

MASTERARBEIT / MASTER'S THESIS

Titel der Masterarbeit / Title of the Master's Thesis

“Valuation of Football Clubs”

verfasst von / submitted by

Oskar Weiß, Bakk.rer.soc.oec

angestrebter akademischer Grad / in partial fulfilment of the requirements for the degree of

Master of Science (MSc)

Wien 2018 / Vienna 2018

Studienkennzahl lt. Studienblatt /
degree programme code as it appears on
the student record sheet:

A 066 915

Studienrichtung lt. Studienblatt /
degree programme as it appears on
the student record sheet:

Masterstudium Betriebswirtschaft

Betreut von / Supervisor:

Univ.-Prof. Dr. Gyöngyi Lóránth, MBR

Acknowledgement

I would like to thank Univ.-Prof. Dr. Gyöngyi Lóránth, MBR, for mentoring and supporting me during the work on my Master thesis. My appreciation extends likewise to the members of my family who are always there when I need them.

Contents

1 Introduction	7
2 Football Industry	10
2.1 Business Environment	10
2.1.1 English Premiere League	13
2.1.2 German Bundesliga	14
2.2 Opportunities and Risks	16
2.2.1 Financial Distress	16
2.2.2 Unbalanced Competition	17
2.3 Financial Fair Play	18
2.3.1 Consequences and Conclusions for Investors	22
2.3.2 The Emerging of New Potential Targets	23
2.3.3 Risk associated with the New Regulations	24
2.3.4 Manager Competence	24
2.3.5 Capitalise on Potential Loopholes	24
3 Valuation Models	26
3.1 Discounted Cash Flow Valuation	26
3.2 Multiplier Method	28
3.2.1 Execution of the Multiplier Method	29
4 Valuation using DCF Method	31
4.1 Business Environment for Borussia Dortmund and Manchester United ..	31
4.2 Valuation Borussia Dortmund	34
4.2.1 Initial Situation	34
4.2.2 Special Cases: Players as Intangible Assets	35
4.2.3 Revenue Structure Borussia Dortmund	36
4.2.3.1 Assumption Revenue Forecast	39
4.2.4 Cost Structure of Borussia Dortmund	40
4.2.4.1 Assumption Cost Forecast	41
4.2.5 Capital Structure	41
4.2.5.1 Debt	42
4.2.5.2 Equity	42
4.2.5.3 Ratios	42
4.2.6 Weighted Average Cost of Capital (WACC) after Tax	43
4.2.7 Residual Value (RVT)	48

4.2.8 Values of the Club	49
4.3 Valuation Manchester United	50
4.3.1 Initial Situation	50
4.3.2 Revenue Structure Manchester United	51
4.3.2.1 Assumption Revenue Forecast	54
4.3.3 Cost Structure Manchester United	54
4.3.2.1 Assumption Cost Forecast	56
4.3.4.4 Weighted Average Cost of Capital	58
4.3.4.5 Risk Free Rate (rf)	58
4.3.5 Values of the Club	60
5 Resume	66
Appendix	69
List of Tables and Figures	69
Literature	70
Abstract.....	72
Zusammenfassung.....	73
Calculation Borussia Dortmund.....	74
Calculation Manchester United	78

1 Introduction

Sports have become a huge industry, which is particularly true for football. There is no doubt that major football clubs are now complex businesses, deeply concerned with matters of economics and finance. During the last few decades, an ever increasing amount of money went into the game, for example for broadcast rights, bigger stadiums and to attract bigger crowds, for an increasing amount of merchandising activities, and through sponsorships.

Large corporations funnel enormous amounts of sponsoring funds into the two football clubs Borussia Dortmund and Manchester United, which are going to be investigated in this master thesis.

Manchester United developed relationships with Chevrolet and Nike. The recent football kit deal with Nike alone nets Manchester United 130 million Euros per year (<https://www.google.com/amp/s/soccer.nbcsports.com/2014/07/14/life-after-nike-manchester-united-sign-1-3-billion-kit-deal-with-adidas/amp/>).

In comparison with the old deal they had, this is a gain of about 105 million Euros per year. The new shirt sponsorship deal with Chevrolet amounts to 53 million Euros per year for the club

(<https://www.google.at/amp/s/www.independent.co.uk/sport/football/news-and-comment/manchester-united-s-chevrolet-deal-pushes-premier-league-shirt-values-to-191m-9635617.html%3famp>).

Borussia Dortmund also stepped up their financial power to stay competitive. The new cooperation with Evonix yields the club 5-8 million Euros extra per year (<https://www.google.at/amp/s/amp.n-tv.de/wirtschaft/BVB-scheffelt-Millionen-article13108301.html>).

Both Borussia Dortmund and Manchester United are public traded companies. Manchester United is in the hands of the Glatzer family since 2004. Borussia Dortmund became public in 1998, but in Germany there is still the 50+1 regulation, which means that the club cannot be completely overtaken by private investors. 51% of the ownership has to stay in the clubs' hand. Nevertheless, there are already cases where this rule has been bypassed: VfL Wolfsburg belongs to Volkswagen and Bayer Leverkusen to the pharmaceutical firm Bayer. Bayer Leverkusen and VfL Wolfsburg got this special treatment because their clubs are seen as Werksclubs. TSG 1899

Hoffenheim got bought, as the club was in a minor league which had amateur status. The club got then subsequently promoted repeatedly until it reached the German Bundesliga. The same is happening right now with Rasenballsport Leipzig, which was bought by Red Bull.

The example of Germany shows that even a country with a 50+1 regulation is not deterring investors. Growing revenues in terms of price money, especially in the UEFA Champions League, as well as merchandising and marketing activities lead to an increased attractiveness of the clubs for potential investors. Top level football clubs playing in the upper leagues, which constitute a global brand, are of special interest in this regard, which is shown in recent take-overs: From famous clubs like Paris Saint-Germain and AS Monaco in the Ligue 1 in France, Inter Mailand and AS Roma in the Serie A in Italy and Cardiff City FC in the English Premier League in Great Britain, etc.

Along with this commercialisation of football clubs, the transfer fees and player wages are reaching astronomic numbers with no ceiling in sight. Wayne Rooney from Manchester United is reported to receive 300.000 British Pounds per week (<http://www.espn.com/soccer/name/10/blog/post/2131971/headline>), the only 21-year-old Mario Götze from Borussia Dortmund earns 12 million Euros per year (http://sports-ak.espn.go.com/soccer/news/story/_/id/1422500/bayern-confirm-gotze-deal).

The transfer fee for Gareth Bale in 2013 amounted to about 90 million Euros for the transfer from Tottenham Hotspur to Real Madrid (<https://www.transfermarkt.at/gareth-bale/profil/spieler/39381>). Mesut Özil netted Real Madrid 50 million Euros for a transfer to Arsenal London (<https://www.transfermarkt.at/mesut-ozil/profil/spieler/35664>). Juan Mata cost Manchester United 45 million Euros (<https://www.transfermarkt.at/juan-mata/profil/spieler/44068>). Few years ago, these sums would have been exceptional. Nowadays, they are taken for granted.

From these developments, my research question arose. I am interested in the market value of football clubs of these proportions. Therefore, I chose Manchester United from the English Premier League and Borussia Dortmund from the German Bundesliga, in order to analyse and compare their business strategies and actions for identifying their values.

This valuation uses two methods, the DCF-Model and the Market Multiples method. These are the most commonly used and best established valuation methods with investors and business valuation companies.

The available information and data situation of the football clubs Borussia Dortmund and Manchester United is particularly appropriated for the use of a combination of a discounted cash flow model and the Market Multiples method. The discounted cash flow model was used for the actual calculation of the company values of the two football clubs. The Market Multiples method was then not only used to evaluate the results of the DCF Model, but also to verify them. The use of these two methods proved to enable the answering of the research question – the description of the different values of the two football clubs – excellently.

Regarding the structure of the master thesis:

The second chapter depicts the business environment of the two football clubs: Competitor situation, market chances, market development, risks, framework conditions, etc. are outlined.

The third chapter describes the strategic directions and the different situations of the two football clubs. This description serves as a basis for the following calculations.

In the fourth and final chapter, the analysis and results are presented and possible consequences are discussed.

2 Football Industry

2.1 Business Environment

Football has been transformed in the last few decades from small businesses, whose mission was to enjoy the spectators from their home city, to million dollar businesses with the additional goal to make money. Especially the big five European football leagues are watched all around the globe. This opens the market for many of the biggest football clubs to make money.

This transition is reflected in the preparation of the football clubs for the new season. They are not going into their training camps with the aim to prepare best for the upcoming season. Instead, they travel around the globe to make their team popular all around the world. For example, FC Liverpool went last year to Australia and FC Arsenal to the emerging market of the far east. In the last few years this has become common for all the big English Premier League teams. This strategy is being transferred to more and more teams.

The German Bundesliga, which is still behind on revenues in comparison with the English Premier League, started it recently. Especially Borussia Dortmund and Bayern Munich have launched this strategy to stay competitive.

For less well known teams of the big five leagues this strategy is not feasible, because such promotion tours are not profitable for them. Many of them do not have the famous history and are not known well enough amongst fans in emerging markets to be able to capitalize commercially. Only teams who are established brands and which have the world's best players are attractive for fans around the world. If you look at Bangkok, the skyscrapers are projected with the teams of the English Premier League and the people are wearing the shirts of their favorite players.

To capitalize on this business, the English Premier League sold their domestic broadcast rights for 1.78 billion Pounds. This gives them about 560 million Euros per year in domestic broadcast revenues; which is divided on a 50:25:25 basis; 50% is divided equally between the clubs; 25% is awarded on a merit basis determined by a club's final league position and the final 25% is distributed as a facilities fee for the number of matches shown on television involving the club.
(<http://www.premierleague.com/en-gb/fans/faqs/how-much-clubs-receive-broadcast->

[money.html](#)). International broadcast revenue is distributed equally between all 20 clubs.

Table 1: Premier League overseas TV deals, 2013-16

Continent/region	£m	US\$m	€m	% change £ from 10-13*	Popn (m)	£ per person
Asia	940.8	1,470	1,100.7	77.2	4,200	0.22
Europe outside UK	607.2	897	690	38.6	739	0.82
Sub-Saharan Africa	205	328	239.9	20.6	900	0.23
M.E. & North Africa	204.8	320	239.6	-9	500	0.41
N Am & Caribbean	179.2	280	209.7	198.7	529	0.34
S America	96	150	112.3	668	390	0.25
TOTAL	2,233	3,445	2,592	55.4	7,258	0.31

**£ % change; \$ and € % may differ due to currency fluctuation*

Source: <http://www.sportingintelligence.com/2013/09/16/revealed-asia-driving-boom-as-premier-league-foreign-tv-cash-hits-2-23bn-160901/>

As one can see in table 1, the main boom has been in Asia. These broadcasting deals give the English Premier League teams a huge advantage over the other leagues. Even the smaller clubs are able to pay high wages and attract the best players. The English Premier League is the place to be for every football player.

Other leagues have recognized this development and are also moving into these markets. For example, the German Bundesliga sold their rights for the season 2015 also abroad to Asia, United States and Europe. This deal gives them an estimated revenue/income of 140 million Euros. Spain, Italy and France also receive between 80 and 160 million Euros per year for selling their foreign broadcasting rights. For their domestic broadcast, the German Bundesliga receives 627 million Euros.

http://www.bundesliga.de/de/dfl/mediencenter/pressemitteilungen/2013/dfl-macht-sprung-in-der-globalen-bundesliga-vermarktung-ab-2015_0000273582.php
<http://www.handelsblatt.com/sport/fussball/nachrichten/auslandsvermarktung-wie-die-bundesliga-erstklassig-werden-will/9595248.html#>

As you can see, there is a gap between the leagues. Every country is trying to close this but there is still the first mover advantage for the English Premier League.

But there is not only the competition between the leagues. Also inside the leagues the clubs face a highly competitive environment. More success means more money for the teams in terms of broadcasting, merchandising and entrance fees. Only a successful club is attractive for the spectators.

One of the main examples of this is the Champions League. Only the best teams of each league can take part in this money league. From the top five leagues only three to five clubs are allowed to take part.

In 2013, 910.3 million Euros were distributed to the 32 participating teams. Every team gets a starting fee of 8.6 million Euros. Through broadcasting rights and bonuses for performance this amount can climb enormously. For example, Bayern Munich received for the season 2012/13 about 55 million Euros. (<http://www.zeit.de/news/2013-08/08/fussball-9103-millionen-euro-fuer-die-32-klubs-08203404>)

This sum does not even include the entrance fees received for Champions League home matches. This is one of the reasons why investors not only invest into the English Premier League; where it is tough to qualify for the Champions League. Recently, Paris Saint-Germain and AS Monaco have been bought by big investors. For them, attendance in the Champion League and therefore the extra money and popularity is almost granted.

In the article “Is Financial Fair Play really justified? An economic and legal assessment of UEFA’s Financial Fair Play rules” Henning Vöpel (2013, p. 15) concludes:

“Competition in professional sports leagues is quite different from competition in regular markets since it strictly implies a zero-sum game for the participants. Anyone’s win always means another one’s defeat. And in the final ranking of a season each position is assigned only once and in every season there are only one champion and always some teams going down regardless of how good they

are in absolute terms. Such a 'positional' competition is very similar to a "rat race" that induces specific (short-term) incentives for the competing teams. If it is only the victory that counts at the end, competitors are likely to take a higher risk. This could lead to an over-investment and overspending behavior resulting in a kind of a debt fallacy since not all teams can succeed simultaneously. At least some of them fail to fully refinance their initial investments due to unexpectedly low revenues. In an unregulated league, this could end up in an insolvency of clubs causing thereby an unwarranted discontinuity especially during a currently running competition.

In contrast, those teams who succeed in the competition and qualify for the Europa League or the Champions League receive much higher revenues. They can use additional income to invest in new players thereby becoming an even stronger team which most likely will manage to re-qualify the following year. So an upward spiral of self-sustaining development has been triggered by an initial success. In the long run this process could finally end up with the dominance of a few teams predetermining the championship and making it less interesting. As a result, fans and spectators, followed immediately by the media and sponsors, would increasingly turn away from football which in turn would lower aggregate revenue for the league as a whole."

2.1.1 English Premiere League

In particular, English football received an enormous boost, the determining factor being the introduction of the English Premier League. The goal of this league was to promote and run their league more professionally. Since then, the English Premier League has become the most lucrative league in the world and has established itself as a global brand. In 2014, the league had a total revenue of 3.8 billion Euros (<https://uk.reuters.com/article/uk-soccer-spain-revenue/la-liga-aiming-to-close-financial-gap-with-premier-league-idUKKBN15I2VV>).

They attract more and more fans from all over the world. From China to the United States, from South America to Australia. The high publicity and the still increasing popularity gave them the highest sponsorship and broadcasting deals.

Not only the best players in the world want to profit from these conditions, there are also more and more investors who want to profit from this development. These are

Arab sheiks, Russian oligarchs or US companies, etc. Through large investments they try to strengthen their team, because only in the case of sporting success will their invested money return to them.

The competition between the clubs intensifies and therefore the risk for the owners becomes much higher. In the past, there were four large teams, FC Arsenal, Manchester United, FC Chelsea and FC Liverpool, who divided the main part of the cake between themselves.

During the last five years, however, Manchester City and Tottenham Hotspur have shaken up this group. Manchester City won the league twice. Through this development, the clubs can no longer include in their budget planning guaranteed participation in the Champions League.

2.1.2 German Bundesliga

In Germany, the situation is quite different to the rest of the big five leagues. As far as ownership is concerned the German Bundesliga is a special case. There is the 50 plus 1 regulation. This means that the original club must hold 50% plus 1 share. This rule was introduced because they feared that the game would lose its spirit, if the clubs would become investment projects for foreign investors. Through that rule, the clubs are protected from hostile takeovers and secure that the clubs won't lose their tradition and soul. This was the case with Cardiff City FC, which was bought by a Malaysian investor and his first decision was the change of their kit color.

Does that mean that German clubs are not interesting for investors? No! This is shown in the case of Rasenballsport Leipzig. Red Bull bought a club from a lower league, where the regulations are not so strict, with the intention to promote the club into the German Bundesliga to profit from this business. Big firms like Audi and Allianz at Bayern Munich and Evonix at Borussia Dortmund are big stakeholders to profit from football in financial and public relations ways. As well you also have "Werksklubs" like Bayer Leverkusen and VfL Wolfsburg, which are in hands of big companies. These two particular clubs are excluded from this rule, due to their status as "Werksklubs". These examples show that despite the existence of this rule, the German market is quite interesting for investors.

As far as the competition between the clubs is concerned, the development of the football only become tougher since the last recent years. In general, Bayern Munich

was the main player in the last twenty years. But in the last few years, Dortmund has established itself as a big opponent; with FC Schalke and Bayer Leverkusen trying to compete with them in the last years.

The newcomer is VfL Wolfsburg. They are now splashing cash to build a competitive team. In a short space of time they have managed to convince one of the top young players to join the team and their plan is to challenge Bayern Munich in the long run. It looks like that the league will become a much more competitive environment. Rasenballsport Leipzig are trying to become a big player in the next few years. As far as the revenue is concerned, Bayern Munich is still ahead of the rest.

In an international comparison, the German Bundesliga is on a similar level than the other big leagues except the English Premier League (table 2). The success of the German clubs in the Champions League (Bayern Munich and Borussia Dortmund reached the final) shows us that they are edging closer in the next years. Through the international performance the league is becoming more attractive for spectators and sponsors.

