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List of abbreviations

AG	Aktiengesellschaft
APV	Adjusted present value
bn	billion
CAGR	Compounded annual growth rate
CAPEX	Capital expenditures
CEO	Chief executive officer
DCF	Discounted cash flow
DFL	Deutsch Fußball Liga GmbH
EBIT	Earnings before interest and taxes
EBITDA	Earnings before interest, depreciation and amortization
e.g.	exempli grātiā
FFP	Financial fair play
GDP	Gross domestic product
GmbH	Gesellschaft mit beschränkter Haftung
IPO	Initial public offering
KG	Kommanditgesellschaft
KGaA	Kommanditgesellschaft auf Aktien
m	Million
NWC	Net working capital
P&L	Profit and loss
SDAX	Small-Cap-Dax

SWOT	Strength, weaknesses, opportunities and threats
TV	Terminal value
UEFA	Union of European Football Associations
WACC	Weighted average cost of capital
YTM	Yield to maturity

1 Introduction

“Borussia Dortmund¹ is at least worth €600 million”.²

The statement made by the Chief Executive Officers (CEO) Hans Joachim Watzke in an interview shows the controversial nature of valuation having in mind that the Bundesliga’s only listed club was valued at around €250m at the time of the statement. He further explained that the squad itself has a value of approximately €350m. Additionally, Mr. Watzke argued that the stadium (Signal Iduna Park) of the football company is at least worth €200m. Therefore the club is – in his opinion – undervalued.³

Several arguments fuel Watzke’s reasoning. The private equity company Kravis Kohlberg Roberts (KKR) bought a stake in Hertha BSC – like Dortmund a club of the German Bundesliga. They received a share of 9,70% and valued the total club with €220m.⁴ A major difference is the recent performance of both clubs. While Hertha played in the second German division during the season ‘12/’13 and has not played internationally in the recent past, Borussia was more successful.⁵ They advanced to the Champions League four times in a row and made it to the final in the season ‘12/’13.⁶ Having the success of both clubs in mind one could assume a significantly higher valuation for Dortmund. The stock market obviously does not.

For €110m the Allianz Societas Europaea (SE) acquired a 8,33% stake of the unarguably most successful German football club of all time – the FC Bayern München Aktiengesellschaft (AG).⁷ With this valuation the total value of the company amounts to €1,3bn.

¹ The terms Borussia Dortmund, Borussia and Dortmund are used interchangeable throughout the thesis and refer to the football company

² Röckenhaus (2014)

³ Röckenhaus (2014)

⁴ Hertha BSC GmbH & Co KGaA (2014)

⁵ Kicker Sportmagazin (2014)

⁶ Kicker Sportmagazin (2014a); Kicker Sportmagazin (2014b); Kicker Sportmagazin, (2014c); Kicker Sportmagazin (2014d); Kicker Sportmagazin (2014e)

⁷ FC Bayern München AG (2014)

Mr. Watzke would probably not challenge the statement that the FC Bayern München AG is worth more than Dortmund. But there are reasons to believe – as mentioned above – that he would not agree on a valuation that is five times higher. Nevertheless, both of these transaction seem to support Mr. Watzke's view that the football company he manages is undervalued.

On June 27th Borussia Dortmund announced an equity issue of 6.120.011 new shares with a price of €4,37 each. This amounts to €26,7m in total. The Evonik Industries AG (from now on Evonik) bought all of the newly issued shares. Evonik is one of the major sponsors of Dortmund. In addition to the equity deal both companies agreed to prolong the sponsorship contract to the year 2025.⁸ Furthermore, the club raised another €114m (share price €4,66) on August 21st. In addition to Evonik, Signal Iduna Allgemeine Versicherung AG (from now on Signal Iduna) and PUMA SE (from now on Puma) signed most of the new shares. Dortmund has 92m shares outstanding. Hence the prices paid by the strategic investors in August would imply a market capitalization of around €429m. The company used parts of the proceeds from the equity issue to pay down its debt. Thus, the market capitalization is close to the total enterprise value.⁹ However, this figure is well below the €600m Mr. Watzke talked about in June.

1.1 Aim and motivation of the paper

The primary goal of the thesis is to perform a valuation of Borussia Dortmund and check whether or not the current share price is at its fair value. Thereafter, it will be possible to assess whether Mr. Watzke is right with his point of view or if the market values the football company correctly.

From a valuation perspective the statements of the current CEO are interesting as well. The CEO uses the assets of the club – primarily the team and the stadium –

⁸ Borussia Dortmund GmbH & Co. KGaA (2014)

⁹ Borussia Dortmund GmbH & Co. KGaA (2014a)

to justify a higher value of the football company.¹⁰ Whether or not this is the right method to value a club will be another issue of discussion.

Furthermore, the CEO claims that the club will not load up on debt to finance the roster of the team. This statement regarding the financial policy of the football company is a further point of discussion in the thesis.

1.2 Structure of the paper

This thesis is divided into two parts. The first part covers the theoretical background of valuation. In the second part a valuation is performed to determine how much Borussia Dortmund is worth.

The remainder of the thesis is structured as follows:

The **second chapter** of this thesis gives an overview of different valuation methods. The chapter starts out with a general overview of the valuation topic. Thereafter, occasions and reasons for valuations of companies are discussed. Furthermore, an overview of the football business is provided. Then capital structure theories are briefly presented. A discussion of several valuation methods follows. After weighing the pros and cons of each method, an appropriate method that fulfils the special needs to value a football company is selected.

The **third chapter** deals with the valuation of Borussia Dortmund. First of all, the current economic environment is assessed. Thereafter, Porter's Five Forces are applied to gain a deeper understanding of the football industry. Afterwards, an overview of Dortmund (history and legal structure of the company) follows. In a Strength, weaknesses, opportunities and threats (SWOT) analysis the specific characteristics of Borussia are evaluated. After the analysis of the qualitative factors the valuation of the football company follows. At the end of the chapter the valuation is critically reflected upon.

The thesis ends with the conclusion – the **fourth chapter**.

¹⁰ Röckenhaus (2014)

2 Valuation

This chapter provides an overview of the topic of company valuation. An explanation of different reasons and occasions for company valuations is the starting point of the chapter. Then a brief description of the historic devolvement of different valuation approaches follows. Following the introduction to valuation, the characteristics of a football company are described. Thereafter – the main objective of this chapter – different valuation methods are explained. A focus is the evaluation of the different pros and cons of the methods. This is important to select the best method to perform the company valuation of Borussia Dortmund.

