on the expectation of stable capital structure, which is aligned with the Management beliefs and historical conditions.

DCF might be built either on FCFF or FCFE, which in the end should yield similar results. Nonetheless, and based on the stated assumption of stable capital structure, the author perceived no added value in using FCFE.

The formula of FCFF is as follows:

$$FCFF = NOPLAT + Depreciation - \Delta NWC - CAPEX$$

In the end, the valuation of a company's equity is given by the sum of all Cash Flows, both in the explicit period and the terminal value, added up to Net Debt and Non-Operational Assets and Liabilities.

7.1. Scenarios

Naturally, sports clubs' financial performance is intrinsically correlated with theirs sports performance. Even though one cannot predict future performances it is possible to create scenarios to serve as proxies to represent such expectations.

As mentioned before, 3 scenarios were considered, which are aligned with historical performance and the Management expectations and beliefs.

In order to compute a final DCF valuation (which will later be subject to Sensitivity Analysis), weights were attributed to each scenario, based on what happened to the club in the past 10 years.

Weighted Average of 3 scenarios		
A	B	C
60,0%	30,0%	10,0%

Table 10 – Scenarios' weight

7.2. The Explicit Period

Based on the formula stated above, the author computed the FCFF explicitly for the next 4 seasons (from jun-17 until jun-20), in all 3 scenarios, as shown in detail on Annex 8.

The FCFF evolution on the 3 scenarios is as follows:

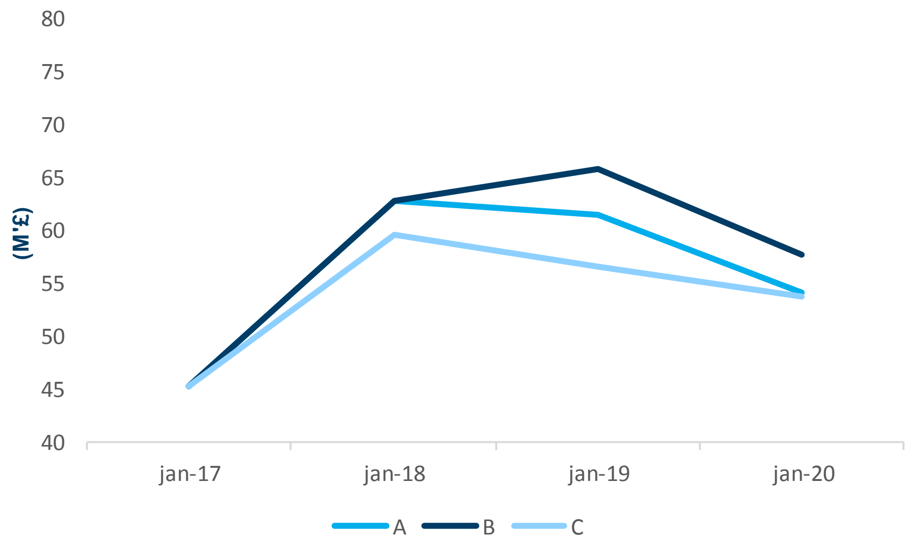

Figure 6 – FCFF evolution (explicit period)

7.3. The Terminal Value

The Terminal Value, as explained in the Literature Review, can be calculated in different ways.

As for Man United, since there are no expectations that the club will cease its activity, the most commonly accepted formula will be used:

$$\text{Continuing Value}_t = \frac{\text{NOPLAT}_{t+1}\left(1 - \frac{g}{\text{RONIC}}\right)}{\text{WACC} - g}$$

To do so, it is necessary that the FCFF of the Explicit period are already at “cruising-speed”, which is the case of Man United.

It is of the outmost importance that the long-term growth rate chosen accurately assesses the growth potential of the firm, without exceeding the growth limitations of the market where it operates. It is very unlikely for a company to grow more in the long-term than the country of the market where it operates, since its turnover comes from those consumers.

The growth rate must be aligned with the growth expectations for the UK, since most Man United’s turnover comes from that same region.

In the following table, the author presents the estimations for GDP growth. The rate of the last available year was the one chosen for g.

Inflation @ UK (by IMF)			
2017	2018	2019	2020
2,5%	2,6%	2,0%	2,0%

Table 11 – UK Inflation (IMF)

According to the industry best practices and to guarantee the company’s operations run smoothly in perpetuity, the author applied the following methods:

- CapEx was considered to be (Dep. + Amort)*(1+g)
- NCW = WC_{2020}*(1+g)

Additionally, turnover for Terminal Value in each scenario was computed by applying the growth rate to the average of all the years in the explicit period, predicting sports performance like in cyclical companies.

7.4. Man United’s Value

As of the date of this valuation the market quoted Man United’s shares at 12.9£, which leads to the conclusion that Man United’s shares are slightly undervalued.

Equity Valuation @ 30 June 2016				
(£'€)	A	B	C	W.A.
Explicit Period	224	232	215	225
Terminal Value	2.255	2.263	2.032	2.235
Enterprise Value	**2.479**	**2.495**	**2.247**	**2.461**
Non-Operational Assets and Liabilities		10		
Net Debt		(263)		
Equity Value	**2.227**	**2.243**	**1.995**	**2.208**
# shares (M)		164		
Value per share ('£)	**13,6**	**13,7**	**12,2**	**13,5**

Table 12 – Valuation Results

7.5. Sensitivity Analysis

The sensitivity analysis is a very useful tool to assess the impact of certain variables variation, in the value of a company.

Nonetheless, it is slight judgmental regarding the choice of which variables to analyze. In the case of Man United the author will perform two distinct sensitivity analysis:

i. Growth and WACC: these 2 variables are crucial in the determination of the terminal value of a company, which comprises most of the firm's value. Hence, it is very to determine thoroughly both components and test slight variations in order to understand the impact on the overall value.