Table 2: Revenues of the top eight European football leagues

#	League	Annual Revenue in €	Revenue per Game in €	Revenue per Capita in €	Est. TV Money p. a. in €	Avg. Ticket Prices in €	Association Members
1	 Premier League	2500000000	6578947	49,57	1147000000	43	-
2	 Bundesliga	1664000000	5437908	20,32	422000000	22	6700000
3	 Primera Division	1622000000	4268421	34,76	560000000	36	779829
4	 Serie A	1532000000	4031579	25,43	892000000	27	-
5	 Ligue 1	1072000000	2821053	17,07	517000000	26	2107924
6	 Eredivise	420000000	1372549	25,47	-	-	1179198
7	 Süper Lig	378000000	1235294	05,13	-	-	466445
8	 Premjer-liga	368000000	1533333	02,58	-	-	2500000

Source: <http://comparetheleagues.com/european-league-finances/>

2.2 Opportunities and Risks

2.2.1 Financial Distress

Most European football clubs ended up in net operating deficits, although the football market was growing - despite the financial crisis. In the last decade, that led to an aggregate debt of several billion dollars and financial threats for the clubs. Some deficits have reached record levels. That can be explained by the nature of sports leagues business which is not comparable to regular market.

As described in the previous chapter, the competition is a rat race and only few can succeed. The proportion of success is much higher with higher investments. Clubs such as Paris Saint-Germain, FC Chelsea or AS Monaco have been taken over by wealthy investors, who tried to buy success by spending in salaries and transfer fees. The other clubs of the leagues tried to keep up and gambled by investing into football talents more than was beneficial.

This lead to inflationary salaries and transfer fees. It was clear, that many would lose the bet because of the winner's curse and only clubs supported by wealthy owners would not be harmed by losses. But only clubs with the wealthy owners did not harm the losses. This was the reason why most of the clubs easily got in financial distress.

Why do football mangers take the risk?

One would think that acting responsible and having balanced accounts is the key to success for every company. But that is not the case in football. On the one hand, there are some clubs that are run this way. They are always finishing mid-table positions and have their fan base in their city. But these clubs generally have low revenues and are not well known outside of their country. Because of their low budgets, they are hardly able to buy or hold their best players. It is therefore nearly impossible for them to reach the most prestigious European competitions, where they could earn a lot of money.

On the other hand, there are clubs who take the risk and invest, because of the great correlation of money and success. In the case of success, these clubs become more popular by finishing in the top of the table. They not only generate a greater fan base, because of the phenomenon of the glory hunters but they also become more attractive for sponsors and gain high amounts of money for winning and broadcasting and, thus, raise their market share. That is the goal of every club. If you belong to the lucky few

who are part of the Champions League, you can generate enough resources to attract the best players and trainers! So, it is no surprise that so many clubs overinvest. It is the nature of the game.

In the last decade, the number of clubs eager for their slice of the prize and broadcasting cake was on a rise. However, not only the bigger players invest more than what is good for them. The league's bottom teams invest to stay in the league to receive money for taking part in a high division. Most of the club managers are overly optimistic as you can see from their goal settings.

In England, for example, where there are twenty different leagues seven clubs aim for the championship or at least the top 4; the other eight want to finish in the upper table; and from the last five, 1 or 2 at most are considering to get relegated. More or less the same goals setting pattern is visible year by year in every other division.

Misinterpretation and a lack of consideration of the reasons for losses easily lead to overinvestments, and subsequently to debt.

2.2.2 Unbalanced Competition

Especially in Italy, England and Spain the incentive to overinvest is existent through a couple of reasons:

For instance, in order to avoid this phenomenon, all of the leagues already have financial regulations. In Germany and France, they exert a powerful financial control on clubs. In consequence the deficits and debts are limited in spite a few clubs are struggling with financial issues. In case of England, Italy and Spain there are hardly any financial regulations. Clubs are free to take credits, and so they are highly indebted compared to other leagues. For managers, it is much easier to overinvest in these countries. (Drut & Raballand, 2012, p. 81)

Another reason is that the majority of football clubs are operating under "Soft Budget Constraints" which means "that football clubs do not face the same threat of dissolution as firms in other industries when systematically failing to balance their books" (Franck, 2014, p. 7). The British sport journalist Simon Kuper writes: "Clubs are immortal chiefly because creditors dare not pull the plug. The club's brands are strong enough to cow banks and taxmen. And so clubs can incur debt without fear. ... Much of football's debt

will never be repaid. It will be written off. Large chunks will be nationalized..." (Kuper 2009, quoted in Franck, 2014, p. 7).

"‘Soft taxation’, ‘soft credit’ and ‘soft administrative prices’ are examples of rescue measures taken by the state in order to bail out football clubs. A typical form of a ‘soft administrative price’ would be the use of a municipal stadium based on an agreement that allows for ex post adjustments of the price once the football club is in trouble. ‘Soft credit’ occurs when the banks’ credit contracts are not enforced but, instead, routinely postponed and rescheduled. Similarly, ‘soft taxation’ refers to the toleration of tax debts by the state tax office." (Franck, 2014, p. 9)

Through the strong correlation between money and probability to win, high investments lead to an unequal precondition in the domestic league as well as in the international competitions. Due to the results during the last decade it is evident that lack of financial regulations is a huge advantage for the leagues. As one can see in table 3, England and Spain have the fewest regulations and are the most successful.

Table 3: UEFA Five Years Rating 2013/2014

rank	Nation	2013/2014
1	Spain	23,000
2	England	16,785
3	Germany	14,714
4	Italy	14,166
5	Portugal	9,916

Source: <http://www.restprogramm.com/UEFA-5-Jahreswertung>

2.3 Financial Fair Play

The Union of European Football Associations (UEFA) wanted to take countermeasures against this development and, therefore, introduced the Financial Fair Play (FFP) regulations in May 2010. Since 2011, all transfers and salaries of clubs taking part in the European cups have been monitored. Since the season of 2013/14, their annual reports have been monitored as well. Clubs that do not comply with these regulations are sanctioned. Depending on the gravity of the violation, sanctions range from

financial penalties to the exclusion from European competitions and transfer restrictions.

Since the introduction of these regulations, several clubs were already sanctioned. The most famous examples are Manchester City from England, who were fined and are now restricted in the number of players allowed to take part in the European cup, as well as the Turkish club Fenerbahçe Istanbul, who was excluded from the cup. These examples show that the system already works and does not shy away from taking action against well-known clubs. Michel Platini, former president of the UEFA, was one of the leading figures in this process. The UEFA would like

- to introduce more discipline and rationality in club football finances
- to decrease pressure on salaries and transfer fees and limit the effects of inflation
- to encourage clubs to operate on the basis of their own revenues
- to encourage long-term investments in the youth sector and infrastructure
- to protect the long-term viability of European club football
- to ensure that clubs settle their liabilities punctually

(<http://www.uefa.org/protecting-the-game/club-licensing-and-financial-fair-play/index.html>)

When people talk about the FFP regulations and their objectives, they often point out that it is important to protect the integrity of the game and that the new regulations are necessary to enhance it. It is argued that these rules ensure a more favorable balanced competition between the clubs under the same conditions. It is started that the regulations guarantee the liquidity of the clubs and therefore reduce the burden for the parties (government, other clubs) who suffer from delayed payments. To understand what the FFP regulations promote, it is necessary to take a closer look at those, which are relevant in the context of this master thesis:

<https://www.uefa.com/insideuefa/protecting-the-game/club-licensing-and-financial-fair-play/index.html>.

Article 57 – Scope of application and exemption

1 All licensees that have qualified for a UEFA club competition must comply with the monitoring requirements, i.e. with the break-even requirement (Articles 58 to 64) and with the other monitoring requirements (Articles 65 to 68).

The rules only target the top-flight football clubs. Therefore, they can only regulate the competition in European cups but not within the domestic leagues. Many clubs are still not concerned by the financial restrictions and can gamble with risky investments to achieve their goals.

Article 58 – Notion of *relevant income and expenses*

1 Relevant income is defined as revenue from gate receipts, broadcasting rights, sponsorship and advertising, commercial activities and other operating income, as well as either profit on disposal of player registrations or income from disposal of player registrations, excess proceeds on disposal of tangible fixed assets and finance income. It does not include any non-monetary items or certain income from non-football operations.

2 Relevant expenses are defined as cost of sales, employee benefits expenses and other operating expenses, as well as either amortisation or costs of acquiring player registrations, finance costs and dividends. It does not include depreciation/impairment of tangible fixed assets, amortisation/impairment of intangible fixed assets (other than player registrations), expenditure on youth development activities, expenditure on community development activities, any other non-monetary items, finance costs directly attributable to the construction of tangible fixed assets, tax expenses or certain expenses from non-football operations.

As you can see, the rules only take revenue from football operations into account. They prevent private investors from spending big to quickly reach the top of the European football. In addition, they prevent unfair overspending to achieve success, like Manchester City did it in the last couple of years. The question is why clubs only consider football operations for their fair play accounts. Should not every club have the right to earn as much money as possible? The UEFA wants the clubs to stand on their own feet. An exodus of the benefactors would not have negative effects on the clubs. Sponsors are still allowed to make large investments in youth development and training facilities, and these investments benefit the clubs.

Article 59 – Notion of *monitoring period*

1 A monitoring period is the period over which a licensee is assessed for the purpose of the break-even requirement. As a rule it covers three reporting periods.

Article 60 – *Notion of break-even result*

1 The difference between relevant income and relevant expenses is the break-even result, which must be calculated in accordance with Annex X for each reporting period.

4 The aggregate break-even result is the sum of the break-even results of each reporting period covered by the monitoring period (i.e. reporting periods T, T-1 and T-2).

This break-even condition is the main element of the FFP regulations. It specifies that clubs have to stay within the range of their financial possibilities. The reporting period of three years aims to avoid that clubs exceed their spending in one season, taking the chance of being banned for one year but coming back more competitive in the year after. This takes the long-term viability into account.

Article 61 – *Notion of acceptable deviation*

1 The acceptable deviation is the maximum aggregate break-even deficit possible for a club to be deemed in compliance with the break-even requirement as defined in Article 63.

2 The acceptable deviation is EUR 5 million. However, it can exceed this level up to the following amounts if such excess is entirely covered by contributions from equity participants and/or related parties:

- a) EUR 45 million for the monitoring period assessed in the licence seasons 2013/14 and 2014/15;
- b) EUR 30 million for the monitoring period assessed in the licence seasons 2015/16, 2016/17 and 2017/18;
- c) a lower amount as decided in due course by the UEFA Executive Committee for the monitoring periods assessed in the following years.

A good thing is that the FFP regulations take into account that football is often unpredictable and, therefore, that it is possible that a team falls short of expectations in a season. Smoothing the process for cooperation between clubs and their investors is necessary to improve the viability of the clubs.

Fulfilment of Article 64 – Fulfilment of the break-even requirement

1 The break-even requirement is fulfilled if no indicator (as defined in Article 62(3)) is breached and the licensee has a break-even surplus for reporting periods T-2 and T-1.

2 The break-even requirement is fulfilled, even if an indicator (as defined in Article 62(3)) is breached, if:

- a) the licensee has an aggregate break-even surplus for reporting periods T-2, T-1 and T; or
- b) the licensee has an aggregate break-even deficit for reporting periods T-2, T-1 and T which is within the acceptable deviation (as defined in Article 61) having also taken into account the surplus (if any) in the reporting periods T-3 and T-4 (as defined in Article 60(6)).

3 The break-even requirement is not fulfilled if the licensee has an aggregate break-even deficit for reporting periods T-2, T-1 and T exceeding the acceptable deviation (as defined in Article 61) having also taken into account the surplus (if any) in the reporting periods T-3 and T-4 (as defined in Article 60 (6)).

The regulation gives clubs the scope to operate with their revenues. For example, if a club sells a player for 100 million Euros, there is no pressure to reinvest this money immediately in the same period. They have the possibility to reinvest it wisely in the next periods.

2.3.1 Consequences and Conclusions for Investors

New regulations create a huge entry barrier for investors. They now cannot buy a small club, invest big and reach the lucrative status of a Champions League club, where they can make money. To make profit with football clubs, investors depend on the size of the club and on its fans.

There are only about fifteen elite clubs and a few more, which are lucrative for their location for example in a famous city, in which investors can aim for high turnovers. These clubs usually have a huge fan base and modern stadiums. Furthermore, most of these clubs already take part in the Champions League. This brings in those millions of extra money used to strengthen their position through reinvestment and thus widens the gap between smaller clubs. Their success allows them to earn even more.

These two facts are essential to generate money. Without taking part in the so-called “money league” (Champions League), it would take smaller clubs years to catch up without external funding, and their success in attempting to do so would be uncertain. On the other hand, it is easy for the bigger clubs to maintain the status quo. For

investors, the safest bet would be to buy a well-established club. Even though the initial spending is high, it can guarantee a steady cash flow and dividends for the future.

Henning Vöpel shows the effects of the FFP regulations in the table 4.

Table 4: Objectives, methods, and effects of FFP rules

OBJECTIVES	Explicit objectives of FFP rules			Other reasonable objectives		
	Long-term financial stability	Integrity of the game	Limiting Inflation of players' salary	Competitive balance	Consumer benefits	Free enterprise
Methods						
Market failure	maybe	no	no	yes	maybe	maybe
Break-even requirement	positive (sufficient, but not necessary)	no effect (Rent shifting)	positive	negative	ambiguous	negative
Relevant income	no effect	positive (sufficient, but not necessary)	positive	negative	ambiguous	negative
Revenue sharing	positive	positive	positive	positive	ambiguous	ambiguous

Source: Vöpel, 2013, p. 19

This minimizes the financial risk for investors, as clubs, that are not well established, are no longer able to overinvest. Therefore, big clubs are no longer under pressure to invest more to keep others at a distance. The adversely effect of forbidding disproportionate external funding to create competitive balance makes an investment in established clubs even more attractive.

2.3.2 The Emerging of New Potential Targets

In the article “Do we really need Financial Fair Play in European club football?”, it is mentioned that

“...it is expected that Financial Fair Play will lead to an intentional redistribution of revenue causing a reallocation of factors of production (players, e.g.). Due to tighter regulations in the German Bundesliga national champions like Bayern Munich, for example, will tend to gain competitiveness whereas less regulated leagues, like the English Premier League or the Spanish Primera Division, will lose competitiveness....”(Vöpel 2011, p. 57)

Vöpel (ibid.) also mentioned that this redistribution only takes place between the leading clubs. For potential investors, this means that investing in clubs in France and Germany, where regulations on financing are already established, could be lucrative.

The big clubs in these leagues have a much higher potential for future market growth. They already have good governance and more sustainable business models. Therefore, the upcoming readjustment is much easier for them.

2.3.3 Risk associated with the New Regulations

The UEFA is convinced that financial regulations are necessary. However, nobody is 100 per cent sure, if the introduction of the FFP regulations was the right step to take and if it will work. If the new regulations fail, further alternatives or extensions could be implemented. Possible alternatives could be a salary cap, where the maximum wages of all players are limited. Investors should consider such eventualities, although the chance is marginal.

2.3.4 Manager Competence

“Moreover, by breaking the described ‘money comes to money’ dynamics, FFP brings the football hierarchy closer together again. As a consequence the relative importance of ‘good management’ for sporting success increases.” (Franck, 2014, p. 29)

Before the implementation of the FFP regulations, manager competence was not as important as it is nowadays. In case of wrong decisions in the past, such as hiring the wrong players and trainers, it was easy to replace them by hiring new ones. Now, such management decisions influence the chance of success even more, as squad adjustments are even harder or sometimes not possible due to the break-even requirement. The club budgets move closer together and all clubs have to deal with lower financial flexibility.

For investors, it is a big opportunity to have superior managers, who hire staff (players, trainers) and make the essential development decisions (infrastructure, youth academy, etc.). However, the talent pool for superior managers is very small because most of the managers are not used to operating within their market potential. It can be hard for them to reach the same top results with limited resources.

2.3.5 Capitalise on Potential Loopholes

Whenever a new rule or law is introduced, there are ways to sidestep it. By exploiting such loopholes, the clubs can gain considerable advantage.

The first prominent cases occurred at Manchester City and Paris Saint Germain. They are under investigation for using sponsorship practices to get illegitimate money injections from third parties.

Paris Saint-Germain has received a sponsorship deal of 200 million Euro per year from Qatar's Tourism Authority, which is also the owner of the club (<https://www.telegraph.co.uk/sport/football/european/10443730/Paris-Saint-Germain-sponsorship-deal-eclipses-all-rivals-but-opens-questions-about-Financial-Fair-Play-regulations.html>).

Manchester City got their money from a group of sponsors, which are owned by the United Arab Emirates government. One of the deputy prime ministers is the owner of Manchester City.

There are still many ways for investors to make major investments in clubs, which the regulations do not cover. For example, the regulations exclude expenses in youth academies and infrastructure. This opens the way for investments in superior academies, training facilities and football stadiums. These factors alone can boost clubs in their competitiveness. Such investments mean millions of Euros that influence the results of the accounts.

3 Valuation Models

3.1 Discounted Cash Flow Valuation

The first evaluation method used in my analysis is based on the idea of Discounted Cash Flow (DCF): "The value of an investment is determined by the magnitude and the timing of the cash flows it is expected to generate. The DCF valuation approach provides a basis for assessing the value of these cash flows, and consequently is a cornerstone of financial analysis" (Titman, 2007, p.23).