2.1 Occasions and reasons for a company valuation

One of the reasons to do a valuation is the intention of one company to buy another firm. Of course, if the target company is listed at the stock exchange it is fairly easy to observe the potential price. But the acquirer might believe it could unveil synergies if the company is under their control (e.g. cost cutting of headquarter expenses). These synergies need to be carefully evaluated and thus the acquirer needs to perform a valuation of the target. Furthermore, the acquirer could believe that the target is undervalued by the market and would therefore be an interesting addition to its current business. Also it is possible that two companies merge to one entity. In this case a valuation of both companies is important to determine the exchange relationship for the shareholders of both companies. Another reason for a valuation is the initial public offering (IPO) of a company. To determine an appropriate price for each of the new shares a valuation of the firm is needed. But not only large companies face the need of conducting a valuation. If an owner of a private firm wants to sell his stake in the company a valuation is important to figure out what the portion of the company is worth.¹¹

But not only in the case of buying or selling a company the valuation topic is important. If a company follows the value based management approach they make use of different valuation methods to evaluate their business units. Furthermore,

¹¹ Kuhner & Maltry (2006), pp. 1-9.

they utilize the results to steer the company.¹² Another reason to perform a company valuation is the assessment of the credit risk by banks. Before a bank hands out a loan to a company they evaluate whether or not the company will be able to generate enough cash to repay the debt.¹³ Furthermore, analysts perform company valuations to provide their portfolio managers with investment ideas (buy side analysts). Sell side analysts write reports for external clients. Their research is used by the retail branch of the bank to provide recommendations to their customers.¹⁴

2.2 History and development of valuation

During the 1950s the predominant approach in valuation was the net asset value approach. The idea behind this method was to receive an objective value and hence valid for everyone. Due to this circumstance this period is called the objective period in valuation. In the '60s the German income approach entered the valuation literature. The approach was more subjective, meaning that different persons would receive different values of the company because their specific interests are reflected in the approach. This period is called the subjective period of valuation. In the '70s the idea about valuation was more functional, meaning that it was in principle as subjective as in the '60s. But for certain occasions the base for the valuation was set on conventions everybody agreed upon. In the '80s and '90s the valuation approaches were more influenced by capital market theory.¹⁵ The discounted cash flow (DCF) approach developed during that time is still valid today and used by academics and practitioners alike to evaluate a company.¹⁶

¹² Koller, Goedhart, & Wessels (2010), pp. 29-31.

¹³ Kuhner & Maltry (2006), p. 9.

¹⁴ Spremann & Scheuerle (2010), pp. 1-5.

¹⁵ Kuhner & Maltry (2006), p. 53.

¹⁶ Rappaport (1998), pp. 32-33.

2.3 Characteristics of the football sector

To understand the nature of a football company the characteristics of the industry are presented.

2.3.1 Introduction to the football business

The biggest difference of a football company and an ordinary firm is the objective. While a firm – in a market economy – seeks to maximize long term value, a football company additionally wants to maximize the success of the team.¹⁷

Furthermore, it is difficult to forecast future success and hence the cash flow development of a football team. This uncertainty is also true for a firm in an ordinary business environment but in sports competition it is even more difficult. The difficulties of forecasting is underlined by the surge of betting agencies. The success of a football club depends highly on few employees – the players. Additionally, the players are exposed to injuries or form fluctuation. Also, a player can be bought (only possible in specified time periods of the season) by another club. It is no easy task to find an immediate substitute. If a new player is bought for replacement there is no guarantee that he will perform as the player that left the club. Another interesting fact is the observation of the beta factor. The historic beta for football clubs is well below one. An explanation for the low beta is that the football sector is not so dependent on the overall economic development. And thus the shares of football clubs – from a capital market perspective – are not as risky as those of other sectors.¹⁸

If a club wants to take part in the league competition it has to fulfill certain rules. In Germany each football company has to receive a license each year by the Deutsche Fußball Liga Gesellschaft mit beschränkter Haftung (GmbH) (from now on: DFL).¹⁹ Also, teams face constraints to take part in the Bundesliga. One of the regulations they have to accept is the process of how broadcasting rights are sold.

¹⁷ Korthals (2005), p. 16.

¹⁸ Korthals (2005), pp. 16-17.

¹⁹ Reinecke (2014)

The DFL negotiates with different media companies and sells the broadcasting rights in a package.²⁰ This means that no club is allowed to individually sell the broadcasting rights.

Another characteristic of a football company are the fans (or customers). One of the basic assumptions in economics is that humans act rational. In terms of football this would mean that a fan switches his club on a regular occasion to be always fan of the most successful team. This is clearly not the case in football. Usually people are fans of one team throughout their entire lifetime. To the fans it is not just a product they consume. The emotional binding towards their club is high.²¹

In contrast to an ordinary company, the product quality is easily observable. During the season the team is playing at least once a week (clubs that take part in the Union of European Football Associations (UEFA) Champions League or Europa League even twice) and everybody can make up his or her mind on the performance of the team (product of the football company).²²

Another difference is the so called “Louis-Schmeling-Paradox”.²³ While in the free economy a firm is best off when having a monopoly position the situation is different in sports. The assumption is that it is more interesting and more profitable if the competition is intense. For boxing this theory makes sense. The longer the fight is the more commercial breaks are possible and the higher is the total income generated. In the case of football it would be more interesting if it takes until the end of the season until the winner of the league competition is known.²⁴

2.3.2 The German football league system

The professional German leagues system consist of three divisions (Bundesliga, 2. Bundesliga, 3. Bundesliga). The season starts in August and ends in the following May. In both top divisions 18 teams compete and in the third division 20 teams.

²⁰ DFL Deutsche Fußball Liga GmbH (2012)

²¹ Korthals (2005), p. 19.

²² Korthals (2005), p. 18.

²³ Neale (1975), p. 204.

²⁴ Korthals (2005), p 19.