Enterprise Value					
	WACC				
g (%)	3,9%	4,1%	4,4%	4,6%	4,9%
1,75%	2.672	**2.468**	**2.236**	**2.020**	1.883
2,00%	2.625	**2.480**	**2.461**	**2.223**	2.038
2,25%	3.573	**3.100**	**2.739**	**2.454**	2.223

Equity Value					
	WACC				
g (%)	3,9%	4,1%	4,4%	4,6%	4,9%
1,75%	2.420	**2.215**	**1.983**	**1.768**	1.631
2,00%	2.373	**2.228**	**2.208**	**1.971**	1.786
2,25%	3.320	**2.848**	**2.486**	**2.201**	1.971

Value per share					
	WACC				
g (%)	3,9%	4,1%	4,4%	4,6%	4,9%
1,75%	14,8	**13,5**	**12,1**	**10,8**	9,9
2,00%	14,5	**13,6**	**13,5**	**12,0**	10,9
2,25%	20,2	**17,4**	**15,2**	**13,4**	12,0

Table 13 – WACC and growth sensitivity analysis

As one may observe, the impact of change in growth is greater than the impact of a change in the WACC. Hence, it is incredibly important for Man United's Management to achieve growth, even with slight increases in risk.

ii. Players' wages (as % of turnover) and Players' registration investment: The first represents almost half of Man United's turnover and the second is the biggest risk of Man United's long-term growth strategy, according to Vice Chairman Ed Woodward.

Enterprise Value					
	Capex (Investment in Players' registration)				
wages (%)	19,0%	20,0%	21,0%	4,6%	4,9%
46,00%	2.822	**2.518**	**2.382**	**1.970**	2.033
47,50%	2.775	**2.530**	**2.461**	**2.173**	2.188
49,00%	3.723	**3.150**	**2.746**	**2.404**	2.373

Equity Value					
	WACC				
g (%)	19,0%	20,0%	21,0%	4,6%	4,9%
46,00%	2.570	**2.265**	**2.130**	**1.718**	1.781
47,50%	2.523	**2.278**	**2.208**	**1.921**	1.936
49,00%	3.470	**2.898**	**2.494**	**2.151**	2.121

Value per share					
	WACC				
g (%)	19,0%	20,0%	21,0%	4,6%	4,9%
46,00%	15,7	**13,8**	**13,0**	**10,5**	10,9
47,50%	15,4	**13,9**	**13,5**	**11,7**	11,8
49,00%	21,2	**17,7**	**15,2**	**13,1**	12,9

Table 14 – Players' wages and capex sensitivity analysis

One may conclude that both variables have a large impact on firm's value. Hence, it is reasonable to conclude that Man United must pay extreme attention to which expensive players to buy each season, as part of its commercial and sports very risky strategy.

7.6. DCF Conclusion

The DCF is the most common and accurate method in order to assess firm's value. With the assumptions made and the weighted average of scenarios created, the author achieved a firm value of £2.461M, representing £13.5 per share and meaning that Man United shares are quoting below their target price.

Additionally, the sensitivity analysis allowed us to understand that the combination of the investment made on players (acquisition and wages) is one of the most important variables in Man United's firm value. For this reason, guaranteeing that those players have impact on the club's sports performance, and consequently, financial performance is the main challenge that the Management of Man United's faces in the upcoming years.

8. Multiples Valuation

As mentioned before, Multiples valuation is a very useful tool as a complement to a more thorough valuation technique, like intrinsic or profitability models, or as a preliminary value analysis. In this section, the author presents the value of Man United according to the most widely accepted Multiples, in order to triangulate the results obtained in the DCF valuation.

The first step towards an accurate Multiples Valuation starts with a careful selection of the firm's peer group. The reckoning of Man United's peer group uses a mixture of both analytical and theoretical approaches. The first step was to take in consideration sports clubs, in Europe, which are publicly traded.

Publicly Traded Sports Clubs - Europe	
Name	**Country**
Juventus	Italy
Sport Lisboa e Benfica	Portugal
Futebol Clube do Porto	Portugal
Fenerbahce	Turkey
Sporting Clube de Braga	Portugal
Galatasary	Turkey
Borussia Dortmund	Germany
Arsenal	UK
Sporting Club de Portugal	Portugal

Table 15 – European publicly trated clubs

To ensure no major market players stay out of the peer analysis, an internal competitors' report should be used. According to Man United's Management all major publicly traded players were already accounted on the first list.

At this point, the cluster analysis was executed. To do so, the choice of variables is determinant. The variables selected - Return on Assets, Return on Equity, Debt to Total Assets, EV/ EBITDA and EBITDA/Sales - are representative of 3 of the most important components of value creation: firm's capital structure, profitability and margins. Additionally, should be noted that 3 centroids were randomly chosen to perform the analysis. This method led to a final peer group of 5 firms consisting of Juventus, Arsenal, Borussia, Galatasaray and Fenerbahce.

The Multiple used to access the value of Manchester United is the Enterprise Value to EBITDA, which is considered "the best multiple for comparing valuations across companies". Multiples based on earnings and sales such as the P/E and P/sales do not account for firms' capital structures. The author tested these multiples and all yielded unreasonable results, due to the drawbacks mentioned in the Literature Review. Hence, the author perceives no added value to include them on this analysis.

When computing EV/EBITA one should pay special attention to the EBITA figure, which must be adjusted to non-operational income and expenses and computed in a forward-looking way.

To estimate EBITDA (n+1) for the peer group of Manchester United the author resorted to Bloomberg. The estimate for Manchester United was taken from the DCF valuation, presented in the previous chapter.

Multiples Valuation		
Name	Country	EV@30-06-2016 / EBITDA@30-06-2017
Juventus	IT	4,6
Arsenal	GB	8,6
Borussia Dortmund	GE	4,0
Galatasaray	TU	12,5
Fenerbahce	TU	30,3
Average Multiple		**12,0**
EBITDA Man United @30-06-2017		187
Entreprise Value		2.239
Net Debt & NOAL		(252)
Equity Value		1.987
# shares		164
Value per share		**12,1**
Market Price (Closing)		**11,9**
Conclusion		**Undervalued**

Table 16 – Multiples valuation (EV/EBITDA)

The Multiples valuation gives us a good insight to the peer group and to the market perception of the industry in general. However, in the case of football clubs, a Multiples valuation is hard to perform due to the low number of public companies and its structural differences among countries. The average EV/ EBITDA multiple of 12x presents an incredibly high standard deviation, which decreases our confidence on the result. However, the valuation still allows to conclude that Man United's shares are indeed undervalued, in accordance with the DCF method.