DCF methods are based on the present value or actual cash value calculus, because expected future spill-overs are reduced at the moment of the evaluation. The DCF valuation is classified as entity method. It does not only value the equity of the firm as many other valuation approaches do. It also values the total value of the firm. It is therefore relevant for all capital providers (creditors and equity holders).

To get an appropriate interest rate for the present value of the future cashflows, it needs a rate, which can be applied to the value of an entire firm. In this approach the Free Cash Flows, that are paid to both the equity and debt holders are discounted. This rate is called Weighted Average Cost of Capital (WACC). "The WACC is the average of estimated required rates of return for the firm's interest-bearing debt, preferred stock and common equity. The weights used for each source of funds are equal to the proportions in which funds are raised" (Titman, Martin, 2007, p.123). This means that the WACC includes the opportunity costs for each stakeholder investing in a certain firm. The different investors face risks for which they want to be compensated.

DCF methods merge the capital market theoretical approach from Modigliani and Miller (1958) with the 'Capital Asset Pricing Model' (CAPM) which identifies the required rates of return needed for an evaluation.

Modigliani and Miller (ibid.) showed that the capital structure in a perfect capital market of a firm does not have any influence on its total current capital market value. Under these conditions, the market value of the total capital of an out-of-debt (self-financed) company equals the market value of the total capital of an in-debt (wholly or partially externally financed) company, whereas the market value of the total capital V is defined as the sum of the market value of the borrowed capital D and the market value of the equity E . $V = E + D$. "In a perfect capital market, the total value of a firm is equal to the

market value of the total cash flows generated by its assets and is not affected by its choice of capital structure”(Berk, DeMarzo, 2014, p. 483).

The principles of Modigliani and Miller are a crucial basis for the DCF method, with a few adjustments. This theorem of the debt ratio does not apply when due to the benefit leverage, because of the tax shield. For example, if the business success (before interest and taxes) cashflow are subject to a homogenous tax rate, financing with debt results in an increase of the so-called market value of the total capital because interest payments for the borrowed capital trim the fiscal basis for assessment. Thus, a congruence of the market value of the total capital of an out-of-debt company and an in-debt-company is no more, since bankruptcy risks are considered impossible. Therefore, we must consider the advantage of the interest tax shield in the WACC (Berk, DeMarzo, 2014, p. 511). This means, the benefits of the tax shield have to be included in the cost of capital.

Regarding the yield claims of the investors, the relevant literature cites the “Capital Asset Pricing Model” (CAPM). “The CAPM adjusts for company-specific risk through the use of beta, which measures a stock’s co-movement with the market and represents the extent to which a stock may diversify the investor’s portfolio. Stocks with high betas must have excess returns that exceed the market risk premium; the converse is true for low-beta stocks” (Koller, Goedhart, Wessels, 2010, p. 237).

Therefore, investors get compensated for risks they are taking. The equity holders return consists of the risk-free interest rate and the risk premium. This risk premium is the product of the price of the market risk, which is defined as the difference between the expected market return and the risk-free interest rate, and the object specific beta factor, which is supposed to represent the systematic company-specific risk (the market-based risk of the evaluated object) in comparison to the market portfolio.

In the literature, a lot of recommendations for using these methods to determine the relevant cash flow for the evaluation of companies can be found.

The “Free Cash Flow” (FCF) represents the value which is available to serve the investors’ and creditors’ claims. The projection of the cash flow usually occurs over a manageable time frame of three to five years. Numerous parameters are often estimated individually to forecast the financial affluence.

With the WACC approach, the market value of the company's total capital is calculated, through discounting the future free cash flow FCF, which is available to all capital providers, with the weighted average cost of capital.

3.2 Multiplier Method

In addition to the DCF method, which relies on forecasts, the multiplier method is a suitable instrument to verify the results. Investors may get a quick overview of the value and profitability of companies. In addition, it makes companies comparable. According to Creutzmann, Deser (2005, p. 2) the high acceptance of multiplier methods in business valuation has three reasons.

1. Multiplier methods are market-oriented valuation methods. The results are derived directly from market data of listed benchmark firms, which means it is all about comparative or relative evaluation of companies.
2. Multiplier methods are easy to apply. In contrast to a value-oriented valuation method, which is normally complex and very elaborate, multiplier methods are easy to implement, which is an enormous advantage.
3. Multiplier methods are wide spread. This makes them easily comparable.

When selecting multipliers, it can be distinguished between entity multipliers and equity multipliers. By means of equity multipliers the value of equity is calculated directly. Entity multipliers refer to the enterprise value. In order to get the firm value, it is needed to deduct the market value of the interest-bearing external capital from the enterprise value. Both entity as well as equity multipliers should have the same claimholder in their value (numerator) and standardizing variable (denominator).

In my valuation of Manchester United and Borussia Dortmund I selected entity multiples, due to the following reasons:

Entity multiples allow for a direct comparison of different firms, regardless of their capital structure, due to the exclusion of the leverage effect. They are less affected by accounting differences, since the denominator is computed higher up on the income statement. Non-core assets can be excluded and have a wide range of possible multiples.

3.2.1 Execution of the Multiplier Method

In the beginning, a close examination of the structure, and the characteristics of the company to be evaluated has to be done, according to a catalogue of pre-defined criteria. The next step is the selection of the most beneficial multipliers with regards to the available data and the company's characteristics. One part of this is reviewing which key figures best represent the company's performance and, subsequently, the comparability of these key figures. In a third step, comparable companies are selected and form a peer group.

a) Selection of adequate multipliers

Despite the knowledge of the advantages and disadvantages of the individual multipliers, the decision regarding their selection troubles analysts and investors alike. Hence, it should be settled in the beginning whether entity multipliers or equity multipliers are adequate for an evaluation. The different capital structures in football clubs point towards the use of encumbrance-independent entity multipliers. In the second step, a decision regarding which multipliers are beneficial for the individual evaluation case has to be made.

The selection of consistent and related reference and base figures is fundamental for the calculation of the different multipliers. In this context, reference and base figures always have to refer to the same evaluation dimension.

"The use of cash flow multiples in practice appears to be motivated by the implicit assumption that reported cash flow is the best available proxy for the future cash flows that underlies stock prices, and by the feeling that they are less susceptible to manipulation by management."(Liu , 2001, p.141)

In a last step, the company value is determined. The sought-after value results from the product of the selected performance indicator of the evaluation object and the respective multiplier on the basis of the comparable companies. The selection of multipliers for the evaluation is at the discretion of the evaluator. As a rule, multiple multipliers are used for an evaluation and the value of the company is based on an average of different multiplier values.

b) Selection of peer groups

“Selection of relevant peers is one of the most important steps in a market approach valuation. If the comparable companies are significantly different in structure and operations to that of the valuation subject, then the conclusions, of course, run the risk of being flawed.”(Bernström, 2014, p. 23)

The selection of adequate comparable companies is one of the central factors of the evaluation and determines the accuracy of the whole appraisal. Since the existence of two exactly equal companies can be foreclosed, several market-listed companies with similar characteristics have to be found. These companies have to be similar to the company to be evaluated in regard to the catalogue of criteria.

Only the companies with the highest comparability should be added to the peer group. A small peer group with highly comparable companies is always preferred to a large peer group whose members are only roughly comparable.

In general, peers should have the same size and should be taken from the same business sector and geographical area (ibid.).

In terms of geographical areas, there is only a small number of suitable comparable firms. Therefore, other areas with similar preconditions have to be found.

Normally, it is necessary to investigate in which specific market these firms operate, concerning their product mix, suppliers, customers, etc.

In the case of football clubs, these factors are not relevant because they are rather equal in this respect. For football clubs, the league in which they are, their size and their popularity are key elements.

4 Valuation using DCF Method

The data used for the calculation are extracted from the business reports of Borussia Dortmund and Manchester United from the last few years. The Forecasts for both football clubs have been conducted according to this historic data and the development of the football industry mentioned further above.

4.1 Business Environment for Borussia Dortmund and Manchester United

In this section I take a closer look into the business sector. To understand where the risks and opportunities are for football clubs, you have to understand how they finance themselves; that is, how they generate revenue and what their main expenditures are.

Different from traditional industries like manufacturing and service they do not sell their product to a single customer. These sectors sell products or offer services to a specific person or company. But what is the product a football club is selling? Is it the game they play, their name or brand, tradition and lifestyle, or something else. Is it a mixture of all of them? This is reflected in the different sources of their revenues (figure 1) and in the ranking of the European football clubs according to their revenue structure (table 5).

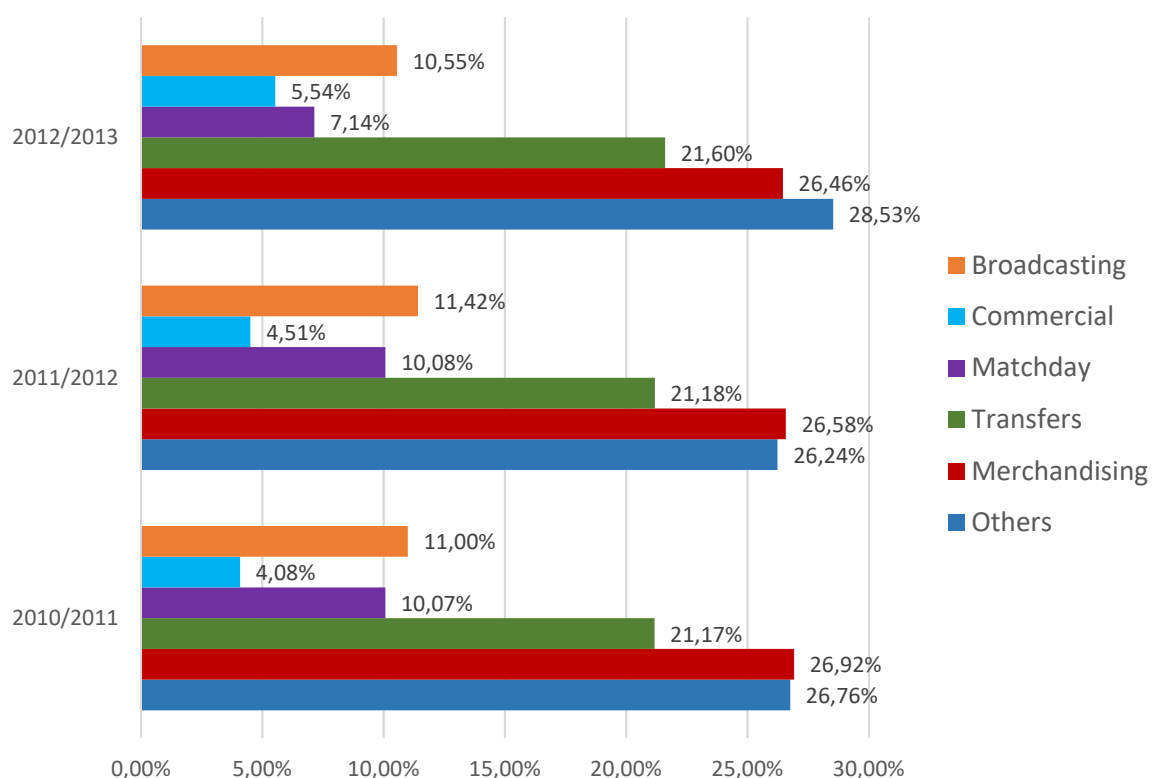


Figure 1: Percentage of Revenue streams German Bundesliga
Source: <https://fussball-geld.de/>

Table 5: Revenue structure of the highest-grossing Clubs 2010/11 (in million Euros)

Rank	Country	Club	Matchday	Broadcasting	Commercial	Total	Matchday zu Total	Broadcast. zu Total	Commercial Total	Stadium Capacity
1	ESP	Real Madrid	123,6 €	183,5 €	172,4 €	479,5 €	26%	38%	36%	87,2%
2	ESP	FC Barcelona	110,7 €	183,7 €	156,3 €	450,7 €	25%	41%	35%	79,7%
3	ENG	Man United	120,3 €	132,2 €	114,5 €	367,0 €	33%	36%	31%	98,9%
4	DE	FC Bayern	71,9 €	71,8 €	177,7 €	321,4 €	22%	22%	55%	97,2%
5	ENG	Arsenal London	103,2 €	96,7 €	51,2 €	251,1 €	41%	39%	20%	99,5%
6	ENG	Chelsea London	74,7 €	112,3 €	62,8 €	249,8 €	30%	45%	25%	99,0%
7	IT	AC Milan	35,6 €	107,7 €	91,8 €	235,1 €	15%	46%	39%	67,3%
8	IT	Inter Mailand	32,9 €	124,4 €	54,1 €	211,4 €	16%	59%	26%	73,4%
9	ENG	Liverpool	45,3 €	72,3 €	85,7 €	203,3 €	22%	36%	42%	94,4%
10	DE	Schalke 04	37,2 €	74,3 €	90,9 €	202,4 €	18%	37%	45%	99,6%
11	ENG	Tottenham Hotspurs	47,9 €	92,0 €	41,4 €	181,0 €	26%	51%	23%	98,6%
12	ENG	Man City	29,5 €	76,1 €	64,0 €	169,6 €	17%	45%	38%	96,1%
13	IT	Juventus	11,6 €	88,7 €	53,6 €	153,9 €	8%	58%	35%	53,6%
14	FR	Olympique Lyon	25,6 €	78,2 €	46,6 €	150,4 €	17%	52%	31%	85,1%
15	IT	AS Roma	17,6 €	91,1 €	34,8 €	143,5 €	12%	63%	24%	47,3%
16	DE	Borussia Dortmund	27,7 €	32,1 €	78,7 €	138,5 €	20%	23%	57%	98,0%
17	FR	Olympique Lyon	19,0 €	69,6 €	44,2 €	132,8 €	14%	52%	33%	84,3%
18	DE	Hamburg SV	41,8 €	26,7 €	60,3 €	128,8 €	32%	21%	47%	95,5%
19	ESP	Valencia	27,5 €	66,4 €	22,9 €	116,8 €	24%	57%	20%	78,1%
20	IT	Napoli	22,0 €	58,0 €	34,9 €	114,9 €	19%	50%	30%	75,7%
x	POR	FC Porto	13,8 €	29,7 €	46,2 €	89,8 €	15%	33%	51%	
		Total	1.039,4 €	1.867,5 €	1.584,7 €	4.491,7 €				
		Average	49,5 €	88,9 €	75,5 €	213,9 €	23%	42%	35%	85,4%

Source: DELOITTE. Football Money League 1012 & FC Porto Annual Report 2010/11.
Transfermarkt.de

1. Matchday revenue (Ticketing)

This is the source, which is most closely likened to the core business; the game itself. The spectators identify with their club, their city and want to get one over on other clubs' cities. For them the product is the club himself. Before the commercialization and globalization of the game, this was nearly the only revenue source. This proportion has reduced over their years. Since a few years it is quiet stable at about 15-25% percent, depending on the league, the club and the stadium capacity. But for the bigger clubs we are interested in, it is stable at this range. As you can see, match day revenue is very important for clubs, but is it limited for growth because of the capacity of the stadiums and the ticket prices. Most of the spectators are working class and cannot effort too high ticket prices. So they react sensitively to price rises. To enhance them and take opportunity of this source many clubs expand their stadium or build complete new arenas to maximize their revenues. A huge proportion of the match day revenue the clubs receive is through VIP-boxes, which are mostly rented by firms for their business relationships.

Therefore, a new stadium gives them also the opportunity to include more luxury and modern boxes for rent. Recent examples in Germany are Mainz 05, VfB Stuttgart and Bayern Munich and in England they are Arsenal FC and Manchester City.

As far as risk is concerned it is relatively high. If the performance of the team is under that of the expectations of the spectators, they often stay at home. They sell seasonal tickets for a better forecast reliability and to lower the risk. On the contrary, seasonal ticket holders are not so attractive to buy their items. They mostly purchase once in a season a kit and no further buys. Single ticket visitors mostly purchase items such as a souvenir and therefore generate more profit. The club has to balance the amount of tickets for the free market and for the seasonal holders, which are the better supporters to give the team a boost.

Much harder is to calculate the revenue for the year for the cup games, because it is not sure how far the team is going. The numbers of games can deviate up to over 20 matches.

2. Broadcasting

The main revenue source is for sure broadcasting. More and more people all over the world are interested in watching the best, which is the European, football and their stars. The product is entertaining the viewers. As above mentioned, new deals occur from year to year for both domestic and international broadcasting rights. There is no end in sight. These revenues are granted and much more, they are climbing.

3. Commercial (merchandising and sponsoring)

I sum these two up under commercial because they are strongly linked for big clubs. Merchandising means to sell club related articles. Nowadays often the sponsors themselves sell these products. Especially the kit sponsors sell the products under their retail network. Through sponsoring a football club, the sponsors hope that they can gain from the image of the club and have special hospitality possibilities for their business partners in the stadiums' VIP lounge. There they can represent their business to potential customers and make their deals. There are a great variety of sponsor contracts. They reach from the equipment sponsor to the kit sponsor, license contracts, commercial contracts to just buying a business seat to have their platform for business relationships. These

contracts are often long-term contracts. This allows the clubs to have planning security. The only risk would be a default of the sponsor, but companies, which are able to step into the football business belong to the biggest market players. Therefore a default is unlikely. As mentioned in part 1, bigger and bigger deals are completed, so clubs can expect higher revenues in this sector in the next years. Especially the recent boom of football in the US makes it for companies much more interesting to sponsor a famous team, which is recognized all over the world. One great plus is that there is a tremendous pool of potential sponsors. There is no limitation on special business sectors as you can see. Cars, credit cards, airlines, insurance companies, unicef, even Countries are on the shirts of the teams.