Every team plays against each other twice during a season (one is a home game and one an away game). After the season is over the first two teams from the 3. Bundesliga will be promoted to the second and the top two from the 1. Bundesliga into the Bundesliga. Furthermore, the winner of the relegation games also gets promoted into the higher League. The number three ranked team of the 2. Bundesliga competes in two games against the number sixteen of the Bundesliga. The same is true of the last available spot of the 2. Bundesliga (number three ranked team of the 3. Bundesliga and number sixteen of the 2. Bundesliga).²⁵

The top six teams of the Bundesliga and the winner of the cup will participate in the European cup competition. The first three take part in the financially more attractive Champions League. The team that came in fourth place will have a playoff game against another team from another European league. The winner of the knock out games will take part in the Champions League and the other team in the Europa League. Furthermore, the teams who finished five and six of the Bundesliga and the winner of the national cup will participate in next year's Europa League.²⁶

The Champions League (32 teams) starts with the group stage (four teams per group). The teams play each other twice (one home and one away game). The teams who finish the group stage on rank one and two advance to the round of the last 16. The knock out phase (round of last 16, quarter final, semifinal) also features a home and away game. The final (one game) takes place on neutral grounds.²⁷

The Europa League begins with 48 teams. After the group stage (same rules as in the Champions League group stage) the first and second team qualify for the Knock out phase (same rules in the Champions league except that they start out with the round of the last 32). They are joined by the teams who came in third in the Champions League group.²⁸

²⁵ Deutscher Fußball-Bund e.V. (DFB) (2014)

²⁶ Kicker Sportmagazin (2014f)

²⁷ UEFA (2015)

²⁸ UEFA (2015a)

2.3.3 Value of a football company

Valuation is a subjective area and depends very much of the specific interests of the group. Especially when investing in football companies this is obvious. A strategic investor (time frame) who combines the investment with a sponsorship deal of the club has different interests as – say – a mutual fund which thinks about investing in the club. The non-financial value is furthermore of interest of patrons (who invest in the club because they are interested in football and they do not see the company as an investment that maximizes value) and fans who are emotionally tied to the club. The patrons and fans have in common that they love the game and identify themselves with the players on the pitch and the history of the team. To them the club is not a company that generates profits. It represents a lifestyle.²⁹

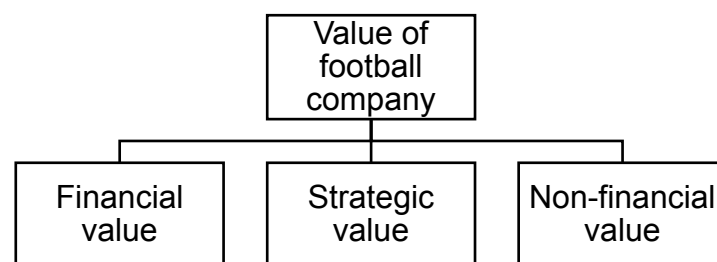


Figure 1: Different values of a football club³⁰

As described in the introduction, several companies bought stakes in German football company. Those companies – as well as ordinary sponsors – are particularly interested in the strategic value of the football company. Their investment can be seen as a marketing device. The idea is to transfer the positive image of the football company to their own company (or their products).³¹

The financial investor is interested in the return he can generate with his investment. Hence, dividends and the potential increase of the share price is the main concern.³²

²⁹ Korthals (2005), p. 27.

³⁰ Own representation based on: Escher (2007), p. 27.

³¹ Holzmüller, Cramer, & Thom (2014), p. 71.

³² Korthals (2005), p. 23.

Of course none of the three types of value described above can be evaluated with considering the other two. Among the three, the financial value is the one that can be evaluated with the least subjective intention. The other two are more subjective.³³ As mentioned in the introduction, the objective of this thesis is to determine the financial of value of Borussia Dortmund.

2.3.4 Income streams of football companies

Football companies have four major income streams. The highest amount is the income through the sales of the broadcasting rights. In the early days of the professional sport leagues – the German Bundesliga was established in the sixties – broadcasting was not an important source of income. Due to the commercialization of football, broadcasting has become the most important stream of income. Revenue created through the segment commercials is mainly due to the sponsoring of the football company by other firms. Examples here are the sponsor who is printed on the jerseys or the name of the stadium. The third highest source of income is received on matchday through ticket sales and catering services. Additional income – If the company owns the stadium – can be generated through renting out the stadium to external parties (e.g. for concerts). Another revenue driver is merchandising. Most prominent example here are the jersey sales of the team. Fees generated through memberships of the fans do not represent a significant amount.³⁴

Overall turnover of the Bundesliga teams in the season '13/'14 amounts to €2,4bn. Figure 2 shows the breakdown of income.

³³ Escher (2007), p. 27.

³⁴ Korthals (2005), pp. 8-14.

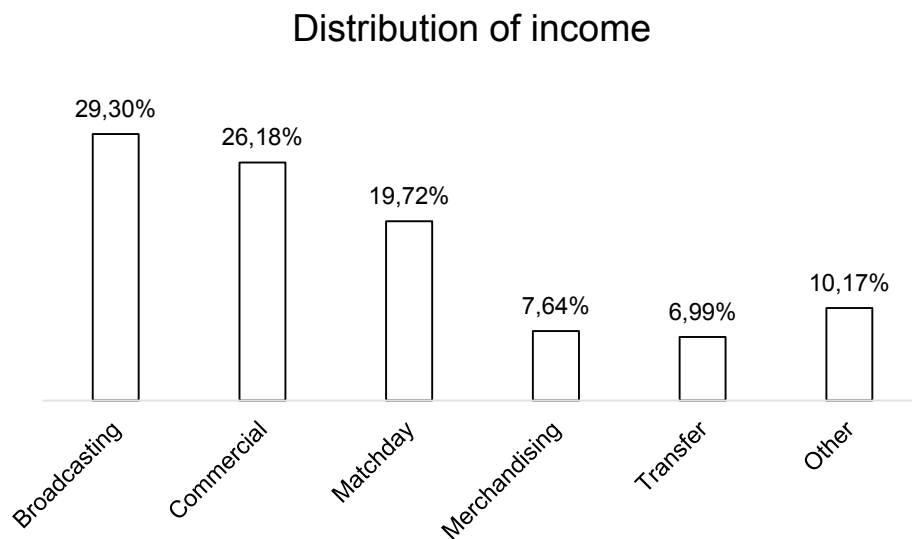


Figure 2: Breakdown of income streams of the German Bundesliga '13/'14³⁵

2.4 Capital structure

As mentioned in the introduction the CEO of Dortmund made some interesting comments about the companies future borrowing activities. Furthermore, the capital structure is a very important input factor in the cash flow based valuation techniques. Therefore this chapter provides a description of the basic theories and concepts of capital structure.³⁶

2.4.1 Basics

A key question in the discussion of corporate finance is the discussion of the capital structure of firms. The mix of debt and equity a firm carries on its balance sheet is furthermore a central question to managers.³⁷

Theoretically, Modigliani and Miller showed that the capital structure does not affect firm value and only depends on the assets of a company (and the cash flows these assets generate). Furthermore, the firms cost of capital are constant – no matter how the firm is funded. This implies that the cost of equity is a linear func-

³⁵ DFL Deutsche Fußball Liga GmbH (2015), p. 8.

³⁶ Ballwieser (2011), p. 167.