9. Valuation Comparison

There are some financial institutions continuously analyzing Man United's shares. From all the reports obtained, the author chose an Equity Research, performed by Alexander Mees, Head of UK Small and Mid-Cap Research at J. P. Morgan.

J.P. Morgan valuates Man United using two methodologies: DCF (FCCF) and Multiples, which ties with the methodologic decisions of the author.

Value per share @ 30 June 2016			
(£)	DCF	Multiples	Target Price
JP Morgan	18,1	10,9	**14,5**
Author	13,5	12,1	**13,5**
Market Price (Closing)			**11,9**

Table 17 – Valuation Comparison (Summary)

J.P. Morgan's report also concludes that Man United's shares are undervalued, yielding a buy recommendation. To achieve a final target price of 14.5£, they averaged (50%/50%) the results of the Multiples and the DCF valuations. On the other side, the author issued a final target price of 13.5£, only resorting to the DCF analysis, for the reasons explained before in section 8 of this report.

9.1. Multiples Comparison

J. P. Morgan valuates Man United's through the EV/EBITDA multiple, exactly as the author, however it is the only common aspect. As a peer group, J.P. Morgan selected Discovery Communications, Madison Square Garden, Timer Warner, Twenty-First Century Fox and Walt Disney, meaning that it classifies Man United as a pure entertainment and media company, which is quite unrealistic.

Man United is a sports club, quite dependent of its sports performance and not only of its broadcast and merchandise contracts, explaining why J. P. Morgan obtained a multiple of 9.6x, much lower than the author's 12.0x and a target price of 10.9£, much lower comparing with their valuation results using DCF.

9.2. DCF Comparison

Methodology

The main difference between the methodology used by the author's and J. P. Morgan's regards the use of valuation scenarios. On the one side, the author resorted to 3 scenarios, serving a proxy to different performances in the Premiere League and in the Champions League, which have weighted weights in the final valuation. On the other side, J. P. uses only one base scenario that considers that:

i. Man United has consistently good performances on the Champions League;
ii. Man United always finishes on Top 2 of the Premiere League;
iii. All commercial and merchandise contracts are successfully renewed; and
iv. There are no severe players' injuries.

DCF - Base Case vs. J.P.Morgan						
(M'£)	jun-17		jun-18		jun-19	
	Author	JP	Author	JP	Author	JP
Revenue	546	535	559	589	569	610
Commercial	282	274	295	290	306	305
Broadcasting	140	162	140	196	140	200
Matchday	124	99	124	103	124	105
Adjusted EBITDA	187	175	191	200	195	204
Capex	120	129	123	n/d	125	n/d

Table 18 – DCF Valuation Comparison

Revenues

Commercial Revenue is quite alike between this report and J. P. Morgan's, as both assume the successful renegotiation of all major sponsorship and merchandise contracts, namely, with Chevrolet and Adidas.

J. P. Morgan's considers a relevant increase in the broadcasting revenue between 2017 and 2018, which they perpetuate. FA has announced that Domestic Premier League rights were renegotiated, and will suffer an increase of 70%. Nonetheless, the increase will be much more gradual than what J. P. Morgan considers.

The scenarios developed by the author consider good performances at the Champions League level, resulting in higher Matchday revenue. On the other side, J. P. Morgan is more conservative regarding champions league performance.

EBITDA

The lower EBITDA assumed by the author from 2018 onwards arises from higher Personnel Expenses. In the author's opinion, J.P. Morgan does not consider that hiring expensive players leads not only to higher Capex but also to considerably higher wages. This is the main reason why the target price of the author differs from the J.P. Morgan's one.

Capex

Capex levels are quite similar as both DCF's assume the constant reinvestment in expensive players, as part of the strategy being implement by Vice Chairman Ed Woodward.

WACC and Growth Rate

DCF Comparison vs. J.P.Morgan		
	Author	JP
Terminal Growth Rate (g)	2,0%	2,5%
WACC	4,4%	8,3%
Levered Beta	0,85	0,75

Table 19 – Wacc, g and Beta Comparison

J. P. Morgan dos not disclose the source of the Terminal Growth rate neither the decomposition of the WACC rate. As for the Levered Beta, the lower value arises from the fact that Media & Entertainment companies are, in general, less leveraged than football clubs.

10. Value at Risk (VaR)

As mentioned in the Literature Review, the computation of VaR may be performed through the Monte Carlo simulation.

This technique relies on deterministic principles, i.e., if one performs a process repeatedly, the average of the results obtained is a good enough proxy to what to expected in the future (within certain levels of confidence, evidently). Mathematically, it translates into a variance covariance matrix and the data used to build the matrix will be the daily stock returns of Man United, from July 2006 to June 2016.

The process starts by simulating a normal distribution with mean and standard deviation equal to the sample and generated 10.000 numbers (cases).

Then, is necessary to check for normality. To do so, the author conducted a Jarque-Bera test that yielded a statistic of 0,7, meaning one cannot reject the null hypothesis that the returns follow a normal distribution with a degree of confidence of 90% (and a Chi-Square critical value of 4,62).

After the normality is checked, one may generate VaR using different confidence levels, as presented below.

Significance level	VaR (Daily)
99%	-3,82%
95%	-4,77%
90%	-6,89%

Table 20 – VaR results

When used together with the remaining valuation techniques, VaR is a very useful tool to have a better understanding the riskiness of the target price obtained, allowing to understand how much of the value is at risk, if the stakeholder decides to invest.

11. Conclusion

On this report, the author started by explaining all widely-accepted valuation techniques, and how to adapt them to specific case studies (literature review). Then, the football industry and Man United's historic performance and outlook were presented, allowing to better determine the assumptions comprised in the valuation scenarios.

Since Man United has no defined policies on dividends distribution and is expected to maintain its target Debt/Equity Ratio, the author decided to use DFC (FCFF), also resorting to Multiples to cross-check the results. Considering that sports clubs' financial performance is in-depth correlated with the performance on the pitch, the author built 3 valuation scenarios, using a weighted-average to assess the ultimate firm's value.