4. Others:

Transfer fees are mentioned under this section. Especially smaller clubs are often relying on this source. For the bigger clubs, they normally have a minus in transfer sums.

Catering, travel and renting fees for events, hotels etc. are also included here.

4.2 Valuation Borussia Dortmund

4.2.1 Initial Situation

The season 2013/2014 was yet again very successful in sporting and financial terms. The club came runners up in the league behind of Bayern Munich and also reached the German cup final. Despite losing the final, this highlight was broadcast all over the world; a good promotion to strengthen their brand. Internationally, Borussia Dortmund reached once again the quarter-final of the Champions League and established themselves as one of the best big clubs in sporting terms. Financially, the attained revenue of 260.7 million Euros and with a profit of 10.5 million Euros once again made a profit in earnings in double digits.

http://www.equitystory.com/download/companies/borussia/Annual%20Reports/BVB-GB2015_net.pdf

Therefore, we have to be careful in the forecast. We cannot assume that Borussia Dortmund will be always as successful. Nevertheless, Borussia Dortmund became in the recent years a well-established football club and is currently in Germany one of the top clubs. We can predict that Borussia Dortmund will finish in the next five years at

least in the top four, which will guarantee them access to the Champions League millions. According to the CEO Hans Joachim Watzke, Borussia Dortmund's goal is to stay in the top four and become in Europe one of the teams, without financial risk. But he knows that further investments in the player budget are necessary.

Through long-term contracts with their main sponsor partners (Evonik Industries AG until 2025 and Sparda Bank until 2018) they expect a slight increase in sponsoring, through acquiring new partners. Accordingly merchandising the success will give them a boost. Borussia Dortmund as a brand became modern. In terms of social media Borussia Dortmund became this year the second German club with more than one million followers on twitter. They have also been named Germany's leading brand manager. In TV money, a growth in revenue is also expected. In the champions league a rise of income is also possible. But the predicted success is hard to match. Therefore, it is better that the club only calculate with the group stage in this competition, although it is likely to get further.

In terms of expenditures, an increase in the player budget is planned, to stay ahead of the other competitors in Germany, except Bayern Munich, and to try to close the gap to the big global players, like Real Madrid, Manchester United, Bayern Munich, etc.

All these suggestions will be taken into account for the calculations.

4.2.2 Special Cases: Players as Intangible Assets

Players are declared as intangible assets and they are valued through the cost method. This means, youth players are not with their true value included. Bought players are on their transfer fee and their player's agent fees taken into account. Their costs are to depreciate on a straight-line basis according to their contract length. Players without a transfer fee are taken into account with the fair value (Hackenberger, 2008, p. 115, ff).

The cash flow of a football club also includes the transfer fees; these underlie huge deviations. You cannot predict, when or for how much money a player joins or leaves a club. Therefore I adjust the results by these fees. I only take a prediction of the total investment into account to reach the FCF.

4.2.3 Revenue Structure Borussia Dortmund

As above mentioned, the revenue of the year 2014 was 260.7 million Euros, which is a decrease of about 14% compared with 2013. Although Borussia Dortmund was not so successful in the Champions League, they managed to increase their revenue if you adjust it for the transfer income. Therefore, the forecast for the following years is promising, even with a conservative view. The revenues consist of the following factors (Figure 2).

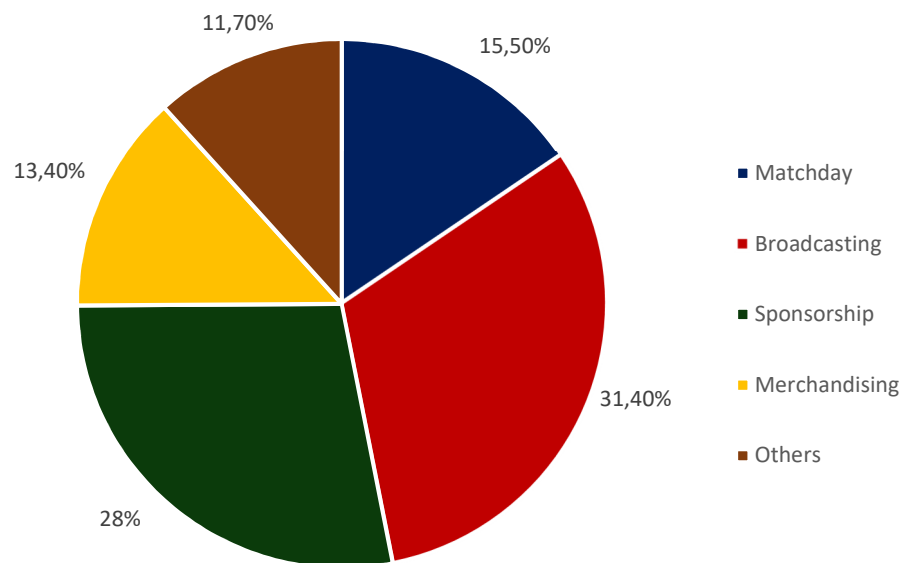


Figure 2: Revenues Borussia Dortmund

Matchday 15.5%

In this sector Borussia Dortmund has a stable income, where only slight increases and decreases are possible. The Stadium, which has a capacity of over 80000, is almost sold out on every matchday. The slight differences from year to year are dependent on the number of matches and therefore the sporting success of the club in the domestic cup and the Champions League. The domestic league guarantees 17 games, with cups providing between 4 and 11 further matches. In this sector, an increase can be likely, but to have planning security a conservative approach is taken. A slight increase of 6% through ticket price adjustments and historical data are taken into account.

Broadcasting 31.4%

Domestic and international broadcasting rights account for the largest proportion as always in the bigger leagues. Similar to the matchday revenue, only slight variations are expected until the end of the domestic broadcasting contract in 2017 (10% rise per year until the end of contract), depending on the sporting performance of Borussia Dortmund. Borussia Dortmund currently ranks second and are expected to stay there.

For the next contract a huge increase can be expected. This has been shown in the new contract of the English Premier League. The current domestic TV deal gives the German teams 2.5 billion over four years. The new contract should break the 1 billion per year margin. This means from there on the yearly revenue gets a huge boost. (<https://fussball-geld.de/>)

Broadcast revenue of the German Bundesliga can be seen in table 6.

Table 6: Total Broadcasting: Season 2013/2014

Rank	Club	Total in €	National in €	International in €
1.	Bayern Munich	36.930.000	33.930.000	3.000.000
2.	Borussia Dortmund	35.552.500	33.052.500	2.500.000
3.	Bayer Leverkusen	33.675.000	32.175.000	1.500.000
4.	Schalke 04	33.297.500	31.297.500	2.000.000
5.	Borussia Monchengladbach	31.920.000	30.420.000	1.500.000
6.	Hannover 96	30.792.500	29.542.000	1.250.000
7.	VfL Wolfsburg	30.165.000	28.665.000	1.500.000
8.	1. FSV Mainz 05	29.037.500	27.787.500	1.250.000
9.	SC Freiburg	28.160.000	26.910.000	1.250.000
10.	VfB Stuttgart	27.224.000	25.974.000	1.250.000
11.	Werder Bremen	26.229.500	24.979.500	1.250.000
12.	TSG 1800 Hoffenheim	25.176.500	23.926.500	1.250.000
13.	Hamburg SV	24.065.000	22.815.000	1.250.000
14.	1. FC Nuremberg	22.895.000	21.645.000	1.250.000
15.	Eintracht Frankfurt	22.017.500	20.767.500	1.250.000
16.	FC Augsburg	20.262.500	19.012.500	1.250.000
17.	Hertha BSC Berlin	19.385.000	18.135.000	1.250.000
18.	Eintracht Braunschweig	18.215.000	16.965.000	1.250.000
	Total	495.000.000	468.000.000	27.000.000

Source: <https://fussball-geld.de/>

Sponsorship 28%

Just as important as broadcasting are the sponsorship deals for the football clubs. Their primary partner just extended the partnership until the year 2025. They will give Borussia Dortmund an additional 5 million per year, which leads to total sum of 18 million per year. <http://www.manager-magazin.de/unternehmen/artikel/evonik-und-der-bvb-echte-liebe-a-992737.html>

The kit sponsorship deal with Puma expires in 2020. Until then Borussia Dortmund get about 6.25 million per annum. Those partners generate more than 20% of the advertising revenue. Through the concentration in developing markets like Asia and the USA, Borussia Dortmund hope to gain new partners to raise their sponsorship funds. The figures above only contain the basic pay. In case of success the amount can rise. According to my calculation (see Appendix), which is based on historical data a 15% rise per year is taken into account.

Merchandising 13.4%

In terms of merchandising once again a plus of a few million is generated. The position becomes a revenue driver. Through new structures and aiming in overseas countries they expand their opportunities and a stable growth is expected. The expansion in the B2B sector is another reason for the increase. For the upcoming years the stable growth of 25% per year is likely to be held.

Others 11.7%

a) Transfers

With regards to transfers, Borussia Dortmund only generated 4.5 million Euros in comparison to the 51.6 million Euros the year before. This discrepancy can be explained by the fact that the transfer window runs until the end of August, and therefore the final figure depends on the date of the transfer. It is more common to buy later in this window. The effects of the transfers are eliminated in the forecast, because there are sometimes stand out transfers, which falsify the results.

b) Additional sources

Release fees or national team players, catering, licenses and other income only account for a small fraction of the income, therefore a slight increase of 2% is taken to the forecast, but it has hardly an effect on the results.

4.2.3.1 Assumption Revenue Forecast

In the last year, the revenue grew by 42.09%. This remarkable growth can be explained by their first participation in the Champions League since 2002/03. Especially the rise in broadcasting is explained by that. 25.596 million Euros they receive in order to play this cup. By assuming the forecast, we have to recognize that and adjust the growth by cancelling out such effects.

The revenue is compound of broadcasting, transfers, sponsorship, matchday, merchandising and others. For all these segments, I do predictions for the future by their own to get the expected revenue growth. For all segments the median of the annual growth from the past years and also the actual trend from the present year are taken into account to get the expected revue growth.

Table 7: Revenue Forecast in million Euros

Prediction Revenues	2014	2015	2016	2017	Rate of growth
Transfers	4.4	30.0	30.0	30.0	none
Retail,Catering, other	56.6	70.8	88.4	110.5	25%
TV rights	81.4	89.5	98.5	108.3	10%
Sponsorship	73.0	84.0	96.5	111.0	15%
match operation	40.5	42.9	45.5	48.2	6.00%
release fees national players	4.7	5.7	6.7	7.8	2.00%
Revenue	260.6	312.3	343.5	379.0	10.0%

The players fluctuation is very hard to guess. Which player will leave and for how much he will leave. For example, if a star player leaves the club, a huge transfer fee has a massive affect on the revenue. Therefore, such effects were canceled out and fixed and plausible numbers for the next years were taken. It is taken for granted that a few players will leave the club. I estimate that not every year a high asset player will leave the club and lower valued player leave the club permanently. To take in observation the football transfer market, an average fee of 30 million Euros per year looks feasible. We also adjust the recent years on this figure.

4.2.4 Cost Structure of Borussia Dortmund

Materials

These costs accompany the revenue increase from the sale of the merchandising products. Therefore, we take the same rise of 25% per year into account for this position as the revenue rise for the merchandising segment.

Personnel expenses

One of the most important factor for the costs of a football club is the wages for the football players. Borussia Dortmund wants to maintain their high standing in Europe. Therefore, they plan to rise their budget for personnel expenses to stay attractive for players. The industry trend is to pay higher wages for the players. Also considering the previous years, a growth of 10% increase of wages which are considered in the valuation is appropriate for these costs.

Depreciation and amortisation

The changing depreciation depends highly on the purchasing and selling of players. Due to the estimation that Borussia Dortmund is investing more (35 million Euros) than selling (20 million Euros), the rise of the depreciation was calculated of 6.67 million Euros per year (table 8).

Table 8: Expected AFA for the Football Players in million Euros

Player purchase	35
contract length	3
AFA/anno	11.67
Player sale	20
contract length	4
AFA/anno	5
New AFA	6.67

Other operating expenses

Other operating expenses increased in the past years. In accordance with the total expenses they are the second huge important asset beside the personal costs. The business plan of Borussia Dortmund is to recruit new and better players in order to sustain success. This will naturally entail continued rising costs and are taken into account in my calculations (8%).

http://www.equitystory.com/download/companies/borussia/Annual%20Reports/BVB-GB2015_net.pdf

4.2.4.1 Assumption Cost Forecast

Table 9: Prediction Costs in million Euros €

Estimation Costs	2014	2015	2016	2017	Change
Personal expenses	107.8	118.57	130.43	143.47	10%
Depreciation, amortisation, write offs	30.7	37.35	44.02	50.69	6.67%
Other operating expenses	88.7	95.80	103.46	111.74	8%
cost of materials	20.3	25.39	31.74	39.67	25%

Source: http://www.equitystory.com/download/companies/borussia/Annual%20Reports/BVB-GB2015_net.pdf

Capital Expenditures

The main part of the capital (recruiting) expenditures are the cost of buying players. Therefore, the estimation of the future recruiting plan was used again. 35 million Euros were taken into account.

Change in working capital

Is based on the historic data and amounts 20%.

4.2.5 Capital Structure

A crucial element of a healthy company is an appropriate capital structure for its underlying risks of assets. It's a trade off between advantages of leverage and the costs of potential financial distress. The optimal capital structure is industry specific and varies between the firms within a specific industry.

Borussia Dortmund is mainly financed through debt and has therefore a very high leverage. This is caused by the bankruptcy in 2002. After this event the club got a cheap long-term rescue package, which includes very cheap debt with a very low return on debt. The management of Borussia Dortmund regards the current capital structure as not optimal for the club and tend to finance the firm.

4.2.5.1 Debt

The total debt in 2014 for Borussia Dortmund is the sum of short-term and long-term liabilities and amounts 69,435 million Euros in 2014 (table 10).

Table 10: Debt 2014 in million Euros

Non-current financial liabilities	32.139
Current financial liabilities	8.889
Present value of liabilities from finance leases	21.769
Other financial obligations	24.490
Total Debt	87.287
Cash	17.852
Total Debt - Cash	69.435

4.2.5.2 Equity

Borussia Dortmund's market value of equity in 2014 equates to its market capitalization and is calculated multiplying the share price by the outstanding shares. It has a value of 13.509 million Euros in 2014 (table 11).

Table 11: Market Value of Equity 2014

Outstanding Shares	61.405.700
Share Price	0.22 €
Market Capitalization	13.509.254 €
Market Capitalization in million Euros	13.509

Source:

http://www.equitystory.com/download/companies/borussia/Annual%20Reports/BVB-GB2015_net.pdf

4.2.5.3 Ratios

The current debt-to-equity ratio amounts 5.14. That means the creditors have more than 5 times as much money in the company than equity holders. According to plans of the CEO Hans Joachim Watzke, I assumed that the debt-to-equity ratio will change by constant factor of 5% per year. Which leads in 2017 to a debt-to-equity ratio of 1.8. This balance between debt and equity is typical for football clubs and could be seen as target for Borussia Dortmund. Therefore, I used this the WACC of 2017 with its corresponding capital structure for the calculation of the terminal value.

Table 12 shows the calculated equity/debt to value ratios for each year used for the calculation of the WACC.

Table 12: Ratios

Ratios	2014	2015	2016	2017	2018
D/E	5.14	3.76	2.85	2.23	1.80
E/(E+D)	0.16	0.21	0.26	0.31	0.36
D/(E+D)	0.84	0.79	0.74	0.69	0.64

4.2.6 Weighted Average Cost of Capital (WACC) after Tax

“The WACC represents the effective cost of capital to the firm, after including the benefits of the interest tax shield”(Berk & DeMarzo, 2014, p. 514).

In other words, WACC is the cost of capital, which is the weighted average of the costs of different components (equity and debt) used for the financing of a firm. To calculate WACC, the following formula will be used:

$$WACC = r_e * \frac{E}{E + D} + r_d * \frac{D}{E + D} * (1 - tc)$$

The variables r_e and r_d will be calculated below. The debt-to-value ratio and equity-to-value ratio are taken from the corresponding excel sheet. As discussed below the final of value of the WACC for 2014 is caused by the benefit of debt.

WACC: 3.81% in 2014

Borussia Dortmund’s WACC of 2014 is rather low. This is due the fact that the firm is almost only financed by debt and therefore the Tax shield is mirrored in the WACC. Thus the cost of capital is very beneficial for Borussia Dortmund. The analysis considers the changing capital structure and therefore each year an adequate WACC was calculated (table 13).

Table 10: WACC after Tax

	WACC 2014	WACC 2015	WACC 2016	WACC 2017
WACC for Be 0.915	3.81%	3.88%	3.95%	4.03%

For the estimation of the terminal/residual this WACC of 2018 with its corresponding capital structure was used.

Cost of Equity (r_e)

The cost of equity is the rate of return investors get for holding firms equity. This return compensates the risk of the investment being made. The CAPM model was used to calculate the r_e . For each year (2014-2018 the appropriate r_e with the corresponding β_e was calculated (table 14).