³⁷ Atiyet (2012), p. 9.

tion of the debt to equity ratio. Needless to say, this theory has several assumptions that need to be fulfilled. The assumptions are: no taxes, no bankruptcy costs, no agency costs and that the markets are efficient meaning that all investors have the same kind of information.³⁸

2.4.2 Trade-off theory

The trade-off theory states that a firm has to trade-off the cost and benefits of debt. Some of the above-mentioned assumptions are therefore relaxed. In the real world debt has tax advantages over equity. While dividends to shareholders are not deductible as an expense in the profit and loss (P&L) statement, interest payments on debt are. If debt did not have a disadvantage this would imply to load up on debt until the Earnings before interest and taxes (EBIT) is zero. In this case the firm would not have to pay corporate taxes. The difference between interest payments and dividends is the legal status.

While interest payments are fixed – they do not depend on the current state of the firm – dividend payments are not. This is an important difference. Thus, the more debt a firm carries the faster it will get into financial problems when earnings decline. Due to the fixed payments debt raises the risk of bankruptcy. Associated with bankruptcy, one has to differentiate direct (e.g. lawyer fees) and indirect costs (e.g. loss of customers). While the direct costs are fairly easy forecastable this is not the case with the indirect costs. It is difficult to predict how the environment of the firm will react to the information that the company is in trouble and hence have difficulties to meet the interest obligations. Thus, the more debt a company carries the higher the risk of a bankruptcy.

The basic idea of this theory is that firm's need to trade off the advantages (tax deductibility) with the disadvantages (risk of bankruptcy) of debt³⁹

³⁸ Modigliani & Miller (1958), pp. 261-271.

³⁹ Kraus & Litzenberger (1973), pp. 912-920.

2.4.3 Pecking order theory

In comparison with the trade-off theory the pecking order theory has a different approach to capital structure. This theory focuses more on the information asymmetry between the management of a firm and the public. The theory states that a firm uses its own funds to finance its investments. This is a signal to the market that the firm is in good financial shape and is able to generate enough cash to run its business and fund new projects.

If no internal funds are available debt is the second option. Equity is the last option to raise funds and finance projects. The implied effect of debt is that it signals to the market that the company (the management team with inside information) is able to service its debt and very confident that the planned project will be a success. This is due to the fact that the interest payments are fixed and the management believes they can pay it in every (economic) state of the world.

As a last step the firm would issue equity if funds are needed. The assumption is that market participants believe that the management would only issue equity because they know it is overvalued. So an equity issue would be perceived as a bad sign by the market.⁴⁰

2.4.4 Empirical evidence

Both theories help to explain – to a certain extent – the financing behavior of firms.

A survey among corporate managers about factors that affect their companies debt policy indicates that in practice other factors than suggested by both financing theories seem to be of more importance. To managers financial flexibility (ability to issue debt) and the credit rating are the top two priorities. Interest tax savings ranks sixth and bankruptcy distress costs rank seventh. Since the credit rating is an assessment of the firm's financial health through rating agencies and maintaining some flexibility in the debt capacity implies that avoiding financial distress is a crucial point in the debt policy of firms (and hence an indirect hint that the trade-off

⁴⁰ Myers (1984), pp. 581-590.

theory does play a role). Furthermore, only ten percent of the chief financial officers (CFOs) participating in the survey said that they do not have a target debt-equity ratio. On number two and three of the list that affect the debt policy of firms rank 'Earnings and Cash Flow Volatility' and 'Insufficient Internal Funds'. Those two factors indicate that firms seem to prefer to finance projects with cash generated from their operations. This would support the pecking order theory. Interestingly, on rank number 7 is the factor 'Transaction costs and Fees'. None of the theories takes this into account. But the amount that companies have to spend to pay e.g. lawyers and investment banks should not be neglected in financing decisions.⁴¹

Both theories have been tested empirically to see how they explain the financing behavior of firms. The evidence is mixed. The pecking order theory seems to be a slightly better estimator to explain firms financing behavior than the static (fixed debt to equity ratio) trade-off theory. However, the sample used in the study includes only mature companies. Additionally, the models used by the authors to explain the theories are simple. Meaning that more complex models could potentially explain more of the financing behavior of firms.⁴²

The trade-off theory helps to explain different debt ratio across industry sectors. Sectors that have relatively stable cash flows in every state of the economy have more debt on their balance sheet as they will be able to meet the interest payments.⁴³

The pecking order theory explains the inverse relationship between profitability and debt ratios of firms. According to the trade-off theory a profitable firm should load up on debt to create value through the advantage of the tax shield.⁴⁴ However, the pecking order fails to explain the financing behavior of small firms. Here, the information asymmetry – on which the theory builds up on – is potentially the highest. But those firms are typically financed solely with equity. The pecking order

⁴¹ Graham & Campbell (2002), pp. 14-15.

⁴² Shyam-Sunder & Myers (1999), pp. 242-243.

⁴³ Myers (1984), pp. 580-581.

⁴⁴ Myers (1984), pp. 589-590.

would predict higher debt ratios particular for firms where the information problem is the highest.⁴⁵

2.5 Valuation methods

This section provides an overview of the different valuation techniques. Figure 3 gives a brief overview of different approaches. The methods can be divided into three groups: net asset value approach, present value techniques and market based valuation approach.

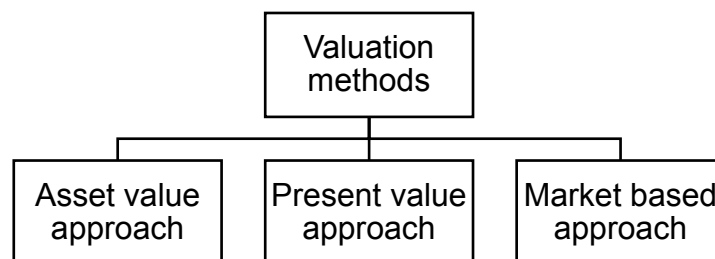


Figure 3: Valuation methods⁴⁶

2.5.1 Asset value based methods

This chapter deals with the asset value based methods. Since these techniques are not as relevant any more, they are only briefly discussed.

- Description of the method

The valuation based on a firm's assets consists of two different approaches. In the liquidation value approach the assumption is that the firm will declare bankruptcy. Then, each asset of the firm is valued independently. Afterwards these values are added up and the debt of the firm is subtracted. Starting point of this technique is the balance sheet. In addition, items that do not show up on the balance sheet

⁴⁵ Frank & Goyal (2003), p. 219.

⁴⁶ Own representation based on: Ballwieser (2011), p. 8.; Korthals (2005), p. 28.; Damodaran (2002), p. 21.