This method yielded a target price of £13,5, implying that the company is undervalued at the date of this report (Market Price = 11.9£). The Multiples valuation yielded a target price of 12.1£, lower than the value obtained through DCF, and influenced by the low number of public companies and structural differences among countries, yet also concluding Man United is undervalued.

Next, the author compared its valuation with an Equity Research performed by J. P. Morgan's analysts. Out of the ER it was possible to conclude that the underlying assumptions on DCF are quite similar, however, the Multiples valuation differs considerably, due to the use of very different peer groups. Their report also concludes Man United's shares to be undervalued (Target Price = 14.5£).

In the end, the author also computed VaR for Man United to better assess the riskiness of the target price obtained.

In the end, this report concludes Man United to be undervalued, based both on the author's work and on J. P. Morgan's report.

12. Annex

Annex 1: Historical Comprehensive Income Statement

Data collected from the annual reports, regarding seasons 2013/2014, 2014/2015 and 2015/2016.

Turnover	Historical		
(M'£)	jun-14	jun-15	jun-16
Commercial	189	197	268
% growth	n/a	4,1%	36,2%
Sponsorships		155	160
% growth		n/a	3,4%
Retail & Merchandise		32	97
% growth		n/a	207,9%
Mobile & Content		10	11
% growth		n/a	4,8%
Broadcasting	136	108	140
% growth	n/a	(20,7%)	30,4%
Broadcasting - FAPL		108	100
% growth		n/a	(7,1%)
Broadcasting - UEFA Competitions		-	40
% growth		n/a	n/a
Matchday	108	91	107
% growth	n/a	(16,2%)	17,7%
UEFA prizes		-	17
% growth		n/a	n/a
Season Tickets, Matchday Tickets & Others		91	90
% growth		n/a	(0,6%)
Turnover	**433**	**395**	**515**
% growth	n/a	(8,7%)	30,4%

Operating Expenses	Historical		
(M'£)	jun-14	jun-15	jun-16
Variable Costs			
Employees Expenses	(215)	(203)	(232)
% turnover	49,6%	51,3%	45,1%
Avg. # workers	879	778	810
Expense per worker	0,24	0,26	0,29
External Suppliers Services	(81)	(69)	(91)
% turnover	18,7%	17,6%	17,7%
Fixed Costs			
Auditor's Remunerations	(1)	(1)	(1)
% turnover	0,2%	0,2%	0,1%
Operating Lease Costs	(2)	(3)	(3)
% turnover	0,5%	0,7%	0,5%
Non-Recurring Items	(9)	(2)	(2)
% turnover	2,2%	0,5%	0,4%
Depreciation / Amortization			
Depreciation (Tangible Assets)	(9)	(10)	(10)
% turnover	2,0%	2,6%	2,0%
Amortization	(55)	(100)	(108)
% turnover	12,8%	25,2%	20,9%
Operating Expenses	**(372)**	**(387)**	**(437)**
% growth	n/a	4,0%	12,8%

NOPLAT	Historical		
(M'£)	jun-14	jun-15	jun-16
Turnover	433	395	515
Employees Expenses	(215)	(203)	(232)
External Suppliers Services	(82)	(70)	(92)
Operating Lease Costs	(2)	(3)	(3)
Adjusted EBITDA	**134**	**120**	**189**
Non Current / Non Operational Items			
Depreciations / Amortizations	(64)	(110)	(118)
EBIT	**70**	**10**	**71**
Corporate Taxes	3	(17)	155
% effective tax rate			
NOPLAT	**73**	**(7)**	**226**

Annex 2: Historical Comprehensive Balance Sheet

Data collected from the annual reports, regarding seasons 2013/2014, 2014/2015 and 2015/2016.

Net Working Capital	Historical		
(M'£)	jun-14	jun-15	jun-16
Trade and Other Receivables (Operational)	104	81	119
DSO Current Op.	73	62	70
Inventories	-	-	1
% turnover	0,0%	0,0%	0,2%
Current Tax Receivable	-	0	-
% turnover	0,0%	0,0%	0,0%
Working Capital (Assets)	**104**	**81**	**120**
Trade and Other Payables (Operational)	(63)	(85)	(125)
DPO Current Op.	65	94	116
Current Tax Liabilities	(3)	(2)	(7)
% variable costs of Operating Expenses	1,0%	0,8%	2,1%
Deferred Revenue	(181)	(187)	(189)
% commcercial turnover	95,5%	94,8%	70,4%
Working Capital (Liabilities)	**(247)**	**(273)**	**(320)**
Net Working Capital	**(143)**	**(193)**	**(201)**
Investment/(Divestment) in Working Capital	n/a	49,8	8,3

Capex	Historical		
(M'£)	jun-14	jun-15	jun-16
Players' registrations	205	239	244
Amortization	(55)	(100)	(108)
% amort rate		74,4%	95,4%
CapEx	n/a	(134)	(113)
% turnover		33,9%	21,9%
PPE	255	251	246
Depreciation	(9)	(10)	(10)
CapEx	n/a	(6)	(5)
% turnover		2,6%	2,0%
Fixed Assets	**459**	**490**	**490**
Total CapEx		(140,1)	(118,4)

Net Debt	Historical		
(M'£)	jun-14	jun-15	jun-16
Cash and Cash Equivelants	**66**	**156**	**229**
Derivatives financial instruments (Net)	**(2)**	**(6)**	**(2)**
Derivatives (Assets)	-	0	12
Derivatives (Liabilities)	(2)	(6)	(13)
Borrowings	**(342)**	**(411)**	**(490)**
Long-Term	(327)	(410)	(485)
Short-Term	(15)	(0)	(6)
Net Debt	**(278)**	**(261)**	**(263)**