Table 14: Cost of equity

	Be	re
2014	0.915	6.94%
2015	0.82	6.44%
2016	0.76	6.10%
2017	0.72	5.88%
2018	0.69	5.72%

$$r_e = r_f + \beta_e * (r_m - r_f)$$

$$r_e = 2\% + .915 * (7.4\% - 2\%) = 6.94\%$$

$r_e = 6.94\%$ in 2014

Beta Equity (β_e)

The beta equity measures the sensitivity of a security to the market wide risk. It is the percentage change in its return given a one percent change in the return of the market portfolio. The beta equity is taken from an estimation of Damodaran and is 0.915 (table 15). Borussia Dortmund's beta is nearly one. If the coefficient is 1 it indicates the price of the stock /security is moving in line with the market

$\beta_e = 0.915$ in 2014

Table 15: Beta Equity

Team	Sport	Traded in	Beta
AS Roma	Soccer	Italy	1.087
Juventus	Soccer	Italy	0.483
Lazio	Soccer	Italy	0.863
Brisbane Broncos	Rugby	Australia	0.717
Madison Square Garden	Basketball & Hockey	US	0.65
Ajax	Soccer	Netherlands	0.482
Manchester United	Soccer	US	NA
Sport Lisboa	Soccer	Portugal	0.751
Sporting Clube Portugal	Soccer	Portugal	0.253
Arsenal Holdings	Soccer	UK	0.572
Borussia Dortmund	Soccer	Germany	0.915
Galatasaray	Soccer	Turkey	0.791
Fenerbahce	Soccer	Turkey	0.855
Parken	Soccer	Denmark	0.454
Silkeborg	Soccer	Denmark	0.451
Brondbyernes	Soccer	Denmark	1.227
Aarhus Elite	Soccer	Denmark	0.587
Average			0.696
Median			0.684
Maximum			1.227
Minimum			0.253

Source: <http://aswathdamodaran.blogspot.com/2014/06/ballmers-bid-for-clippers-investment.html>

In order to take the changing capital structure from year 2014 until 2018 into account, I calculated a new β_e for each year. Therefore I unlevered the beta and relevered it again (Harris & Pringle (1985) formulas with the appropriate ratios for each year (2014-2018). The values can be found in table 16.

Table 16: Return on Equity

	2014	2015	2016	2017	2018
Bu	0.57	0.57	0.57	0.57	0.57
Bd	0.50	0.50	0.50	0.50	0.50
D/E	5.14	3.76	2.85	2.23	1.80
Be	0.915	0.82	0.76	0.72	0.69
r_m	7.40%	7.40%	7.40%	7.40%	7.40%
r_f	2.00%	2.00%	2.00%	2.00%	2.00%
r_e	6.94%	6.44%	6.10%	5.88%	5.72%

Beta Debt (β_d)

To determine the debt beta I used the CAPM model with the following formula. The calculation of **the risk of the market r_m** and **the cost of debt r_d** see below.

$$\beta_d = \frac{r_d - r_f}{r_m - r_f}$$

$$\beta_d = \frac{4.7\% - 2\%}{7.4\% - 2\%} = 0.5$$

$$\beta_d = 0.5$$

Market Risk Premium

The market premium was taken from the research paper “Fernandez et al., 2014, p.3”. The figure amounts to 5% and was underlined by the result of the calculation of the median of the market data of the last five years (table 17). This is the risk premium of holding the market portfolio instead of the risk free bond. The excess return compensates the risk the investors bear by investing into the market.

Market Risk Premium= 5.4%

Table 17: Market Risk Premium (%) used for 88 Countries in 2014

		Average	Median	St Dev	Q1	Q3	min	Max	Skewness
1	USA	<u>5,4%</u>	5,0%	<u>1,4%</u>	4,5%	6,0%	1,5%	13,0%	0,6
2	Spain	<u>6,2%</u>	6,0%	<u>1,6%</u>	5,0%	6,5%	2,0%	13,0%	1,5
3	Germany	<u>5,4%</u>	5,0%	<u>1,7%</u>	4,5%	6,0%	1,0%	12,4%	1,0
4	UK	<u>5,1%</u>	5,0%	<u>1,4%</u>	4,3%	6,0%	1,5%	12,8%	1,5
5	Italy	<u>5,6%</u>	5,5%	<u>1,5%</u>	4,8%	6,0%	2,0%	10,1%	0,8
6	Canada	<u>5,3%</u>	5,0%	<u>1,2%</u>	4,5%	6,0%	3,0%	10,0%	1,3
7	Mexico	<u>7,4%</u>	6,7%	<u>2,4%</u>	6,0%	9,0%	3,0%	15,0%	1,2
8	Brazil	<u>7,8%</u>	7,0%	<u>4,2%</u>	5,5%	8,3%	1,8%	25,0%	2,4
9	France	<u>5,8%</u>	5,9%	<u>1,5%</u>	5,0%	6,1%	2,0%	11,4%	0,9
10	South Africa	<u>6,3%</u>	6,0%	<u>1,4%</u>	5,5%	7,0%	3,0%	11,8%	1,3
11	China	<u>8,1%</u>	7,0%	<u>3,5%</u>	6,0%	9,4%	3,9%	20,0%	1,9
12	Australia	<u>5,9%</u>	6,0%	<u>1,6%</u>	5,0%	6,0%	3,0%	15,0%	2,2
13	Netherlands	<u>5,2%</u>	5,0%	<u>1,2%</u>	4,5%	6,0%	2,5%	11,6%	1,5
14	Switzerland	<u>5,2%</u>	5,0%	<u>1,1%</u>	4,5%	6,0%	3,0%	9,6%	0,9
15	Russia	<u>7,9%</u>	7,0%	<u>3,4%</u>	6,0%	9,0%	2,7%	25,0%	3,1

Source: Fernandez et al., 2014, p. 3

This concept is based on CAPM model and is calculated as follows.

$$r_m = \text{market risk premium} + r_f$$

$$\text{market risk premium} = (r_m - r_f)$$

This leads to a market return of 7.4 % for investing in the market portfolio.

$$r_m = 5.4 \% + 2\% = \mathbf{7.4 \%}$$

Risk Free Rate (r_f)

For the risk free rate I took the return of the Germany twenty-year bond that is equal to two percent. <https://www.deutsche-finanzagentur.de/de/private-anleger/bundeswertpapiere/bundesanleihen/>

$$r_f = \mathbf{2\%}$$

Cost of Debt (r_d)

The cost of debt is the rate of return creditors get for lending the firms their money. This return compensates the risk of not getting the money back that creditors face. Creditors bear less risk as the investors due to the fact that they are paid first. Thus the return of debt is lower than the return of equity.

In order to calculate the cost of debt r_d , the tool of Damodaran was used (http://pages.stern.nyu.edu/~adamodar/New_Home_Page/tools.html). Due to the fact that the EBIT is very high in comparison to the current interest expenses, the company rating is ranked with Aa2/AA very well and therefore the company default spread is very low. Hence the cost of debt is 4.7%. Find below a screenshot of the calculation of r_d using the tool of Damodaran.

$$r_d = \mathbf{4.7\%}$$

The formula of r_d consists of the following variables.

$$r_d = r_f + \text{credit default premium}$$

$$\text{credit default premium} = \text{Company Default Spread} + \text{Country Default Spread}$$

$$r_d = 2\% + 0.7\% + 2\% = \mathbf{4.7\%}$$

Growth Rate (g)

For the terminal growth rate, the German economy is decisive. Additionally the Football Business is an emerging market and the positive revenue forecast is considered as discussed in Chapter 4.2.3.1. Assumption 3%.

4.2.8 Values of the Club

Value of Enterprise: 1138.53 million Euros

Value of Equity: 991.48 million Euros

The calculations are based on numerous assumptions, hence there might be some deviation. For that reason the key variables have been analyzed through the sensitivity study WACC and a growth rate. The growth rate of 3% is taken from an optimistic approach.

Fluctuations of the WACC's have been taken into account, with the final figure of the WACC from 2017 as a guideline. The figures are to be found in table 18 (enterprise value, equity value.)

Table 18: Values of the club in million Euros

Value of operation	1120.29
<i>plus Non-Operating Assets:</i>	
Cash	17.85
Longterm Financial Assets	0.38
Enterprise Value	1138.53
minus Book Value Debt long&short	147.05
minus other liabilities	
Equity Value	991.48

The green figures are mainly realistic, as for the red ones they show more extreme environmental factors. The value of enterprise makes out 600 million Euros to 1.2 billion Euros and the equity value lies in between 450 million Euros to 1 billion Euros.

4.3 Valuation Manchester United

4.3.1 Initial Situation

Manchester United is the biggest football club in the United Kingdom with a revenue of 433.2 million Pounds and is very well known all over the world. It was founded in 1878 and has won 62 trophies, including a record of 20 English league titles. The football matches in the 2013/14 season generated a cumulative audience reach of over 2.8 billion across 197 territories (Annual report 2014, p. 27, <https://ir.manutd.com/~media/Files/M/Manutd-IR/Annual%20Reports/manchester-united-plc-20f-20141027.pdf>). Manchester United branded products are sold through around 2000 licensees in about 120 countries (p. 27).

Due to the rapid change of the personnel in 2013, especially the long-serving management legend Sir Alex Ferguson 2013, who made the club what it is today, and the loss of senior players, the club fell back in the league (figure 4).

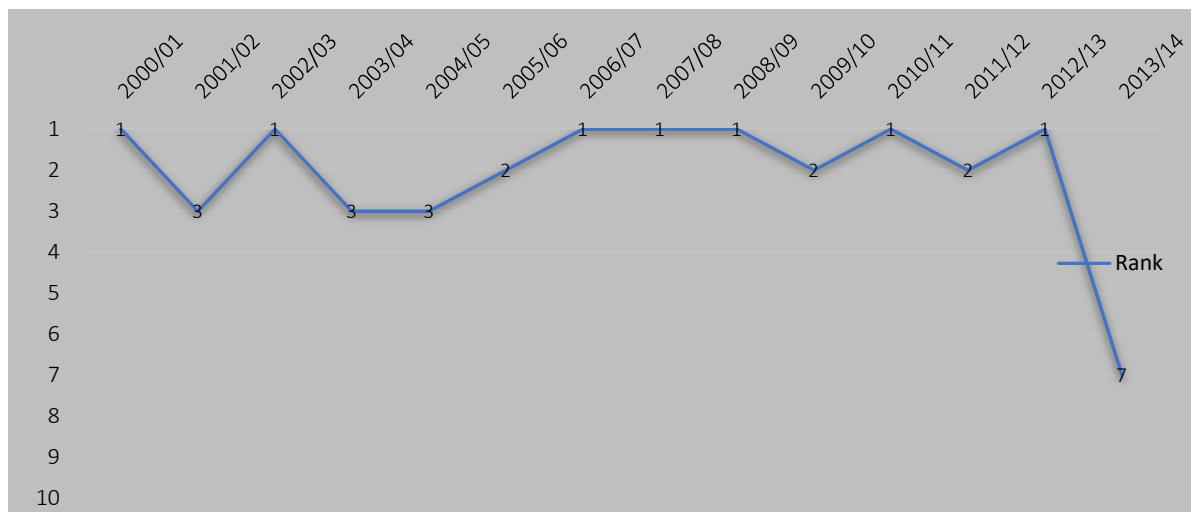


Figure 4: FA Premier League Final Rank

This led quickly to a loss of reputation and a decline in all revenue streams. One strength of the club is the value of the brand, therefore a decline of the performance of the team is dangerous. It can lead to a half in the growth of all revenue streams and it becomes harder to attract or retain good players and team managers.

Therefore substantial investments are necessary and planned, although they could be risky, in order to get back to the top of the league.

4.3.2 Revenue Structure Manchester United

This is a precondition for realizing a successful strategy of the club, which is based on the strength of the club. The key element of the strategy is to generate more profit in the following revenue streams:

Sponsorship

Retail merchandising and product licensing

Broadcasting

Matchday (ticket sales, etc.)

Transfers

For the growth of revenues the entrance into emerging markets is a good strategy. Man Utd is very well prepared due to its well established global media and marketing infrastructure.

Sponsorship

Sponsorship Revenue of Manchester United consists of 135.8 million Pounds. Their portfolio contains regional (Apollo, Honda, Pepsi, Unilever, etc.) and global (Adidas, DHL, General Motors, etc.) partners with a great variety of products. The growth in the last year reached 49.4 percent which is almost the same rate as the year before. A similar increase has been seen with the new shirt sponsor, Chevrolet, since 2014. This new contract brings in 43.6 million Pounds a year, which is more than double the previous 19.6 million that Aon has been paying (figure 5).

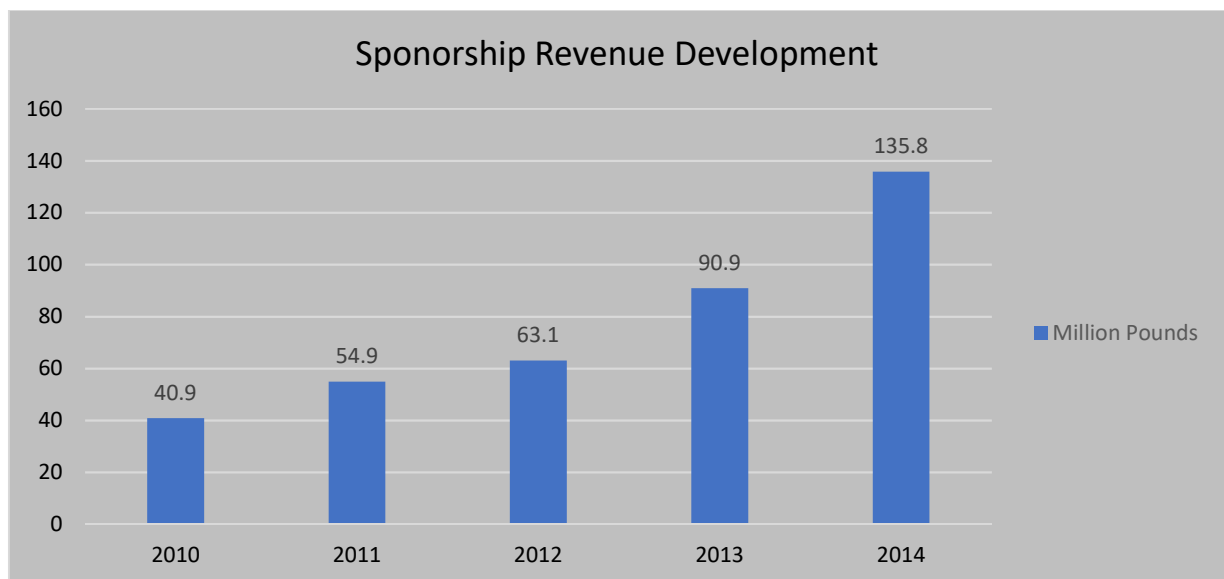


Figure 5: Sponsorship Revenue Development

This growth is expected to continue due to the successful office in Hong Kong (since 2012) and the new one planned in the United States. This guarantees the entrance into markets, which are full of untapped potential. The agreements with most sponsors have finite terms from two to five years and their numbers are increasing. They include all kind of businesses (financial services, airlines, cars, food, etc.). As demonstrated by the development of new sponsorship deals and marketing arrangements in recent years, especially in cases such as the new Adidas kit deal, the tendency has been for each new agreement to open up new markets and bring in even more income. As such, it is to be expected that incomes from new agreements will continue to bring in increased revenues. The overall increase has thus far averaged around 27% per year. Overall a continued raise of 30% is expected.

Retail merchandising and product licensing

Sportswear and clothes are sold on a global basis. Further products with their brand are sold under licence. All retail and merchandising is managed by Nike and since 2016 by Adidas. Manchester United got a minimum fee of 24.9 million Pounds plus 50 percent of all profits from Nike, by selling their products. This resulted in a total of 37.4 million Pounds for the year 2014. As of 2016, Manchester United receive a minimum of 70 million Pounds without the extra bonus payments from Adidas. The contract also includes an inflation clause of 2.1%. The total can however, fall by as much as 30% if the team fails to perform on the pitch, although this is seen as unlikely.

The plan will be to concentrate on the international sales and marketing infrastructure. A continues raise of about 9% is expected like in the last years.

Broadcasting

Broadcasting generated 135.7 million Pounds. 29% come through the participation in the Champions League and 65.5% from the Premier League. The rest comes from the various cup competitions and friendly matches.

The cash flow of the Premier League is nearly always guaranteed for every year and guarantees the club planning security. Manchester United has no direct influence on the broadcasting contract. The contract is negotiated collectively by all members of the Premier League. The current deal lasts until 2016, after which a new improved contract

is expected, due to the positive development of the market in the last decade. For example, the three year contract from 2013-2016 had a value of 5 billion Euro, which was an increase of 1.5 billion in comparison to the previous three year contract.

For the year 2015 Manchester United had to write down the revenue of broadcasting of the Champions League. This sum of 39.3 million Pound is a huge proportion and therefore Manchester United focused all their energies on regaining participation in the champions league. It is very likely that they gain back their spot and therefore their revenues in the years to come. Also the broadcasting money pool is expected to grow as the trend of prior years' shows.

Finally the private television channel "Manchester United TV", which can be watched in 85 countries worldwide, had revenues of 6.7 million Pounds 2014. Although these numbers are rather small, the channel is important for the relationship with the fans.

Broadcasting revenue has increased by 33.7% in total during the last year and is going to be a promising and fundamental source in the future. Due to the long-term contracts, there exists a 10% raise per year.

Matchday

Matchday operations generated 108.1 million Pounds last year. This comes from ticket sales, catering and other hospitality sales. The Old Trafford stadium, which is known globally as "the theatre of dreams", was renovated and is now, with a capacity of 75,635 people, the largest football stadium in the UK. Modern luxury boxes, restaurants, and sports bars as well as the museum guarantee satisfied visitors. The capacity utilization amounts to an average of 99% since 1997. With 331.000 visitors, the museum was the most visited football club museum in the last year.