(already fully depreciated goods) or have never been on it (own produced immaterial assets, e.g. brands) need to be evaluated.⁴⁷

The second version is called replacement cost approach. In this method the value of the firm is derived through the answer to the question: „What would it cost to rebuild an identical firm?“⁴⁸

- Pros and cons of the method

Both methods are criticized in the valuation literature. To receive the value for each asset another valuation method needs to be used and hence the asset based methods cannot be considered as a real method.⁴⁹ These approaches ignore synergy effects among the different assets of a firm. This is an assumption that probably will not hold for any company. Furthermore, it is questionable that a potential buyer would be interested in the rebuilding costs as they provide no information of income generation. Nevertheless, asset based methods are frequently used practice (for certain cases it is required by law).⁵⁰

- Usefulness for evaluating football companies

The synergies effects of the most important assets of a football company – the players – are considered to be high. Furthermore, it is a difficult task to receive a value for a single player. It is impossible to allocate earnings a football company generates to a one player. Also market values for players do not seem to be a good help as the market for football players is not considered efficient.⁵¹ Furthermore, it is possible that players leave their company after their contract expires. In this case the former football company does not receive a transfer fee. A good example is the former forward of Dortmund Robert Lewandowski. At that time he was considered as one of the best forwards in the league and would have generated a

⁴⁷ Ballwieser (2011), p. 199.

⁴⁸ Ballwieser (2011), p. 200.

⁴⁹ Damodaran (2002), p. 21.

⁵⁰ Damodaran (2002), p. 200.

⁵¹ Korthals (2005), p. 30.

transfer fee if Dortmund had decided to sell him while he had a contract with Borussia.⁵²

Another major asset of a football company is the stadium. As mentioned in the introduction the CEO of Dortmund states that – in his opinion – the company is at least worth €600m. In his view, the stadium alone is already worth €200m.⁵³

If valued with the liquidation value approach (assumption is a bankruptcy of Dortmund) there are not too many other options to use the stadium, as it is a specialized asset. Without a football team playing in it (synergy effects between team and stadium), it is questionable whether other events (e.g. concerts) would generate the same cash flow as around 20 football games per year. When considering the usage of the reproduction value based approach is the high emotional ties of the fans have to be taken into account. Thus, copying a football company and rebuilding it somewhere else is an unrealistic assumption.⁵⁴

Hence, the asset value based approaches do not fulfill the purpose of valuing a football company.

2.5.2 Market based valuation

This chapter gives an overview of the market based technique (valuation with multiples).

- Description of the method

The idea behind this approach is simple and intuitive. It is based on the assumption that similar assets should sell at the same price (law of one price).⁵⁵ In the literature the method is also called valuation based on comparable firms or relative valuation.⁵⁶ One of the examples how firms are compared is the price earnings ratio. If a company has a P/E of ten, this means that the share is worth ten times its current (or projected) earnings.

⁵² Transfermarkt GmbH & Co. KG (2014)

⁵³ Röckenhaus (2014)

⁵⁴ Korthals (2005), p. 31.

⁵⁵ Coenenberg & Schultze (2002), p. 697.

⁵⁶ Damodaran (2002), p.18.; Berk, DeMarzo, & Harford (2012), p. 288.

$$\text{Market Value company } X = \frac{\text{Price peer group}}{\text{Earnings figure peer group}}^{57} * \text{Earnings company } X^{58}$$

Empirically it has been shown that forward looking multiples (obtained from analyst reports) deliver better results than using historic multiples. Furthermore, there is no proof that in different industries different multiples should be used. Meaning that there is an EBIT multiple that should be used for sector X and a sales multiple for industry Y.⁵⁹ In a situation in which no forecasted figures exist (company is not covered by analysts), historic figures need to be used. The use of various multiples will yield better results than using just a single multiple. This is due to the fact that each figure adds more incremental information and thus improves the accuracy.⁶⁰

The first task when applying the multiples approach is to analyze and understand the target company. At this point understanding the business (e.g. sector, products, customers, and distribution channels) as well as the financial data (e.g. size and profitability) of the company is important. If this is done, the selection process of the comparable companies starts.⁶¹ Empirically, it has been shown that a peer group of five companies is sufficient.⁶² It makes sense to select more companies to begin with but in the end the list should be narrowed down.⁶³

Multiples are particular used when young firms go public. This is due to the fact that forecasting cash flows for young companies is often a vague task. Thus, practitioners as well as academics recommend the use of multiples for an Initial Public Offering (IPO).⁶⁴

- Types of the method

There are two different types of the multiple method. The first option is to use comparable companies that are traded on the stock exchange. The share price

⁵⁷ Instead of Earnings a broad range of other figures (e.g. EBIT or EBITDA) can be applied

⁵⁸ Own representation based on: Hasler (2012), p. 285.

⁵⁹ Liu, Nissim, & Thomas (2002), pp. 137-138.

⁶⁰ Yoo (2006), p. 120.

⁶¹ Rosenbaum & Pearl (2009), pp. 16-20.

⁶² Cooper & Cordeiro (2008), p. 14.

⁶³ Rosenbaum & Pearl (2009), p. 12.

⁶⁴ Kim & Ritter (1999), p. 410.

and hence the ratios are observable. Another option is the use of multiples of recent transactions (e.g. from mergers and acquisitions). The problem with this approach is that the paid prices can contain premiums and therefore make it difficult to compare it to the target company.⁶⁵

- Pros and cons of the method

The theoretic approach (similar assets should sell at the same price) is intuitive and a basic assumption in economics. Furthermore, they are easier to calculate than a DCF analysis. The problems incorporated by forecasting cash flows and estimating the discount rate are left out by using multiples.⁶⁶ Additionally, if the theory behind the DCF analysis is valid, the share price of a company should reflect the discounted value of its future cash flows.⁶⁷ If it is further assumed that markets are efficient then there should not be the need of a DCF analysis because share prices reflect the correct price.⁶⁸

Another advantage of the method is it that is widely used in practice. This is due to the fact that multiples are easier to communicate. Especially, to non-finical professionals.⁶⁹

Also, multiples are easier to calculate and to update as the method needs only a few inputs. This makes the valuation with multiples quick and convenient. Furthermore, multiples capture the current market sentiment (growth and risk expectations of the market participants) better than other valuation approaches. This is intuitive because current market prices are used in the calculation of multiples. Another feature of the relative valuation approach is that companies can be immediately compared to one another.⁷⁰

Nevertheless the method also has several drawbacks. A major problem of the method is the assumption about comparable companies. It is questionable if there are two (or more) companies that are alike and the theory of the law of one price

⁶⁵ Bausch (2000), p. 451.