Non-Operational Assets and Liabilities	Historical		
(M'£)	jun-14	jun-15	jun-16
Assets			
Trade receivables of players' sales (>1year)	21	3	10
Other Trade Receivables (Long-Term)	101	120	142
Investment Property	14	14	13
Non-Operational Assets	**135**	**137**	**166**
Liabilities			
Trade paybles of players' registration (>1year)	(39)	(47)	(75)
Deferred Revenue (Long-Term)	(16)	(22)	(39)
Other Trade Payables (Long-Term)	(42)	(48)	(41)
Non-Operational Liabilities	**(97)**	**(116)**	**(155)**
Non-Operational Assets and Liabilities	**38**	**20**	**10**

Annex 3: Turnover Estimation

Scenario 1: Base Case

Turnover	Forecast				
(M'£)	jun-17	jun-18	jun-19	jun-20	TV
Commercial	282	295	306	315	321
% growth	5,2%	4,6%	3,6%	2,8%	2,0%
Sponsorships	164	168	172	175	179
% growth	2,5%	2,6%	2,0%	2,0%	2,0%
Retail & Merchandise	107	116	123	127	130
% growth	10,0%	8,0%	6,0%	4,0%	2,0%
Mobile & Content	11	11	12	12	12
% growth	2,5%	2,6%	2,0%	2,0%	2,0%
Broadcasting	140	160	150	140	148
% growth	(0,3%)	14,3%	(6,3%)	(6,7%)	5,4%
Broadcasting - FAPL	120	140	120	120	125
% growth	20,0%	16,7%	(14,3%)	0,0%	4,2%
Broadcasting - UEFA Competitions	20	20	30	20	23
% growth	10,0%	8,0%	6,0%	4,0%	2,0%
Matchday	124	139	167	124	138
% growth	15,9%	12,1%	20,2%	(25,8%)	11,7%
UEFA prizes	24	24	37	24	27
% growth	41,6%	0,0%	55,3%	(35,6%)	13,8%
Season Tickets, Matchday Tickets & Others	100	115	130	100	111
% growth	2,5%	2,6%	2,0%	2,0%	2,0%
Turnover	**546**	**594**	**622**	**578**	**606**
% growth	5,9%	8,8%	4,8%	(7,1%)	4,9%

Scenario 2: Optimistic Case

Turnover	Forecast				
(M'£)	jun-17	jun-18	jun-19	jun-20	TV
Commercial	282	295	306	315	321
% growth	5,2%	4,6%	3,6%	2,8%	2,0%
Sponsorships	164	168	172	175	179
% growth	2,5%	2,6%	2,0%	2,0%	2,0%
Retail & Merchandise	107	116	123	127	130
% growth	10,0%	8,0%	6,0%	4,0%	2,0%
Mobile & Content	11	11	12	12	12
% growth	2,5%	2,6%	2,0%	2,0%	2,0%
Broadcasting	140	160	170	160	158
% growth	(0,3%)	14,3%	6,3%	(5,9%)	(1,6%)
Broadcasting - FAPL	120	140	120	140	130
% growth	20,0%	16,7%	(14,3%)	16,7%	(7,1%)
Broadcasting - UEFA Competitions	20	20	50	20	28
% growth	10,0%	8,0%	6,0%	4,0%	2,0%
Matchday	124	139	197	139	149
% growth	15,9%	12,1%	41,9%	(29,5%)	7,8%
UEFA prizes	24	24	52	24	31
% growth	41,6%	0,0%	119,1%	(54,4%)	29,8%
Season Tickets, Matchday Tickets & Others	100	115	145	115	119
% growth	2,5%	2,6%	2,0%	2,0%	2,0%
Turnover	**546**	**594**	**672**	**613**	**628**
% growth	5,9%	8,8%	13,2%	(8,8%)	2,4%

Scenario 3: Pessimistic Case

Turnover	Forecast				
(M'£)	jun-17	jun-18	jun-19	jun-20	TV
Commercial	282	295	306	315	321
% growth	5,2%	4,6%	3,6%	2,8%	2,0%
Sponsorships	164	168	172	175	179
% growth	2,5%	2,6%	2,0%	2,0%	2,0%
Retail & Merchandise	107	116	123	127	130
% growth	10,0%	8,0%	6,0%	4,0%	2,0%
Mobile & Content	11	11	12	12	12
% growth	2,5%	2,6%	2,0%	2,0%	2,0%
Broadcasting	140	140	140	140	140
% growth	(0,3%)	0,0%	0,0%	0,0%	0,0%
Broadcasting - FAPL	120	120	120	120	120
% growth	20,0%	0,0%	0,0%	0,0%	0,0%
Broadcasting - UEFA Competitions	20	20	20	20	20
% growth	10,0%	8,0%	6,0%	4,0%	2,0%
Matchday	124	124	124	124	124
% growth	15,9%	0,0%	0,0%	0,0%	0,0%
UEFA prizes	24	24	24	24	24
% growth	41,6%	0,0%	0,0%	0,0%	0,0%
Season Tickets, Matchday Tickets & Others	100	100	100	100	100
% growth	2,5%	2,6%	2,0%	2,0%	2,0%
Turnover	**546**	**559**	**569**	**578**	**584**
% growth	5,9%	2,4%	1,9%	1,5%	1,1%

Annex 4: Operating Expenses Estimation

Scenario 1: Base Case

Operating Expenses	Forecast				
(M'£)	jun-17	jun-18	jun-19	jun-20	TV
Variable Costs					
Employees Expenses	(259)	(282)	(296)	(275)	(288)
% turnover	47,5%	47,5%	47,5%	47,5%	47,5%
Avg. # workers					
Expense per worker					
External Suppliers Services	(97)	(105)	(110)	(102)	(107)
% turnover	17,7%	17,7%	17,7%	17,7%	17,7%
Fixed Costs					
Auditor's Remunerations	(1)	(1)	(1)	(1)	(1)
% turnover	0,1%	0,1%	0,1%	0,1%	0,1%
Operating Lease Costs	(3)	(3)	(3)	(3)	(3)
% turnover	0,5%	0,5%	0,5%	0,5%	0,5%
Non-Recurring Items	(2)	(2)	(2)	(3)	(3)
% turnover	0,4%	0,4%	0,4%	0,4%	0,4%
Depreciation / Amortization					
Depreciation (Tangible Assets)	(10)	(10)	(10)	(10)	
% turnover	1,9%	1,7%	1,7%	1,8%	
Amortization	(109)	(119)	(125)	(116)	
% turnover	20,0%	20,0%	20,0%	20,0%	
Operating Expenses	**(481)**	**(522)**	**(547)**	**(509)**	**(402)**
% growth	10,2%	8,6%	4,7%	(6,9%)	(21,1%)