The matchday revenues depend on the success of the team and therefore the number of games played in Old Trafford. In addition to the 19 guaranteed Premier League matches up to 13 matches are possible, depending on the draw and success of the team in the cup competitions. The ticket prices growth rate is about 4.4% per year. It can be expected that the matchday revenues are constantly slowly rising (3% per year).

Transfers

With regards to the profit on disposal of player registrations, a great variety is going on from year to year. Normally Manchester United is one of the most desirable clubs for players and therefore it is unlikely that one of the top assets (players) is leaving the club voluntarily. Of course, there occur exceptions like 2009 the record transfer of Cristiano Ronaldo. Such transfers don't occur on a daily basis and consequently are not taken into consideration for the forecast. Players who are not good enough anymore are going to be sold. In the last year only 7 million Pounds were generated through these sales. In the near future due to the restructuring of the clubs squad more profit is expected in this regard. A stable figure of 30 million Pounds per year was taken.

4.3.2.1 Assumption Revenue Forecast

The revenue consists of broadcasting, transfers, sponsorship, matchday, merchandising and others. The predictions for all these segments is done individually in order to get the revenue growth. The median of the annual growth from the past years and also from the actual trend from the present year are taken into account for all segments to get the expected revenue growth (Table 19).

Table 19: Prediction Revenues in million Pounds

Prediction Revenues	2014	2015	2016	2017	Rate of growth	
Retail,Catering, other	53.5	58.2	63.3	68.9	9%	Historical
TV rights	135.8	149.4	164.3	180.7	10%	Long term contract
Sponsorship	135.8	176.5	229.5	298.4	30%	Historical+new deal
Match operation	108.1	111.3	114.7	118.1	3%	Historical + trend
Revenue	433.2	495.5	571.8	666.1	9.6%	

4.3.3 Cost Structure Manchester United

The total operating expenses account for 372.3 million Pounds. This is an increase of twenty percent in comparison to the year before. These contain personnel expenses,

depreciation, amortization of players' registrations, and other operational expenses and exceptional items (eg. Compensation paid to former manager).

Personnel Expenses

The main share of the running costs are the players. The club pays on the one hand the registration fee for purchasing of the players and on the other their salaries, bonuses, benefits, and insurance contribution. The amortization of player registration for the year 2014 amounted to 55.3 million Pounds. As Manchester United has tended to be a buying club, with a net spend on transfers, a consistent slight increase in net transfer expenditure is to be expected. Player salaries have tended to see a 12% increase per year.

Depreciation

Costs attributed to depreciation are also expected to rise slightly due to the investments in the stadium and training facilities.

Amortisation

Generally Manchester united is expected to further gain manpower and that they only sell off players who aren't needed anymore. 100 million Pounds have been calculated for the purchase of players and 30 million for selling them. A yearly raise of 25.8% of the amortization can be concluded (table 20).

Table 20: Expected AFA for the Football Players in million Pounds

Player purchase	100
contract length	3
AFA/anno	33.33
Player sale	30
contract length	4
AFA/anno	7.5
New AFA	25.83

Other operating expenses

Other operating expenses increased in average 10% per year during the last six years. The business plan of Manchester United is to recruit new and better players in order

to regain success. This will naturally entail continued rising costs. The increase of 10% wird beibehalten.

4.3.2.1 Assumption Cost Forecast

As above mentioned the revenue of the year 2014 was 433.2 million Pounds, which is an increase of about 20% compared with 2013. Although Manchester United was not so successful in the Champions League they managed to increase the revenue, even if you adjust the revenue by the transfer income. Therefore, the forecast for the following years can be seen promisingly, even with a conservative view. You can see the effect and the trend of the revenues in the graphic down below (table 21).

Table 21: Prediction Costs in million Pounds

Prediction Costs	2014	2015	2016	2017	Change
Personal expenses	214.8	240.58	269.45	301.78	12%
Amortization of players' registrations	55.3	81.12	106.96	132.79	25.83
Depreciation, write offs	8.5	8.5	8.5	8.5	0%
Other operating expenses	88.3	98.90	110.76	124.06	9%
Exceptional items	5.2	5.81	6.50	7.28	3%

Capital Expenditures

The main part of the capital (recruiting) expenditures are the cost of buying players. Therefore, the estimation of the future recruiting plan was used again. 100 million Euros were taken into account.

Change in working capital

The change in working capital is based on historical data and amounts 40%.

The year 2012 was not taken into account in the diagram, because of statistical outliers.

4.3.4 Capital Structure

As mentioned by Borussia Dortmund an appropriate capital structure for its underlying risks of assets is crucial element of a healthy company. In contrary to Borussia Dortmund, Manchester United trade-off between the advantages of leverage and the costs of potential financial distress looks suitable. This is due to the fact that Manchester United has a more balanced finance situation. According to business reports this shouldn't change like it will be for Borussia Dortmund. Therefore it can be expected, that it remains as it is 61 debt 40 equity.

4.3.4.1 Debt

The total debt in 2014 for Manchester United is the sum of short term and long-term liabilities and is 651 million Pounds in 2014 (table 22).

Table 11: Debt

Debt	Million Pounds
Non-current financial liabilities	415.337
Current financial liabilities	302
Total Debt	717
Cash	66
Total Debt - Cash	651

4.3.4.2 Equity

Manchester United's market value of equity in 2014 equates to its market capitalization and is calculated multiplying the share price by the outstanding shares. It has a value of 711 million Pounds in 2014. As the Valuation is based on the annual report, which is in Pounds. The median of the exchange rate US Dollars to Pounds of June 2014 amounts 0.5894. From that, an Equity value of 419.18 million Pounds was calculated. https://www.finanzen.at/devisen/historisch/us_dollar-pfund_sterling-kurs

Table 23: Equity

Market Value of Equity	2014
outstanding shares	40,000.000
share price	17.78
Market capitalization in million US Dollars	711
Market capitalization in million Pounds	419.18

4.3.4.3 Ratios

The current debt-to-equity ratio amounts 1.55. That means the creditors have more than 1.5 times as much money in the company than equity holders. This balance between debt and equity is typical for the most football clubs. Therefore no changes are expected. This makes as much easier to apply the WACC-approach in comparison to the valuation of Borussia Dortmund. The constant debt-to-equity-ratio gives a constant WACC for all the prediction years.

See below the calculated equity/debt-to value ratios used for the calculation of the WACC.

Table 24: Ratios

Ratios	
Debt-to-Equity-Ratio	1,55
Equity-to-Value-Ratio	0,39
Debt-to-Value-Ratio	0,61

4.3.4.4 Weighted Average Cost of Capital

The scheme which was used for both clubs turned out for Manchester United: A return of equity of 5.21 percent and a cost of debt of 5.6 percent, which results in a weighted average cost of capital of 4.59 percent.

4.3.4.5 Risk Free Rate (rf)

For the risk free rate I took the return of the ten year bond from the US which is equal to 2.345 %.

<https://de.investing.com/rates-bonds/u.s.-10-year-bond-yield> 1 1.7. 2014

4.3.4.6 Equity Beta (β_e)

The risk of Manchester United share is valued by the Equity beta 0.51.

<https://www.reuters.com/finance/stocks/overview/MANU.N>

4.3.4.7 Return on Debt (rd)

To get the return on debt again the usage of the Damoderan spreadsheet and the interest coverage ratio leads us to a B rating and therefore 5.6%. With the tax shield for Manchester United 25% percent the cost of debt amounts for 4.2 percent.

Inputs for synthetic rating estimation			
Please read the special cases worksheet (see below) before you use this spreadsheet.			
<i>Before you use this spreadsheet, make sure that the iteration box (under calculation options in excel) is checked.</i>			
Enter the type of firm =	1		
Enter current Earnings before interest and taxes (EBIT) =		\$ 61.90	(Add back only long term interest expense for financial firms)
Enter current interest expenses =		\$27.67	(Use only long term interest expense for financial firms)
Enter long term risk free rate =		2.35%	
Output			
Interest coverage ratio =	2.24		
Estimated Bond Rating =	Ba2/BB		Note: If you get REF! All over the place, set the operating lease commitment question in cell F5 to No, and then reset it to Yes. It should work.
Estimated Company Default Spread =	3.25%		
Estimated Country Default Spread (if any) =	0.00%		
Estimated Cost of Debt =	5.60%		
<i>If you want to update the spreads listed below, please visit http://www.bondsonline.com</i>			
For large manufacturing firms			
<i>If interest coverage ratio is</i>			
>	≤ to	Rating is	Spread is
-100000	0.199999	D2/D	12.00%
0.2	0.649999	Caa/CCC	10.00%
0.65	0.799999	Ca2/CC	8.00%
0.8	1.249999	C2/C	7.00%
1.25	1.499999	B3/B-	6.00%
1.5	1.749999	B2/B	5.00%
1.75	1.999999	B1/B+	4.00%

Figure 6: Synthetic rating estimation

The formula of r_d consists of the following variables.

$$r_d = r_f + \text{credit default premium}$$

$$\text{credit default premium} = \text{Company Default Spread} + \text{Country Default Spread}$$

$$r_d = 2.345\% + 3.25\% + 0\% = 5.60\%$$

Market Risk Premium

Due to the fact that Manchester United is listed on the Us stock Market we need the market risk premium of the U.S. market. According to the survey of Fernandez, P. et al. 2014 the market risk premium of 2014 for the U.S. is 5.4 % on average.

$$r_m = \text{market risk premium} + r_f$$

$$\text{market risk premium} = (r_m - r_f)$$

This leads to a market return of 7.7 percent for investing in the market portfolio.

Table 25: Market Risk Premium

		Average	Median	St Dev	Q1	Q3	min	Max	Skewness
1	USA	5,4%	5,0%	1,4%	4,5%	6,0%	1,5%	13,0%	0,6
2	Spain	6,2%	6,0%	1,6%	5,0%	6,5%	2,0%	13,0%	1,5
3	Germany	5,4%	5,0%	1,7%	4,5%	6,0%	1,0%	12,4%	1,0
4	UK	5,1%	5,0%	1,4%	4,3%	6,0%	1,5%	12,8%	1,5
5	Italy	5,6%	5,5%	1,5%	4,8%	6,0%	2,0%	10,1%	0,8
6	Canada	5,3%	5,0%	1,2%	4,5%	6,0%	3,0%	10,0%	1,3
7	Mexico	7,4%	6,7%	2,4%	6,0%	9,0%	3,0%	15,0%	1,2
8	Brazil	7,8%	7,0%	4,2%	5,5%	8,3%	1,8%	25,0%	2,4
9	France	5,8%	5,9%	1,5%	5,0%	6,1%	2,0%	11,4%	0,9
10	South Africa	6,3%	6,0%	1,4%	5,5%	7,0%	3,0%	11,8%	1,3
11	China	8,1%	7,0%	3,5%	6,0%	9,4%	3,9%	20,0%	1,9
12	Australia	5,9%	6,0%	1,6%	5,0%	6,0%	3,0%	15,0%	2,2
13	Netherlands	5,2%	5,0%	1,2%	4,5%	6,0%	2,5%	11,6%	1,5
14	Switzerland	5,2%	5,0%	1,1%	4,5%	6,0%	3,0%	9,6%	0,9
15	Russia	7,9%	7,0%	3,4%	6,0%	9,0%	2,7%	25,0%	3,1

Market Risk Premium used in 88 countries in 2014: a survey with 8.228 answers

Pablo Fernandez*, Pablo Linares** and Isabel Fernandez Acin*** IESE Business School Cost of Debt

$$r_m = 5.4 \% + 2.345\% = 7.7345\%$$

Tax Rate (t_c)

The UK corporate tax rate for Manchester United is 25.00% and is taken from the financial statement 2014.

4.3.5 Values of the Club

Value of Enterprise: 3562.91 million Pounds

Value of Equity: 2845.85 million Pounds

A sensitivity analysis was also conducted for Manchester United, to evaluate the fluctuations of environmental factors.

Table 26: Enterprise Value

Enterprise Value in million Pounds				
Growth Rate	2.0%	2.5%	3.0%	3.5%
WACC 4,5%	2786.00	3606.00	5179.00	9417.00
WACC 4,97%	2258.00	2755.00	3562.00	5109.00
WACC 5,5%	1907.00	2241.00	2735.00	3540.00

Table 27: Equity Value

Equity Value in million Pounds				
Growth Rate	2.0%	2.5%	3.0%	3.5%
WACC 4,5%	2069.00	2889.00	4462.00	8899.00
WACC 4,97%	1541.00	2038.00	2846.00	4392.00
WACC 5,5%	1190.00	1524.00	2018.00	2823.00

The green figures are mainly realistic, as for the red ones they show more extreme environmental factors. The value of enterprise makes out 1.9 billion Pounds to 3.6 billion Pounds and the equity value can realistically be estimated at 1.2 billion Pounds to 2.9 billion Pounds.

4.4 Verification and Discussion of the Results

4.4.1 Multiples

4.4.1.1 Peer Group Criteria

a) Industry and business model

This includes only companies whose primary business is the operation of a professional football club. Primarily, the main sources of income come from the activities of the footballing department. These include ticket sales, media, marketing, as well as merchandising revenues. Most clubs still have secondary sources of income but it should be noted that these are not essential to the running of the club.

a) Competition and Success

The primary occurrence and focus of a club is in its respective national league and cup. Here it is to be noted that the comparable clubs originate from similarly renowned leagues. This is important, because depending on international interest, a league can attract varying levels of TV funds, spectator interest and sponsorship. The premium business opportunity, however, come from international cup competitions, the Champions League and the Europa League. Participation in these competitions alone guarantees the clubs revenues in the double-digit millions. In addition, it is often an important requirement to attract top talent and world stars that the club be represented

in one of the two competitions. This is because not only the club, but also the players want to present and market themselves internationally. The selection of comparable clubs therefore only includes those that are both represented in one of the top leagues and have regularly qualified for international competitions in recent years. Thus, clubs from smaller leagues, as well as clubs that are not represented internationally, do not qualify as comparison clubs for the purposes of the study. Ultimately, they do not have the competitiveness and growth potential of the prestigious clubs.

b) Merchandising

The strategic orientation of a club, with regards to marketing and attention to foreign markets, is also a decisive selection criterion. Globally marketed clubs differ significantly in their business compared to those only nationally or barely internationally marketed. Therefore, only globally marketed clubs were used for the comparison.

c) Selection sample

The above criteria and the lack of publicly listed football clubs limited the choice of comparable football clubs which fit the requirements for a football business. Nevertheless, for my calculation of the value of the two football clubs a suitable comparable peer group (Ajax Amsterdam, AS Roma, Celtic Glasgow, Benfica Lisbon, Juventus Torino, Olympique Lyon, Sporting Lisbon) was identified. These clubs in terms of size, country in which they are based, capital structure, etc. In general, they have a similar orientation due to their sporting und marketing development. Therefore, they are reliable peer group members.

For the selection of suitable multiples, I opted for entity multiples (sales, EBIT, and EBITDA multiples) whose significance has already been discussed. The market value of the clubs to be compared was taken from their annual reports and various stock markets. This was determined by considering the debts of the clubs and the liquid assets of the enterprise value. Starting from the calculated enterprise values, the individual club finances were determined and from this a general overall multiple for football clubs was determined. In the calculations, some clubs showed strong outliers in certain positions, which were eliminated in the determination of the total multiples. For example, the EBITA multiple at Benfica Lisbon was negative. The total EBIT multiple was pushed aside after the calculations, as this is consistently negative for all

clubs. However, the revenue and EBITDA multiple could still be determined as shown in table 28.

Table 12: Enterprise Value Multiple

Multiples	Revenue	EBITDA
Benfica	9.17	-11.20
Juventus	1.85	8.47
Lyon	1.90	-30.47
Ajax	1.72	16.07
AS Roma	4.96	391.98
Sporting	5.76	-49.60
Celtic	1.47	5.56
Enterprise Value Multiple	3.83	12.27

The results made by the DCF method are roughly verified through the multiples method (table 29).

Table 29: Equity Values Borussia Dortmund and Manchester United

Revenue Borussia Dortmund	260,735
Multiple Revenue	3,83
Enterprise Value BVB	999,69
minus FK	146
Equity Value Borussia Dortmund	853,69

EBITDA Borussia Dortmund	49
Multiple EBITDA	12,27
Enterprise Value BVB	601,06
minus FK	146
Equity Value Borussia Dortmund	455,06

Revenue Manchester United	433,164
Multiple Revenue	3,83
Enterprise Value BVB	1660,80
minus FK	717
Equity Value Manchester United	943,80

EBITDA Manchester United	125,8
Multiple EBITDA	12,27
Enterprise Value	1543,14
minus FK	717
Equity Value Manchester United	826,14

The selling of 70% of Inter Mailand in november 2013 made it possible to create a transactions multiplier. Nevertheless to be of informative value, more acquisitions like that, would have been needed.

4.4.2 Analysis

For the accounting year of 2014, the value of enterprise for Borussia Dortmund was calculated to be 1139 million Euros and 3562 million Pounds for Manchester United.

The market value of enterprise on the other hand for the accouting year of 2014 for Borussia Dortmund is 83 million Euros and for Manchester United 1.070 million Pounds.

There is an enormous difference between the market value of enterprise and the values of enterprise of the two football clubs Borussia Dortmund and Manchester United. Moreover the market value of equity and the value of equity for these two clubs vastly differ (table 30).