⁶⁶ Baker & Ruback (1999), p. 1.

⁶⁷ Damodaran (2010), p. 3.

⁶⁸ Berk, DeMarzo, & Harford (2012), p. 298.

⁶⁹ Greene (2007), p. 19.

⁷⁰ Rosenbaum & Pearl (2009), p. 52.

can be applied in valuation.⁷¹ As mentioned above, the multiple approach is supposed to be easy to calculate and thus quickly to implement. But to obtain objective results, adjustments need to be done due to differences between the companies. This is time consuming and partly offsets the advantage of quickness.⁷²

The advantage of the method to be market based can be seen controversial. In some periods stock markets can reflect irrational growth perspectives (e.g. dot.com bubble at the beginning of the century). Also, the valuation solely based on comparable companies can lead to disconnection of the fundamental value drivers.⁷³

As a summary it can be said that the multiple approach should not be used as the only valuation technique. If one only relies on the multiple approach, this might (as described in this chapter) lead to neglected fundamentals in the valuation process.⁷⁴ For a plausibility check the valuation with multiples can be useful. Also they can be of help at the beginning of the analysis to get a first indication of the value of the company.⁷⁵

- Usefulness for evaluating football companies

In Germany Borussia Dortmund is the only listed football company. Across Europe there are a few listed football firms that are comparable on a first glance (based on to their recent history in comparison to Dortmund). These teams are: Arsenal Football Club and Manchester United Football Club in England, Associazione Sportiva Roma S.p.A. Roma, Juventus Football Club S.p.A in Italy, Olympique Lyonnais in France, Sport Lisboa e Benfica and Sporting Club de Portugal in Portugal and Ajax Amsterdam in the Netherlands.⁷⁶ The size of comparable companies is one factor that needs be considered when using relative valuation approach. The market capitalization of the above mentioned firms differs significantly. They vary from €18,33m – 2,47bn. Furthermore, the height of the income streams varies significantly. In England the broadcasting rights have been sold for

⁷¹ Damodaran (2010), p. 880.

⁷² Coenenberg & Schultze (2002), p. 700.

⁷³ Rosenbaum & Pearl (2009), p. 52.

⁷⁴ Greene (2007), p.17.

⁷⁵ Barthel (2007), p. 667.

⁷⁶ UEFA (2015b)

the seasons '15/'17 – '19/'20 for a total of €2,3bn per season.⁷⁷ Even if the amount would be distributed equally among all Premier League Clubs it would still be significantly higher than what Dortmund receives in Germany. This could be a reason why the two English teams have the highest market capitalizations. Additionally, except from Juventus and Manchester, none of the above mentioned firms have – in relative valuation commonly used – positive multiples (EV/EBIT or EV/EBITDA).⁷⁸ Hence a comparison is not meaningful. Due to these considerations no relative valuation is performed.

2.5.3 DCF valuation

This part of the chapter deals with the DCF analysis. The DCF valuation approach is the most common technique to value an asset or a company and therefore discussed in more detail.

- Description of the method

The basic idea of the DCF approach is that the price of an asset is determined through the discounted value of the cash flows it generates in its life time plus the salvage value (which can be negative as well).⁷⁹ The idea of the method was first applied in the 16th century.⁸⁰

Nevertheless, it took time until the DCF technique gained its popularity. In the 1980s the shareholder value approach had emerged. During this period not only a single investment decision within a firm was based on a DCF analysis but the entire company was valued using the DCF approach by investors. The idea behind this reasoning is analogous to an investment decision within a firm. An investor receives dividends (cash flows) and the price of the share when he sells it (salvage value). Based on this idea the company is valued. To align the interests of

⁷⁷ Süddeutsche Zeitung GmbH (2015)

⁷⁸ Appendix III

⁷⁹ Damodaran (2010), p. 805.

⁸⁰ Haka (2007), p. 704.

management and shareholders, the compensation of top managers was increasingly tied to value based performance measures.⁸¹

Most academics agree that the discounted value of a firm's cash flows is equal to the firm's value.⁸²

$$(1) \text{ value of the firm} = \sum_{t=1}^{t=\infty} \frac{\text{cash flow to the firm}_t}{(1 + \text{Cost of capital})^t} \quad 83$$

Empirically, this theory is backed by a study that compares the transaction values of leveraged buyouts and leveraged recapitalization in the period from 1983 and 1989 with their discounted cash flow forecasts. Both transaction types usually require a detailed – and publically available – forecast of the cash flows. Fifty one transaction are included in the analysis. The study finds that the discounted values of the cash flows are within a ten percent range (on average) of the transaction values. Furthermore, the DCF values deliver more accurate – or at least – the same results as the (in practice) common relative valuation approach.⁸⁴

- *Types of the method*

The DCF method consists of the entity and the equity approach. The entity approach is divided into the adjusted present value (APV) and the weighted average cost of capital (WACC) method.⁸⁵ Figure 4 gives an overview of the methods.

⁸¹ Rappaport (1998), p. 3.

⁸² Estridge & Lougee (2007), p. 62.

⁸³ Damodaran (2010), p. 540.

⁸⁴ Kaplan & Ruback (1995), pp. 1059-1061.

⁸⁵ Ballwieser (2011), p. 187.

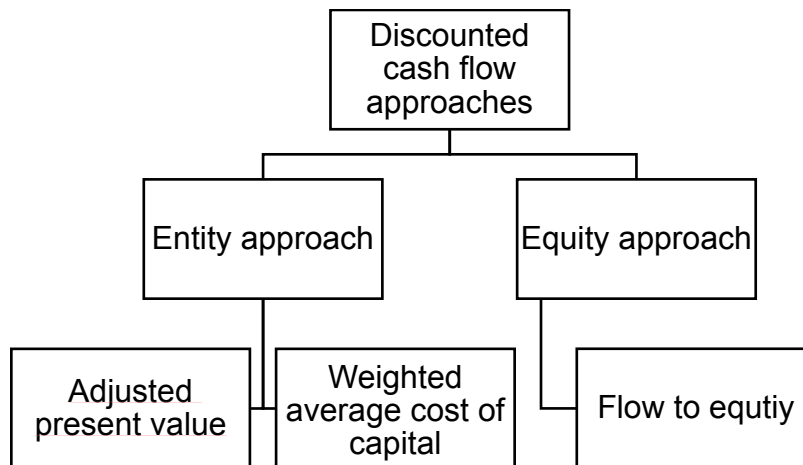


Figure 4: DCF methods⁸⁶

All versions of the DCF approach have in common that they start with the calculation of the cash flows. In a next step these cash flows will be discounted at the relevant cost of capital to receive the value of the firm.⁸⁷ There are several ways to obtain the free cash flow. One possibility is to start with the EBIT (Table 1). The EBIT can be looked up in the profit and loss account. Afterwards the (fictional) taxes are deducted. This is done because the financing effect in the WACC and APV method is taken into account at a later stage. Thus, when calculating the Free Cash Flow (FCF) the financing mix of a firm should be neglected.⁸⁸ Depreciation is a non cash cost and are thus added back. Since the cash outlays for capital expenditure are not included in the profit and loss account they need to be subtracted. In a last step the changes in net working capital (NWC) need to be taken into account. Here, it is important to note that an increase in NWC will be deducted and a decrease added.⁸⁹

⁸⁶ Own representation based on: Ballwieser (2011), p. 132.