Scenario 2: Optimistic Case

Operating Expenses	Forecast				
(M'£)	jun-17	jun-18	jun-19	jun-20	TV
Variable Costs					
Employees Expenses	(259)	(282)	(319)	(291)	(298)
% turnover	47,5%	47,5%	47,5%	47,5%	47,5%
Avg. # workers					
Expense per worker					
External Suppliers Services	(97)	(105)	(119)	(108)	(111)
% turnover	17,7%	17,7%	17,7%	17,7%	17,7%
Fixed Costs					
Auditor's Remunerations	(1)	(1)	(1)	(1)	(1)
% turnover	0,1%	0,1%	0,1%	0,1%	0,1%
Operating Lease Costs	(3)	(3)	(3)	(3)	(3)
% turnover	0,5%	0,5%	0,4%	0,5%	0,5%
Non-Recurring Items	(2)	(2)	(2)	(3)	(3)
% turnover	0,4%	0,4%	0,4%	0,4%	0,4%
Depreciation / Amortization					
Depreciation (Tangible Assets)	(10)	(10)	(10)	(10)	
% turnover	1,9%	1,7%	1,5%	1,7%	
Amortization	(109)	(119)	(135)	(123)	
% turnover	20,0%	20,0%	20,0%	20,0%	
Operating Expenses	**(481)**	**(522)**	**(589)**	**(539)**	**(415)**
% growth	10,2%	8,6%	12,8%	(8,6%)	(22,9%)

Scenario 3: Pessimistic Case

Operating Expenses	Forecast				
(M'£)	jun-17	jun-18	jun-19	jun-20	TV
Variable Costs					
Employees Expenses	(259)	(265)	(270)	(275)	(278)
% turnover	47,5%	47,5%	47,5%	47,5%	47,5%
Avg. # w orkers					
Expense per w orker					
External Suppliers Services	(97)	(99)	(101)	(102)	(103)
% turnover	17,7%	17,7%	17,7%	17,7%	17,7%
Fixed Costs					
Auditor's Remunerations	(1)	(1)	(1)	(1)	(1)
% turnover	0,1%	0,1%	0,1%	0,1%	0,1%
Operating Lease Costs	(3)	(3)	(3)	(3)	(3)
% turnover	0,5%	0,5%	0,5%	0,5%	0,5%
Non-Recurring Items	(2)	(2)	(2)	(3)	(3)
% turnover	0,4%	0,4%	0,4%	0,4%	0,4%
Depreciation / Amortization					
Depreciation (Tangible Assets)	(10)	(10)	(10)	(10)	
% turnover	1,9%	1,8%	1,8%	1,8%	
Amortization	(109)	(112)	(114)	(116)	
% turnover	20,0%	20,0%	20,0%	20,0%	
Operating Expenses	**(481)**	**(493)**	**(502)**	**(509)**	**(387)**
% grow th	10,2%	2,4%	1,8%	1,5%	(23,9%)

Annex 5: NOPLAT Estimation

Scenario 1: Base Case

NOPLAT	Forecast				
(M'£)	jun-17	jun-18	jun-19	jun-20	TV
Turnover	546	594	622	578	606
Employees Expenses	(259)	(282)	(296)	(275)	(288)
External Suppliers Services	(97)	(106)	(111)	(103)	(108)
Operating Lease Costs	(3)	(3)	(3)	(3)	(3)
Adjusted EBITDA	**187**	**203**	**213**	**198**	**207**
Non Current / Non Operational Items					
Depreciations / Amortizations	**(120)**	**(129)**	**(135)**	**(126)**	**-**
EBIT	**67**	**74**	**78**	**71**	**207**
Corporate Taxes	(13)	(15)	(16)	(14)	(41)
% effective tax rate	20,0%	20,0%	20,0%	20,0%	20,0%
NOPLAT	**54**	**59**	**63**	**57**	**166**

Scenario 2: Optimistic Case

NOPLAT	Forecast				
(M'£)	jun-17	jun-18	jun-19	jun-20	TV
Turnover	546	594	672	613	628
Employees Expenses	(259)	(282)	(319)	(291)	(298)
External Suppliers Services	(97)	(106)	(120)	(109)	(112)
Operating Lease Costs	(3)	(3)	(3)	(3)	(3)
Adjusted EBITDA	**187**	**203**	**231**	**210**	**215**
Non Current / Non Operational Items					
Depreciations / Amortizations	**(120)**	**(129)**	**(145)**	**(133)**	**-**
EBIT	**67**	**74**	**86**	**77**	**215**
Corporate Taxes	(13)	(15)	(17)	(15)	(43)
% effective tax rate	20,0%	20,0%	20,0%	20,0%	20,0%
NOPLAT	**54**	**59**	**68**	**61**	**172**

Scenario 3: Pessimistic Case

NOPLAT	Forecast				
(M'£)	jun-17	jun-18	jun-19	jun-20	TV
Turnover	546	559	569	578	584
Employees Expenses	(259)	(265)	(270)	(275)	(278)
External Suppliers Services	(97)	(100)	(101)	(103)	(104)
Operating Lease Costs	(3)	(3)	(3)	(3)	(3)
Adjusted EBITDA	**187**	**191**	**195**	**198**	**200**
Non Current / Non Operational Items					
Depreciations / Amortizations	**(120)**	**(122)**	**(124)**	**(126)**	**-**
EBIT	**67**	**69**	**70**	**71**	**200**
Corporate Taxes	(13)	(14)	(14)	(14)	(40)
% effective tax rate	20,0%	20,0%	20,0%	20,0%	20,0%
NOPLAT	**54**	**55**	**56**	**57**	**160**