Table 13: Values of Enterprise and Equity

	Value of Enterprise	Value of Equity
Manchester United	3562 million Pounds	2846 million Pounds
Market	1070 million Pounds	419 million Pounds
Borussia Dortmund	1139 million Euros	991 million Euros
Market	13.5 million Euros	82.9 million Euros

The equity value is an important indicator for investors. The immense undervaluation of the market value of equity demonstrates how worthwhile an investment in Borussia Dortmund and Manchester United would be. There is no simple way to clarify the correlations of sporting success, the behavior of fans and sponsors with the financial success of a football club to future investors. Nevertheless this is what this master thesis is trying to achieve.

Football clubs are still scarcely seen as an investment opportunity in comparison to other businesses. The immense undervaluation of both football clubs is strongly connected to that. Every scientific valuation method is proving the undervaluation of Borussia Dortmund and Manchester United, most strikingly displayed by the values of enterprise, shown in figures 7 and 8.

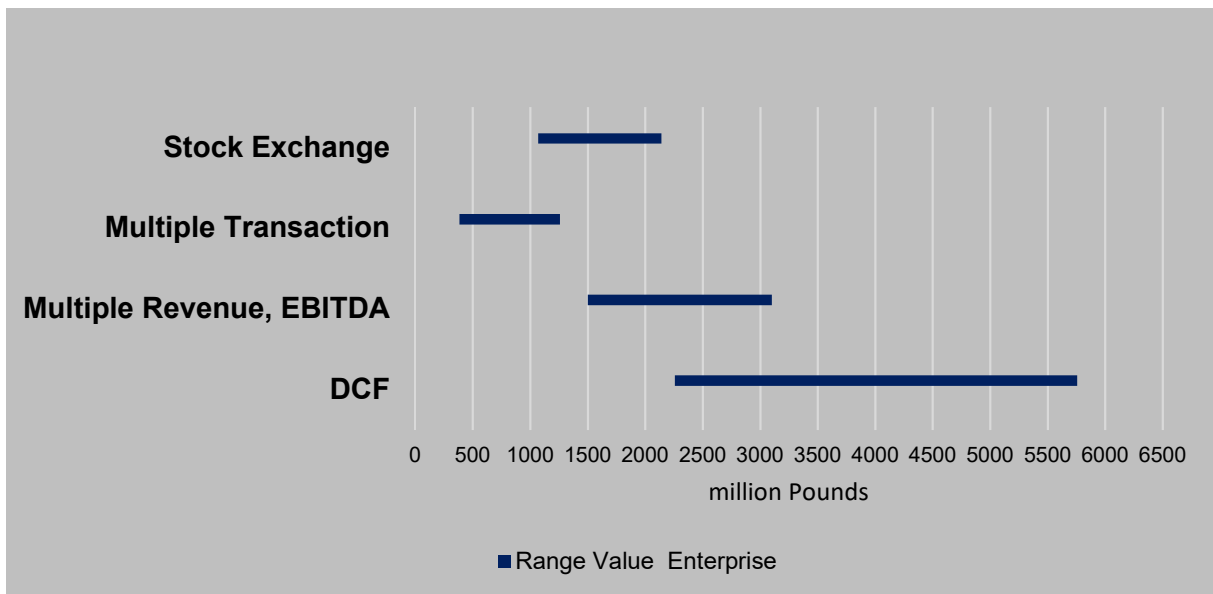


Figure 7: Borussia Dortmund: Enterprise Value (Range)

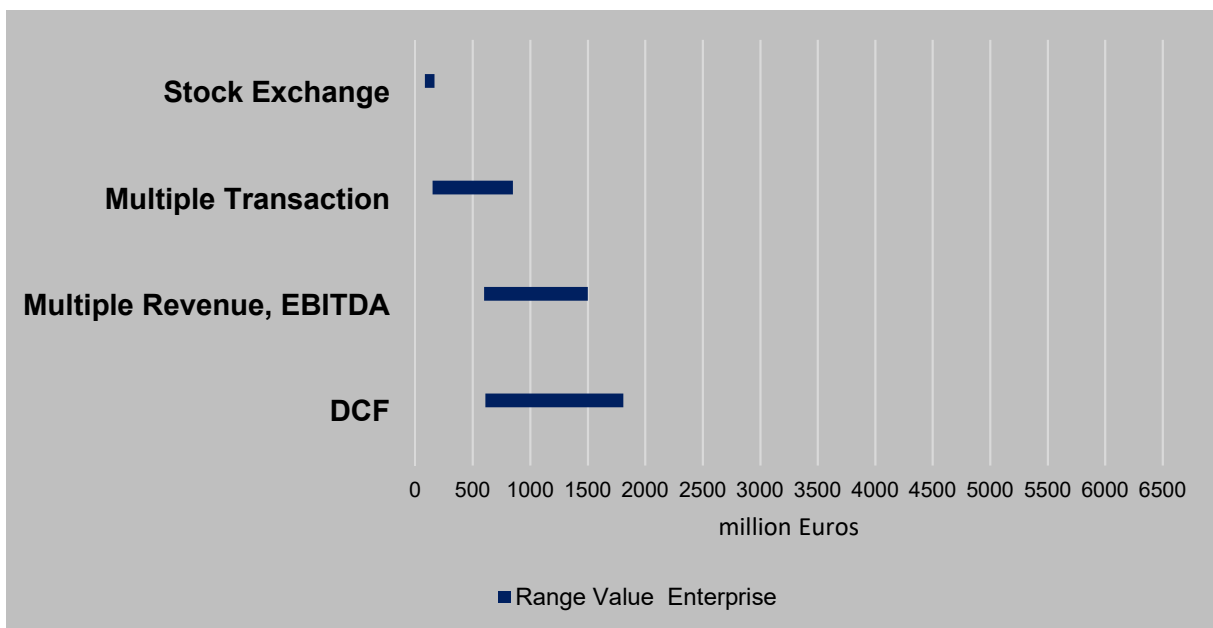


Figure 8: Manchester United: Enterprise Value (Range)

5. Resume

The aim of this master's thesis is to show that the football business is a lucrative way to invest money and to get a valuable return on the investment. For that very reason two of the most famous football clubs, Manchester United and Borussia Dortmund, in Europe's most prestigious football leagues, the English Premier League and the German Bundesliga, were analyzed with regard to their value, possibilities and risks. Both countries where the clubs are settled have their own characteristics, regulations, restrictions and peculiarities. Nevertheless a well-thought strategy through investment can be rewarding in both countries, because as all over the world it is the case that money is the main driver for success on the one hand and on the other success in sport/football leads to money and therefore to a good return on the invested capital.

In England it is easier to find and invest into a football club due to the fact that in English football clubs there are no owner restrictions and it is not a complicated process to change the stakeholder. The competition in the English Premier League is on the highest level worldwide and therefore it is hard to survive for every club. That is to say, just staying in the league is the only precondition to take part in the big money pot. To finish high in the English Premier League and therefore the additional money coming from the participation in the Champions League can be seen as a special bonus. This seems to be the specificity of the English Premier League. For that very reason the risk that a club gets relegated and the investment is going to be lost is higher than anywhere else. This is especially true because in England almost all clubs have powerful sponsors and investors. The huge domestic and foreign broadcasting contracts contribute to a great deal towards this situation.

In Germany the legal framework of corporate forms is strictly regulated and therefore investment is less likely and less common. If one understands these obstacles, especially in the practice, it can be very lucrative, since the competition is far less than in England. As is shown in my thesis there are many exceptions and work around to the 50+1 regulation (no investor can have a majority and so always the club and its members have a say).

In order to understand the nature of football business in general and to identify the differences between the English Premier League and the German Bundesliga I analyzed one club of each league with regard to their capital structure and their value.

Only if one knows the cost and revenue drivers of football business is it possible to find an appropriate club where investment pays off. In my case the analyses of the two football clubs provides an insight into economic aspects of football and delivers information on whether it is worth it to invest in these clubs. The evaluation of Manchester United and Borussia Dortmund shows that both are undervalued on the market. This is the main result of my master thesis.

The undervaluation of both football clubs has to do mainly with two factors. One factor is the accounting of the players. For instance if a player is depreciated after five years he does not appear any more with his true value in the books. The impairments due to the accounting standards are different to my calculations. In fact they are much lower. The second factor regards the forecast due to my evaluation method. As I identified and calculated potential opportunities of Borussia Dortmund and Manchester United, the costs and revenues of the two clubs turned out to be higher, although I used a rather conservative approach.

The method I used seems to be appropriate and delivered realistic numbers because I validated and confirmed my results through the multiple valuation approach. In that my results with the multiple valuation approach came out similar, my results and calculations can be deemed plausible. The small variations in the two calculations have to do with the different members of the peer group (Sporting Lisbon, Juventus Turin, AS Roma, Olympique Lyon) as they have different sizes, countries, capital structure, etc.

Although Manchester United has three times the revenues that Borussia Dortmund has, the cost and revenue structures of both clubs are similar as well as their debt to equity ratio. The high debt level of football clubs in comparison to other businesses is a specificity because football clubs can obtain low interest rates from their creditor. Therefore they take advantage of this leverage effect. Football clubs generate a secure cashflow due to their prize money at the end of the year. A successful investment is recommended in both, Manchester United and Borussia Dortmund. Regarding investment in another club; location, stadium, athletic success, fan base and growth potential are all decisive factors. It is easier to invest in Italy and England. In Germany it is hard to deal with the entry barriers, but it is often worth the hassle, due the lower competitiveness level (the competition is less actively investing).

In any case the most important factor of any football club is the players. They are the highest assets and costs of the football club. It is important to recognize the best players and therefore to create value.

Appendix

List of Tables and Figures

Table 1: Premier League overseas TV deals, 2013-16.....	11
Table 2: Revenues of the top eight European football leagues	15
Table 3: UEFA Five Years Rating 2013/2014	18
Table 4: Objectives, methods, and effects of FFP rules	23
Table 5: Revenue structure of the highest-grossing Clubs 2010/11 (in million Euros).....	32
Table 6: Total Broadcasting: Season 2013/2014.....	37
Table 7: Revenue Forecast	39
Table 8: Expected AFA for the Football Players	40
Table 9: Prediction Costs	41
Table 10: Markt Value of Equity 2014.....	42
Table 11: Ratios	43
Table 12: WACC after Tax.....	43
Table 13: Cost of equity	44
Table 14: Beta Equity	45
Table 15: Return on Equity.....	45
Table 16: Market Risk Premium (%) used for 88 Countries in 2014	46
Table 17: Values of the club	49
Table 18: Prediction Revenues.....	54
Table 19: Expected AFA for the Football Players	55
Table 20: Prediction Costs.....	56
Table 21: Debt	57
Table 22: Equity.....	57
Table 23: Ratios	58
Table 24: Market Risk Premium	60
Table 25: Enterprise Value	60
Table 26: Equity Value.....	61
Table 27: Enterprise Value Multiple.....	63
Table 28: Equity Values Borussia Dortmund and Manchester United.....	63
Table 29: Values of Enterprise and Equity	64
Figure 1: Percentage of Revenue streams German Bundesliga.....	31
Figure 2: Revenues Borussia Dortmund.....	36
Figure 3: Input for synthetic rating estimation	48
Figure 4: FA Premier League Final Rank.....	50
Figure 5: Sponsorship Revenue Development	51
Figure 6: Synthetic rating estimation	59
Figure 7: Borussia Dortmund: Enterprise Value (Range)	65
Figure 8: Manchester United: Enterprise Value (Range)	65

Literature

- Berk, J & DeMarzo, P. (2014). Corporate Finance. Boston.
- Bernström, S. (2014). Valuation. The Market Approach. Chichester.
- Borussia Dortmund (Ed.). (2014). Geschäftsbericht. Dortmund.
- Creutzmann, A. & Deser, N. (2005). In Krolle, S., Schmitt, G. & Schwetzler, B. (Eds.), Multiplikatorverfahren in der Unternehmensbewertung: Anwendungsbereiche, Problemfälle, Lösungsalternativen, Stuttgart, p. 1-4.
- Drut, B. & Raballand, G. (2012). Why does financial regulation matter for European professional football clubs? In International Journal Sport Management and Marketing, Vol. 11, No. 1/2, p. 73-88.
- Fernandez, P., Linares, P. & Fernández Acín, I. (2014). Market Risk Premium Used in 88 Countries. A Survey with 8,228 Answers. IESE Business School Madrid.
- Franck, E. (2014). Financial Fair Play in European Club Football – What is it all about?. Working Paper Nr. 328. University of Zurich.
- Hackenberger, J. (2008). Professionelle Fußballspieler in der internationalen Rechnungslegung. Eine ökonomische Analyse. Frankfurt am Main.
- Harris, R. S. & Pringle J. J., (1985). Risk-adjusted discount rates. Extensions from the average risk case. Journal of Financial Research, Vol. 8, p. 237-244.
- Koller, T., Goedhart, M. & Wessler D. (2010). Valuation: Measuring and Managing the Value of Companies (Fifth Edition). New Jersey Oerterer, A. (2009). Bilanzierung von Spielervermögen: nach Handelsrecht, Steuerrecht und internationalen Rechnungslegungsstandards. Saarbrücken.
- Krolle, S., Schmitt, G & Schwetzler, B. (Eds.). (2005). Multiplikatorverfahren in der Unternehmensbewertung: Anwendungsbereiche, Problemfälle, Lösungsalternativen. Stuttgart.
- Kruschwitz, L & Loeffler, A. (2006). Discounted Cash Flow: A Theory of the Valuation of Firms. Chichester.
- Liu, J., Nissim, D & Thomas, J. (2002). Equity Valuation Using Multiples. In Journal of Accounting Research, Vol. 40 No. 1, p. 135-172.
- Lóránth, G. (2013). Corporate Finance. Vorlesungsmanuskript Vienna.
- Lóránth, G. (2013). Cases in Corporate Finance. Vorlesungsmanuskript Vienna.
- Manchester United (Ed.). (2014). Annual Report. Manchester.
- Modigliani, F. & Miller, H. M. (1958). The Cost of Capital, Corporation Finance and the Theory of Investment. In: The American Economic Review. 48, 3, p. 261–297.
- Titman, S., Martin, J. (2007). Valuation: The Art and Science of Corporate Investment Decisions. Boston.

Vöpel, H. (2013). Is Financial Fair Play really justified? An economic and legal assessment of UEFA's Financial Fair Play rules, HWWI Policy Paper, No. 79. Hamburgisches Weltwirtschaftsinstitut.

Vöpel, H. (2011). Do we really need Financial Fair Play in European club football? An Economic Analysis, CESifo DICE Report, Vol. 09, Iss. 3, pp. 54-59.

<http://www.espn.com/soccer/name/10/blog/post/2131971/headline>

http://sports-ak.espn.go.com/soccer/news/story/_/id/1422500/bayern-confirm-gotze-deal

<https://www.transfermarkt.at/gareth-bale/profil/spieler/39381>

<https://www.transfermarkt.at/mesut-ozil/profil/spieler/35664>

<https://www.transfermarkt.at/juan-mata/profil/spieler/44068>

<http://www.premierleague.com/en-gb/fans/faqs/how-much-clubs-receive-broadcast-money.html>

<http://www.sportingintelligence.com/2013/09/16/revealed-asia-driving-boom-as-premier-league-foreign-tv-cash-hits-2-23bn-160901/>

http://www.bundesliga.de/de/dfl/mediencenter/pressemitteilungen/2013/dfl-macht-sprung-in-der-globalen-bundesliga-vermarktung-ab-2015_0000273582.php

<http://www.handelsblatt.com/sport/fussball/nachrichten/auslandsvermarktung-wie-die-bundesliga-erstklassig-werden-will/9595248.html#>

<http://www.zeit.de/news/2013-08/08/fussball-9103-millionen-euro-fuer-die-32-klubs-08203404>

<https://www.uefa.com/insideuefa/protecting-the-game/club-licensing-and-financial-fair-play/index.html>

<https://www.restprogramm.com/UEFA-5-Jahreswertung>

<https://uk.reuters.com/article/uk-soccer-spain-revenue/la-liga-aiming-to-close-financial-gap-with-premier-league-idUKKBN15I2VV>

<https://fussball-geld.de/>

<https://ir.manutd.com/~media/Files/M/Manutd-IR/Annual%20Reports/manchester-united-plc-20f-20141027.pdf>

http://www.equitystory.com/download/companies/borussia/Annual%20Reports/BVB-GB2015_net.pdf

<https://www.deutsche-finanzagentur.de/de/private-anleger/bundeswertpapiere/bundesanleihen/>

Abstract

Football has become a big business. More and more money is going into the game, for instance for bigger stadiums, broadcast rights, sponsorships, an increasing amount of merchandising activities, etc. A well-thought strategy through investment in football can be rewarding, because money is the main driver for success on the one hand and on the other success in football leads to money and therefore to a good return on the invested capital.

In this master thesis two of the most famous European football clubs, Borussia Dortmund and Manchester United, were analysed with regard to their capital structure and their value. The main result shows that both football clubs are undervalued on the market. The undervaluation of both football clubs has to do mainly with two factors. One factor is the accounting of the players. For instance if a player is depreciated after five years he does not appear any more with his true value in the books. The impairments due to the accounting standards are different to my calculations. In reality, they are much lower. The second factor regards the forecast due to my evaluation method. As I identified and calculated potential opportunities of Borussia Dortmund and Manchester United, the costs and revenues of the two clubs turned out to be higher.