⁸⁷ Ballwieser (2011), p. 133.

⁸⁸ Berk, DeMarzo, & Harford (2012), p. 254.

⁸⁹ Berk, DeMarzo, & Harford (2012), p. 257.

	EBIT
-	Taxes
+	Depreciation
-	Capital expenditures
+ / -	Changes in net working capital
=	Free cash flow

Figure 5: Free cash flow calculation⁹⁰

The free cash flow is defined as the cash flow that belongs to the company's debt and equity holders after all cash expenses have been paid for. Theoretically, the FCF is the amount debt and equity investors could withdraw each year from the company. The value of the firm is hence calculated by discounting all future FCF with the relevant cost of capital. After the FCF is calculated, the forecasting starts. Usually there is a detailed planning phase of up to five years. The years thereafter (until year number nine) are still forecasted but not as detailed as the early years. After this period the calculation of the terminal value (TV) is the last step. A common approach to calculate the TV is shown with formula (1).

$$(2) \text{ terminal value} = \frac{\text{Free cash flow}}{\text{Cost of capital} - \text{infinte growth rate}}^{91}$$

➤ *WACC approach*

After the calculation of the cash flows the appropriate discount rate has to be calculated. In this method it is the WACC (hence the name for the approach). In a first step, information on the target capital structure of the firm is required. In some cases companies publish a guidance on a target capital structure they plan to have. If this is not the case a peer group can help to see on what kind of leverage the specific industry operates. It is important to use market values for the calculation as seen in Formula (3). The weighted cost of capital is the sum of the cost of

⁹⁰ Own representation based on: Berk, DeMarzo, & Harford (2012), p. 258.

⁹¹ Own representation based on: Damodaran (2002), p. 303.

equity multiplied with the equity to enterprise value ratio plus the cost of debt (adjusted for tax advantages of debt) multiplied with the debt to enterprise value ratio.⁹²

$$(3) WACC = \text{cost of equity} \frac{\text{equity}}{(\text{debt} + \text{equity})} + \text{cost of debt} (1 - t) \frac{\text{debt}}{(\text{debt} + \text{equity})} \quad 93$$

The cost of equity are derived with the capital asset pricing model (CAPM). First of all the beta factor is needed. The calculation can be seen in formula (4).

$$(4) \beta = \frac{\text{covariance}(\text{return of stock}, \text{return of market})}{\text{variance of market}} \quad 94$$

The beta factor is the ratio of the covariance of the return of the share with the market return to the variance of the market. The beta factor of the market is one. A beta above one means that the share has a higher systematic risk than the market. A beta below one means that the share has less systematic risk than the market.⁹⁵

To receive the cost of equity the beta is multiplied with the market risk premium (return of a market portfolio minus the risk free rate) plus the risk free rate. That is the return an investor would expect when investing in the share.

$$(5) \text{cost of equity} = \text{risk free rate} + \beta(\text{return of market} - \text{risk free rate}) \quad 96$$

The next input factor necessary to calculate the WACC is the cost of debt. The yield to maturity (YTM) is of importance. The YTM measures the rate of return investors expect from a bond in the current market environment. While the coupon is fixed over the life time of the bond, its price can move around the emission price. The overall credit market and the rating of the company influence the YTM. Furthermore, it is also advised to adjust the YTM. This is done by subtracting the probability of default of the firm (can be looked up by using the rating of the firm).⁹⁷ To take into account the tax advantage of debt (as the interest payments

⁹² Koller, Goedhart, & Wessels (2010), p. 164.

⁹³ Own representation based on: Damodaran (2010), p. 540.

⁹⁴ Own representation based on: Drukarczyk (2003), p. 367.

⁹⁵ Rosenbaum & Pearl (2009), p. 129

⁹⁶ Own representation based on: Kaplan & Ruback (1995), p. 1064.

⁹⁷ Berk, DeMarzo, & Harford (2012), pp. 386-387.

are deductible in the profit and loss account), the cost of debt are multiplied with one minus the tax rate as presented in Formula (1). This tax advantage is also called tax shield.

$$(6) \text{ cost of debt} = \text{yield to maturity} - \text{expected loss}^{98}$$

The WACC approach is a good way to value a company if the firm being valued has the goal of achieving target capital structure.⁹⁹ Problematic is that the method can mix up the effects of assets and liabilities. In the APV approach it is clearer where value (tax shield) comes from. In the WACC method it is visible in the discount factor but not as a specific figure.¹⁰⁰ Furthermore, the assumption of a stable capital ratio is questionable in practice.¹⁰¹

➤ APV approach

The basic concept of the APV method is to value a firm as if it was financed entirely with equity. To derive at the entity value the present value tax shield of debt is added to the present value of the cash flows. To derive at the equity value the claims of the debt holders have to be subtracted in a last step.¹⁰² Just like in the WACC approach the first thing to calculate are the FCFs. Afterwards the discount rate for the FCFs is determined. In the case that the firm is not entirely equity financed the beta needs to be unlevered to reflect the assumption of the all equity financed firm that is needed for the APV method – see Formula (7).

$$(7) \text{ unlevered beta} = \frac{\text{levered beta}}{(1 + \frac{\text{Debt}}{\text{Equity}} \times (1 - \text{marginal tax rate}))}^{103}$$

If this is done the cost of equity can be calculated with formula (5). The next step is to calculate the value of the tax shield. An important question here is which discount factor should be used. Put in other words – how risky is the tax shield? If the

⁹⁸ Own representation based on: Berk, DeMarzo, & Harford (2012), p. 387.

⁹⁹ Koller, Goedhart, & Wessels (2010), p. 102.

¹⁰⁰ Drukarczyk (2003), p. 233.

¹⁰¹ Berk, DeMarzo, & Harford (2012), p. 395.

¹⁰² Drukarczyk (2003), p. 214.