Annex 6: Net Working Capital Variation

Scenario 1: Base Case

Net Working Capital	Forecast			
(M'£)	jun-17	jun-18	jun-19	jun-20
Trade and Other Receivables (Operational)	126	137	143	133
DSO Current Op.	70	70	70	70
Inventories	1	1	1	1
% turnover	0,2%	0,2%	0,2%	0,2%
Current Tax Receivable	-	-	-	-
% turnover	0,0%	0,0%	0,0%	0,0%
Working Capital (Assets)	**127**	**138**	**144**	**134**
Trade and Other Payables (Operational)	(114)	(124)	(130)	(121)
DPO Current Op.	116	116	116	116
Current Tax Liabilities	(8)	(8)	(9)	(8)
% variable costs of Operating Expenses	2,1%	2,1%	2,1%	2,1%
Deferred Revenue	(199)	(208)	(215)	(221)
% commcercial turnover	70,4%	70,4%	70,4%	70,4%
Working Capital (Liabilities)	**(320)**	**(340)**	**(354)**	**(350)**
Net Working Capital	**(194)**	**(203)**	**(210)**	**(216)**
Investment/(Divestment) in Working Capital	(7,0)	8,7	7,1	6,5

Scenario 2: Optimistic Case

Net Working Capital		**Forecast**		
(M'£)	**jun-17**	**jun-18**	**jun-19**	**jun-20**
Trade and Other Receivables (Operational)	126	137	155	141
DSO Current Op.	70	70	70	70
Inventories	1	1	1	1
% turnover	0,2%	0,2%	0,2%	0,2%
Current Tax Receivable	-	-	-	-
% turnover	0,0%	0,0%	0,0%	0,0%
Working Capital (Assets)	**127**	**138**	**156**	**142**
Trade and Other Payables (Operational)	(114)	(124)	(141)	(128)
DPO Current Op.	116	116	116	116
Current Tax Liabilities	(8)	(8)	(9)	(8)
% variable costs of Operating Expenses	2,1%	2,1%	2,1%	2,1%
Deferred Revenue	(199)	(208)	(215)	(221)
% commcercial turnover	70,4%	70,4%	70,4%	70,4%
Working Capital (Liabilities)	**(320)**	**(340)**	**(365)**	**(358)**
Net Working Capital	**(194)**	**(203)**	**(209)**	**(216)**
Investment/(Divestment) in Working Capital	(7,0)	8,7	6,6	6,7

Scenario 3: Pessimistic Case

Net Working Capital		**Forecast**		
(M'£)	**jun-17**	**jun-18**	**jun-19**	**jun-20**
Trade and Other Receivables (Operational)	126	129	131	133
DSO Current Op.	70	70	70	70
Inventories	1	1	1	1
% turnover	0,2%	0,2%	0,2%	0,2%
Current Tax Receivable	-	-	-	-
% turnover	0,0%	0,0%	0,0%	0,0%
Working Capital (Assets)	**127**	**130**	**132**	**134**
Trade and Other Payables (Operational)	(114)	(117)	(119)	(121)
DPO Current Op.	116	116	116	116
Current Tax Liabilities	(8)	(8)	(8)	(8)
% variable costs of Operating Expenses	2,1%	2,1%	2,1%	2,1%
Deferred Revenue	(199)	(208)	(215)	(221)
% commcercial turnover	70,4%	70,4%	70,4%	70,4%
Working Capital (Liabilities)	**(320)**	**(333)**	**(342)**	**(350)**
Net Working Capital	**(194)**	**(203)**	**(210)**	**(216)**
Investment/(Divestment) in Working Capital	(7,0)	9,1	7,3	6,0

Annex 7: Capital Expenditures (Capex)

Scenario 1: Base Case

Capex		Forecast		
(M'£)	jun-17	jun-18	jun-19	jun-20
Players' registrations	249	255	261	267
Amortization	(109)	(119)	(125)	(116)
% amort rate	95,4%	95,4%	95,4%	95,4%
CapEx	(115)	(125)	(131)	(121)
% turnover	21,0%	21,0%	21,0%	21,0%
PPE	240	235	229	224
Depreciation	(10)	(10)	(10)	(10)
CapEx	(5)	(5)	(5)	(5)
% turnover	2,0%	2,0%	2,0%	2,0%
Fixed Assets	**490**	**490**	**491**	**491**
Total CapEx	(120)	(130)	(136)	(127)

Scenario 2: Optimistic Case

Capex		Forecast		
(M'£)	jun-17	jun-18	jun-19	jun-20
Players' registrations	249	255	262	268
Amortization	(109)	(119)	(135)	(123)
% amort rate	95,4%	95,4%	95,4%	95,4%
CapEx	(115)	(125)	(141)	(129)
% turnover	21,0%	21,0%	21,0%	21,0%
PPE	240	235	229	224
Depreciation	(10)	(10)	(10)	(10)
CapEx	(5)	(5)	(5)	(5)
% turnover	2,0%	2,0%	2,0%	2,0%
Fixed Assets	**490**	**490**	**491**	**492**
Total CapEx	(120)	(130)	(147)	(134)

Scenario 3: Pessimistic Case

Capex		Forecast		
(M'£)	jun-17	jun-18	jun-19	jun-20
Players' registrations	249	255	260	266
Amortization	(109)	(112)	(114)	(116)
% amort rate	95,4%	95,4%	95,4%	95,4%
CapEx	(115)	(117)	(120)	(121)
% turnover	21,0%	21,0%	21,0%	21,0%
PPE	240	235	229	224
Depreciation	(10)	(10)	(10)	(10)
CapEx	(5)	(5)	(5)	(5)
% turnover	2,0%	2,0%	2,0%	2,0%
Fixed Assets	**490**	**490**	**490**	**490**
Total CapEx	(120)	(123)	(125)	(127)

Annex 8: Free Cash Flow (FCFF)