Zusammenfassung

Fußball ist ein großes Geschäft. Fußballspiele verschlingen immer mehr Geld aufgrund von größeren Stadien, Übertragungsrechten, Sponsoring, Vermarktung, etc. Eine gut durchdachte Investitionsstrategie kann im Fußball viel bringen, da Geld einerseits für den Erfolg wichtig ist und andererseits Erfolg im Fußball Geld einspielt und das investierte Kapital fließt zurück. In dieser Master Thesis werden mit Borussia Dortmund und Manchester United zwei der bedeutendsten Europäischen Fußballvereine bezüglich ihrer Kapitalstruktur und ihres monetären Wertes analysiert. Die Ergebnisse zeigen, dass der Marktwert von beiden Fußballvereinen zu niedrig ist.

Die Unterbewertung der beiden Fußballvereine hat hauptsächlich zwei Gründe. Ein Grund ist die Bewertung der Spieler. Wenn zum Beispiel ein Spieler nach fünf Jahren abgeschrieben ist, scheint sein tatsächlicher Wert in den Büchern nicht mehr auf. Die Wertminderung entsprechend der Bilanzrichtlinien unterscheidet sich von meiner Kalkulation gravierend. Sie ist in der Realität viel niedriger.

Der zweite Grund betrifft die Prognose, die sich aus meiner Evaluierungsmethode ergibt. Indem ich die potentiellen Möglichkeiten von Borussia Dortmund und Manchester United eruiert und kalkuliert habe, ergaben sich für beide Fußballvereine viel höhere Kosten und Einnahmen.

Calculation Borussia Dortmund

Enterprise Value in million Euros				
Growth Rate	2.00%	2.50%	3.00%	3.50%
WACC 2017: 3,5%	808	1178	2291	-
WACC 2017: 4,03%	610	788	1139	2155
WACC 2017: 4,5%	503	612	794	1158

Equity Value in million Euros				
Growth Rate	2.00%	2.50%	3.00%	3.50%
WACC 2017: 3,5%	661	1032	2144	-
WACC 2017: 4,03%	463	463	991	2008
WACC 2017: 4,5%	356	465	647	1011

Market Data	
Stock - Closing Price	0.22
Number of Shares	61,405.700
Market Value (Equity)	13.51
Market Value of Capital (MV Equity + BV Debt)	101

Book values	
Cash	18
Debt less cash	69
Debt (total liabilities)	87
Total	87

WACC calculations	
Equity beta	0.915
Risk free rate	0.02
Market premium	0.05
Return on equity	6.94%
Return of debt	4.70%
Tax rate	32.00%
Cost of debt	3.20%
WACC	3.81%

Ratios	
Debt	69.44
Equity	13.51
Value of Firm	82.94
Debt-to-Equity-Ratio	5.14
Debt-to-Value-Ratio	0.84
Equity-to-Value-Ratio	0.16
Beta Debt	
rd	0.047
r _m	0.074
r _f	0.02
Bd	0.5

Beta Unlevered	2014
Bd	0.5
D/V	0.84
Be	0.915
E/V	0.16
Bu	0.57

$$r_e = 2\% + 0.915 \times (7.4\% - 2\%)$$

$$r_e = r_f + \beta_e \times (r_m - r_f)$$

Return on Equity	for beta 0,915
r _f	0.02
B _e	0.915
r _m	0.074
r _f	0.02
r _e	6.94%

Return on Equity	2014	2015	2016	2017	2018
Bu	0.57	0.57	0.57	0.57	0.57
Bd	0.5	0.5	0.5	0.5	0.5
D/E	5.14	3.76	2.85	2.23	1.8
Be	0.915	0.82	0.76	0.72	0.69
r _m	7.40%	7.40%	7.40%	7.40%	7.40%
r _f	2.00%	2.00%	2.00%	2.00%	2.00%
r _e	6.94%	6.44%	6.10%	5.88%	5.72%

Ratios	2014	2015	2016	2017	2018
D/E	5.14	3.76	2.85	2.23	1.8
E/(E+D)	0.16	0.21	0.26	0.31	0.36
D/(E+D)	0.84	0.79	0.74	0.69	0.64

	Be	re	e/v	rd	d/v	1-tax	d/e
2014	0.915	6.94%	0.16	4.70%	0.84	0.68	5.14
2015	0.82	6.44%	0.21	4.70%	0.79	0.68	3.76
2016	0.76	6.10%	0.26	4.70%	0.74	0.68	2.85
2017	0.72	5.88%	0.31	4.70%	0.69	0.68	2.23
2018	0.69	5.72%	0.36	4.70%	0.64	0.68	1.8

	wacc 2014	wacc 2015	wacc 2016	wacc 2017	wacc 2018
wacc for Be 0,915	3.80%	3.88%	3.95%	4.03%	4.08%

Current Assets	2009	2010	2011	2012	2013	2014
Inventories	2.3	1.8	2.3	5.8	7.54	5.93
Trade and other financial receivables	9	5	19.6	24.5	65.94	14.93
prepaid expenses	2.7	2.6	2.1	2.7	4.19	3.92
cash					12.54	17.85
Total	14	9.4	24	33	90.21	42.63

current liabilities	2009	2010	2011	2012	2013	2014
current financial liabilities				5.97	4.5	8.89
current financial liabilities from finance leases	0.3	0.3	0.5	1.3	1.38	1.63
trade payables	10.4	6.5	10.5	9.6	14.2	18.12
other current fianance liabilities	11.1	10.6	19.7	22	36.94	20.79
current income tax liabilities	2.1	1.1	3.1	3.8	3.45	0.57
defferred income	40	36	16.3	19.2	13.95	21.02
TOTAL	63.9	49.4	63.3	61.87	74.42	71.01

working capital	-49.9	-40	-39.3	-28.874	15.786	-28.38
change in working capital		9.9	0.7	10.426	44.66	-44.169
		19.84%	1.75%	26.53%	154.67%	279.80%

	2013	2014	2015	2016	2017	Change
Change in working capital	44.66	-44.169	13	15.6	18.72	20%

CAPEX

	2012	2013	2014	2015	2016	2017
Payments for investments in intangible assets	20.93	20.86	51.44	35	35	35
Proceeds for disposals of intangible assets	19.42	13.17	53.5	30	30	30
Payments for investments in property, plants, equipment	7.33	6.55	10.94	7	7	7
Capex	28.26	27.41	62.37	42	42	42

Expected AFA for the Football Players

Player purchase	35
contract length	3
AFA/anno	11.67
Player sale	20
contract length	4
AFA/anno	5
New AFA	6.67

Past Costs	2009	2010	2011	2012	2013	2014
Personal expenses	50	47.9	61.5	80	106.2	107.8
Depreciation, amortisation, write offs	17.3	17.1	17.5	18.5	22.4	30.7
Other operating expenses	46.4	43.4	54.1	70.5	88.7	88.7
Cost of materials	3.5	4.7	7.7	12.5	17.5	20.3

Prediction Costs	2014	2015	2016	2017	Change
Personal expenses	107.8	118.57	130.43	143.47	10%
Depreciation, amortisation, write offs	30.7	37.35	44.02	50.69	6.67
Other operating expenses	88.7	95.8	103.46	111.74	8%
cost of materials	20.3	25.39	31.74	39.67	25%

Market Value of Equity	2014
------------------------	------

Outstanding Shares	61,405.700
Share Price	0.22
Market Capitalization	13,509.254
Market Capitalization in million Euros	13.509

Debt	2014
Non-current financial liabilities	32139
Current financial liabilities	8.889
Present value of liabilities from finance leases	21.769
Other financial obligations	24490
Total Debt	87.287
Cash	17.852
Total Debt - Cash	69.435

Ratios	2014
Debt-to-Equity-Ratio	5.14
Equity-to-Value-Ratio	0.16
Debt-to-Value-Ratio	0.84

Calculation Manchester United

Market Value of Equity	2014
outstanding shares	40,000,000
share price	17.78
Market capitalization in million USD	711
Market capitalization in million GBP	419.18

Debt	in million Pounds
Non-current financial liabilities	415.337
Current financial liabilities	302
Total Debt	717
Cash	66
Total Debt – Cash	651

Ratios

Debt-to-Equity-Ratio	1.55
Equity-to-Value-Ratio	0.39
Debt-to-Value-Ratio	0.61

Market Data	
Stock - Closing Price	17.78
Number of Shares	40,000,000
Market capitalization in million USD	711,200,000
Market Value (Equity) in GBP	419.18
Market Value of Capital (MV Equity + BV Debt)	1070

Book values	
Cash	66
Debt less cash	651
Debt (total liabilities)	717
Equity (total net worth)	0
Total	717

WACC calculations	
Equity beta	0.53
Risk free rate	0.02
Market premium	0.05
Return on equity	5.21%
Return od debt	5.60%
Tax rate	25.00%
Cost of debt	4.20%
WACC	4.59%

Ratios	
Debt	650.71
Equity	419.18
Value of Firm	1069.89
Debt-to-Equity-Ratio	1.55
Debt-to-Value-Ratio	0.61
Equity-to-Value-Ratio	0.39

	2012	2013	2014	2015	2016	2017
Revenue	320.3	363.2	433.2	495.5	571.83	666.1
Employee benefit expense (note 8)	161.7	180.5	214.8	240.6	269.45	301.8
Operating lease costs	2.2	2.8	2.4	2.4	2.40	2.4
Depreciation—property, plant and equipment (note 12)	7.4	7.7	8.5	10.0	11.50	13.0
Depreciation—investment property (note 13)	0.1	0.1	0.1	0.1	0.1	0.1
Other operating expenses	64.0	71.1	88.3	98.9	110.76	124.1
Amortization of players' registrations	38.3	41.7	55.3	81.1	106.96	132.8
Exceptional items (note 6)	10.7	6.2	5.2	5.8	6.50	7.3
operating expenses	285.1	310.3	371.2	438.9	434.9	581.4
Profit from operating activities (EBIT)	35.2	52.9	61.9	56.6	136.9	84.7
Income Taxes 26% bzw. 35%	9.1	18.5	21.7	19.8	47.9	29.7
Tax Bonus						
Net Income (NOPAT)	26.0	34.4	40.3	36.8	89.0	55.1
afa+	45.7	49.5	64.0	91.2	126.1	145.9
CAPEX	74.3	58.5	103.8	112.5	112.5	112.5
Change in working capital	-627.6	9.1	-35.7	15.0	21.0	29.4
operating FCF	625.0	16.3	36.1	0.5	81.6	59.1
PV of FCF			36.1	0.5	74.6	51.6

WACC	4.59%
Growth Rate	3.0%

Value of operation	3496.15
---------------------------	----------------

Plus Non-Operating Assets:

Cash	66.37
Longterm Financial Assets	0.40
Enterprise Value	3562.91
minus Book Value Debt long&short	717.06
minus other liabilities	-
Equity Value	2845.85

Enterprise Value in million Pounds				
Growth Rate	2.0%	2.5%	3.0%	3.5%
WACC 4,5%	2786.00	3606.00	5179	9417.00
WACC 4,97%	2258.00	2755.00	3562.00	5109.00
WACC 5,5%	1907.00	2241.00	2735	3540.00

Equity Value in million Pounds				
Growth Rate	2.0%	2.5%	3.0%	3.5%
WACC 4,5%	2069.00	2889.00	4462	8899.00
WACC 4,97%	1541.00	2038.00	2846.00	4392.00
WACC 5,5%	1190.00	1524.00	2018	2823.00

Change in working capital

Current Assets	2009	2010	2011	2012	2013	2014
Derivative financial instruments	0.62	1.67		0.97	0.26	0.00
Trade and other receivables	276.43	675.14	673.23	74.16	68.62	125.12
Cash and cash equivalents	150.53	163.83	150.65	70.60	94.43	66.37
Total	427.58	840.65	823.88	145.73	163.31	191.48

current liabilities	2009	2010	2011	2012	2013	2014
Derivative financial instruments	0.64	0.00	2.03	0.00	0.03	0.88
Current tax liabilities	2.50	0.00	4.34	1.13	0.90	3.00
Trade and other payables	85.98	70.07	145.45	83.66	78.45	102.23
Borrowings	11.25	19.39	16.57	15.63	11.76	15.01
Deferred revenue	75.86	90.53	111.04	128.54	146.28	180.61
Provisions	0.73	0.48	0.54	0.43	0.47	0.00
Total	176.32	180.47	279.97	229.38	237.89	301.72

working capital	251.262	660.175	543.904	-83.65	-74.577	-110.24
change in working capital		408.913	-116.271	-627.554	9.073	-35.663
		162.74%	-17.61%	115.38%	10.85%	47.82%

	2013	2014	2015	2016	2017	Change
Change in working capital	9.073	-35.66	15.00	21.00	29.40	40%

Capex

	2012	2013	2014	2015	2016	2017
Payments for investments in intangible assets	58.97	46.00	92.94	100.00	100.00	100.00
Proceeds for disposals of intangible assets	9.41	9.65	14.03	-	-	-
Payments for investments in property, plants, equipment	15.32	12.50	10.85	12.50	12.50	12.5
Capex	74.29	58.50	103.79	112.5	112.5	112.5

Expected AFA for the Football Players	
Player purchase	100
contract length	3
AFA/anno	33.33
Player sale	30
contract length	4
AFA/anno	7.5
New AFA	25.83

Auxiliary Calculations for the Forecast

Revenues

Past Revenues	2009	2010	Change	2011	Change	2012
Transfers	Transfers are only as balance of purchase and sells in the annual and therefore it is only in the costs included, because Manchester invest more than selling					
Retail, Merchandising, Licensing, Mobile & Content	36.2	39.50	9.10%	48.50	22.80%	54.50
TV rights	99.735	104.6	4.90%	117.20	12.00%	104.00
Sponsorship	33.80	40.90	21.00%	54.90	34.20%	63.10
Match Operation	108.80	100.16	-7.90%	110.80	10.60%	98.70
Revenue	278.53	285.16	2.40%	331.40	16.20%	320.30

Past Revenues	Change	2013	Change	2014	Change	Average Change
Transfers						
Retail, Merchandising, Licensing, Mobile & Content	12.40%	61.60	13.00%	53.50	-0.13	0.09
TV rights	11.30%	101.60	-2.30%	135.80	0.34	0.07
Sponsorship	14.90%	90.60	43.60%	135.80	0.50	0.33
Match Operation	10.90%	109.10	10.50%	108.10	-0.01	0.00
Revenue	-3.30%	362.90	13.30%	433.20	0.19	0.10

Prediction Revenues	2014	2015	2016	2017	Rate of growth
Retail, Catering, other	53.5	58.2	63.3	68.9	9%
TV rights	135.8	149.4	164.3	180.7	10%
Sponsorship	135.8	176.5	229.5	298.4	30%
match operation	108.1	111.3	114.7	118.1	3.00%
Revenue	433.2	495.5	571.8	666.1	9.6%

Past Costs	2009	2010	2011	2012	2013	2014	Avrg. Change
Personal expenses	123.1	131.689	152.915	161.7	180.5	214.8	12%
Amortization of players' registrations	37.6	40	39.2	38.3	41.7	55.3	9%
Depreciation, write offs	8.9	8.6	6.9	7.4	7.7	8.5	-0.16%
Other operating expenses	62.3	52.3	68.83	64.0	71.1	88.3	9%
Exceptional items	3.01	2.77	4.66	10.7	6.2	5.2	26%

Prediction Costs	2014	2015	2016	2017	Change
Personal expenses	214.8	240.58	269.45	301.78	12%
Amortization of players' registrations	55.3	81.12	106.96	132.79	25.83
Depreciation, write offs	8.5	8.5	8.5	8.5	0%
Other operating expenses	88.3	98.90	110.76	124.06	9%
Exceptional items	5.2	5.81	6.50	7.28	3%

Multiples

Company	Share Price	Outstanding	Market Capitalization	Less Cash	Plus Debt
Benfica	1.1	23000000	253	8.88	452.07
Juventus	0.28	1007766660	282.17	1.587	305.136
Lyon	2.4	13241287	31.8	4.035	201.229
Ajax	9.3	18330000	170.5	59.95	68.42
AS Roma	0.64	397,569,888	254.4	18.284	400.85
Sporting	0.62	39000000	241.8	1.94	312.71
celtic	0.745	900900	67.117	14.739	43

Enterprise Value	Revenue	EBIT	EBITDA
696.19	75.91	-18.4	-62.15
585.719	315.78	8.846	69.171
228.994	120.548	-24.933	-7.515
178.97	103.76	-0.66	11.14
636.966	128.447	-28.074	1.625
552.57	95.91	-20.23	-11.14
95.031	64.736	11.838	17.1

Multiples	Revenue	EBITDA	EBIT
Benfica	9.17	-11.20	-37.84
Juventus	1.85	8.47	66.21
Lyon	1.90	-30.47	-9.18
Ajax	1.72	16.07	-271.17
AS Roma	4.96	391.98	-22.69
Sporting	5.76	-49.60	-27.31
Celtic	1.47	5.56	8.03
Enterprise Value Multiple	3.83	12.27	

Revenue BVB	260.735
Multiple Revenue	3.83
Enterprise Value BVB	999.69
minus FK	146
Equity Value BVB	853.6891941

EBITDA BVB	49
Multiple EBITDA	12.27
Enterprise Value BVB	601.06
minus FK	146
Equity Value BVB	455.0640278

Revenue Manutd	433.164
Multiple Revenue	3.83
Enterprise Value BVB	1660.80
minus FK	717
Equity Value Manutd	943.802616

EBITDA Manutd	125.8
Multiple EBITDA	12.27
Enterprise Value	1543.14
minus FK	717
Equity Value Manutd	826.1398917