Scenario 1: Base Case

Free Cash Flow to the Firm (FCFF)								
000'€	jun-14	jun-15	jun-16	jun-17	jun-18	jun-19	jun-20	TV
Turnover	433	395	515	546	594	622	578	597
% growth	n/a	(8,7%)	30,4%	5,9%	8,8%	4,8%	(7,1%)	2,0%
Adjusted EBITDA	**134**	**120**	**189**	**187**	**203**	**213**	**198**	**204**
% EBITDA margin	31,0%	30,3%	36,6%	34,2%	34,2%	34,2%	34,2%	34,2%
Depreciations / Amortizations				(120)	(129)	(135)	(126)	(129)
EBIT				**67**	**74**	**78**	**71**	**75**
% EBIT margin				*12,3%*	*12,5%*	*12,6%*	*12,4%*	*12,6%*
Corporate Taxes				(13)	(15)	(16)	(14)	(15)
% effective tax rate				*20,0%*	*20,0%*	*20,0%*	*20,0%*	*20,0%*
NOPLAT				**54**	**59**	**63**	**57**	**60**
% turnover				*9,8%*	*10,0%*	*10,0%*	*9,9%*	*10,1%*
Depreciations / Amortizations				120	129	135	126	129
Investment/(Divestment) in Working Capital				(7)	9	7	7	4
Capex				(120)	(130)	(136)	(127)	(131)
FCFF (Free Cash Flow)				**46**	**67**	**68**	**63**	**62**
% turnover				*8,5%*	*11,3%*	*11,0%*	*10,9%*	*10,4%*
Period				0,5	1,5	2,5	3,5	
Discount period				0,98	0,94	0,90	0,86	36,34
Discounted FCFF				**45**	**63**	**62**	**54**	**2.255**

Scenario 2: Optimistic Case

Free Cash Flow to the Firm (FCFF)								
000'€	jun-14	jun-15	jun-16	jun-17	jun-18	jun-19	jun-20	TV
Turnover	433	395	515	546	594	672	613	618
% growth	n/a	(8,7%)	30,4%	5,9%	8,8%	13,2%	(8,8%)	2,0%
Adjusted EBITDA	**134**	**120**	**189**	**187**	**203**	**231**	**210**	**212**
% EBITDA margin	31,0%	30,3%	36,6%	34,2%	34,2%	34,3%	34,2%	34,2%
Depreciations / Amortizations				(120)	(129)	(145)	(133)	(136)
EBIT				**67**	**74**	**86**	**77**	**76**
% EBIT margin				*12,3%*	*12,5%*	*12,7%*	*12,5%*	*12,3%*
Corporate Taxes				(13)	(15)	(17)	(15)	(15)
% effective tax rate				*20,0%*	*20,0%*	*20,0%*	*20,0%*	*20,0%*
NOPLAT				**54**	**59**	**68**	**61**	**61**
% turnover				*9,8%*	*10,0%*	*10,2%*	*10,0%*	*9,8%*
Depreciations / Amortizations				120	129	145	133	136
Investment/(Divestment) in Working Capital				(7)	9	7	7	4
Capex				(120)	(130)	(147)	(134)	(138)
FCFF (Free Cash Flow)				**46**	**67**	**73**	**67**	**62**
% turnover				*8,5%*	*11,3%*	*10,9%*	*10,9%*	*10,1%*
Period				0,5	1,5	2,5	3,5	
Discount period				0,98	0,94	0,90	0,86	36,34
Discounted FCFF				**45**	**63**	**66**	**58**	**2.263**

Scenario 3: Pessimistic Case

Free Cash Flow to the Firm (FCFF)								
000'€	jun-14	jun-15	jun-16	jun-17	jun-18	jun-19	jun-20	TV
Turnover	433	395	515	546	559	569	578	574
% growth	n/a	(8,7%)	30,4%	5,9%	2,4%	1,9%	1,5%	2,0%
Adjusted EBITDA	**134**	**120**	**189**	**187**	**191**	**195**	**198**	**196**
% EBITDA margin	31,0%	30,3%	36,6%	34,2%	34,2%	34,2%	34,2%	34,2%
Depreciations / Amortizations				(120)	(122)	(124)	(126)	(129)
EBIT				**67**	**69**	**70**	**71**	**68**
% EBIT margin				*12,3%*	*12,3%*	*12,3%*	*12,4%*	*11,8%*
Corporate Taxes				(13)	(14)	(14)	(14)	(14)
% effective tax rate				*20,0%*	*20,0%*	*20,0%*	*20,0%*	*20,0%*
NOPLAT				**54**	**55**	**56**	**57**	**54**
% turnover				*9,8%*	*9,8%*	*9,9%*	*9,9%*	*9,4%*
Depreciations / Amortizations				120	122	124	126	129
Investment/(Divestment) in Working Capital				(7)	9	7	6	4
Capex				(120)	(123)	(125)	(127)	(131)
FCFF (Free Cash Flow)				**46**	**64**	**63**	**62**	**56**
% turnover				*8,5%*	*11,4%*	*11,1%*	*10,8%*	*9,7%*
Period				0,5	1,5	2,5	3,5	
Discount period				0,98	0,94	0,90	0,86	36,34
Discounted FCFF				**45**	**60**	**57**	**54**	**2.032**

Annex 9: Valuation Summary

Scenario 1: Base Case

Equity Valuation @ 30 June 2016		
(£'€)	**Value**	**%**
Explicit Period	224	9,0%
Terminal Value	2.255	91,0%
Enterprise Value	**2.479**	
Non-Operational Assets and Liabilities	10	
Net Debt	(263)	
Equity Value	**2.227**	
# shares	164	
Value per share ('£)	**13,6**	

Scenario 2: Optimistic Case

Equity Valuation @ 30 June 2016		
(£'€)	**Value**	**%**
Explicit Period	232	9,3%
Terminal Value	2.263	90,7%
Enterprise Value	**2.495**	
Non-Operational Assets and Liabilities	10	
Net Debt	(263)	
Equity Value	**2.243**	
# shares	164	
Value per share ('£)	**13,7**	

Scenario 3: Pessimistic Case

Equity Valuation @ 30 June 2016		
(£'€)	**Value**	**%**
Explicit Period	215	9,6%
Terminal Value	2.032	90,4%
Enterprise Value	**2.247**	
Non-Operational Assets and Liabilities	10	
Net Debt	(263)	
Equity Value	**1.995**	
# shares	164	
Value per share ('£)	**12,2**	

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