¹⁰³ Own representation based on: Rosenbaum & Pearl (2009), p. 130.

debt ratio of the company is low, a discount factor equal to the cost of debt is reasonable because the tax shield is generated through the debt. If the ratio is higher and hence more risk is involved then a higher discount factor (return of assets) makes sense.¹⁰⁴

$$(8) \text{ Present value of tax shield} = \frac{\text{Tax rate} \times \text{debt} \times \text{cost of debt}}{\text{cost of debt or higher factor}}$$

Furthermore, the often discussed higher flexibility of the APV method has to be seen with caution. It is important to also consider the bankruptcy costs of debt. Otherwise the value generated through the tax shield effect of debt is overestimated. The difficulty here lies in the estimation of the bankruptcy cost. While direct bankruptcy costs are estimated to be around five percent of firm value, the indirect costs can be substantially higher. Additionally, they vary broadly between different industry sectors and firms.¹⁰⁵

The advantage of the APV method is that it can be more easily employed and is thus more flexible when the capital structure of the firm is changing throughout the valuation period.¹⁰⁶ Since the firm value is a sum of cash flows (FCF discounted with unlevered cost of equity plus the value of the tax shield) it is more obvious where the value from financing comes from.¹⁰⁷ A disadvantage of the APV approach (often seen in practice) is that bankruptcy cost of debt are not taken into account when adding the tax shield to the discounted cash flows. Here, it would make sense to estimate the present values of the tax shield and the bankruptcy costs separately. This would help not to mix up the effects of debt and give a better understanding of the different effects of value creation.¹⁰⁸

➤ Flow to equity

The flow to equity approach is different from the other two described methods as only the equity holders of the firm are of interest. The method is similar to a specific German valuation technique that is advised to be used in certain cases by the

¹⁰⁴ Cooper & Nyborg, *Valuing the Debt Tax Shield* (2007), pp. 55-56.

¹⁰⁵ Damodaran (2002), pp. 401-404.

¹⁰⁶ Koller, Goedhart, & Wessels (2010), p. 102.

¹⁰⁷ Drukarczyk (2003), p. 214.

¹⁰⁸ Damodaran (2002), pp. 401-404.

German audit committee. Only the cash flows that belong to the equity holders are discounted with the equity cost of capital. The method did not gain much attention internationally. This is due to the fact that the approach is not as flexible as other DCF methods¹⁰⁹

- Pros and cons of the DCF methods

A major advantage of all DCF methods is that they are cash flow based. This fundamental approach of valuation is backed by a solid theory.¹¹⁰ Furthermore, the company needs to be examined in detail to make the cash flow predictions. This helps in understanding the business of the firm. Another positive aspect of DCF valuation is the lower dependency on the current market sentiment. Bubbles or a duration of a too pessimistic market environment do not influence the valuation process as much as in other valuation methods. Moreover, there is no need to have a comparable group of other companies for the valuation process. This particularly helps to perform a valuation when there are no comparable companies publicly traded at the stock exchange. The DCF analysis relies on assumption of a lot of figures. This means that sensitivity and scenarios analyses can be employed. These methods help to identify the most important value drivers of a company. Again, this further helps to understand the business of the firm.¹¹¹

A disadvantage of the method is the difficulty of forecasting data for the analysis. There may be good information about the next couple of years.¹¹² But especially the assumptions about the TV are hard to predict. This is problematic since in most valuations a major percentage of total firm value comes from the TV. In some cases the TV can make up around 75% of total firm value. This shows that the better forecastable cash flows of the early year in the valuation process lose their relevance.

Another drawback is the assumption about the capital structure. In the WACC model constant capital ratios are assumed and this may be not realistic in a real

¹⁰⁹ Kuhner & Maltry (2006), pp. 196-198.

¹¹⁰ Raupach (2007), p. 238.

¹¹¹ Rosenbaum & Pearl (2009), p. 139.

¹¹² Raupach (2007), p. 238.

world environment.¹¹³ As described, each DCF analysis requires many input factors. This makes the model keen to manipulation. Furthermore, there is a lack of methods that can justify the assumption of the inputs of the model.¹¹⁴

Especially, when applying the model in the real world the selection of the input factors is no easy task. An important point of consideration is the calculation of the beta. Usually, indices are used as proxies for the market portfolio. If an index is chosen then the decision has to be made which time frame should be used to calculate the beta. Here, it is possible to manipulate – or at least influence – the beta factor significantly. The beta factor can be used to change the result of the entire valuation process substantially.¹¹⁵ A rule of thumb in practice is to use at least sixty data points to estimate a company's beta.¹¹⁶

Another question is to find the return of the market which is needed for the CAPM. Empirical observations of the returns vary significantly. Usually, the longer the history of the data the better. But if a long time horizon is used the standard deviation is large. Also, depending on which period is used – the average can vary significantly. Furthermore, it can be put in question – if such a long period is chosen – whether investors seventy years ago had the same attitude towards returns and risk as today's investors have. Also, it is not clear whether an arithmetic or geometric average should be used to calculate the market risk premium. Again, depending on which method is used, the averages differ.¹¹⁷

Furthermore, it can be put in question if there is still a risk free asset around. Usually, the returns of the country in which the firm operates are used as proxy. But the recent crisis showed that government debt (in some countries) is not risk free.¹¹⁸

The DCF analysis is backed by a sound theory. Furthermore, it helps to think about fundamentals that drive long term value. Even if it has its drawbacks it is a

¹¹³ Rosenbaum & Pearl (2009), p. 139.

¹¹⁴ Raupach (2007), pp. 238-239.

¹¹⁵ Keuper & Djukanov (2008), pp. 71-72

¹¹⁶ Koller, Goedhart, & Wessels (2010), pp. 306-308.

¹¹⁷ Drukarczyk (2003), pp. 388-390.

¹¹⁸ Berk, DeMarzo, & Harford (2012), p. 393.

useful tool to think about the important factors that determine the value of a company.

- Usefulness for evaluating football companies

A difference in the valuation of a football company that needs to be considered is the overall goal of the company. Instead of the creation of shareholder return it is not yet clear what the objective function of a football company is. The maximization of the success of the team under a given budget constraint seems another objective that football companies seek to fulfill.¹¹⁹ This is backed by some statements of CEOs of the Bundesliga. Mr. Watzke mentioned that the current issue of new shares should be used to finance (sales) growth. This growth in sales will eventually give the football company more opportunities to raise the budget for the salaries of the players and would give the company the opportunity to attract better players and/or give existing players an increase in salaries to retain them.¹²⁰

A fundamental problem in the valuation of a football company is the forecast of the relevant FCFs. But this is an issue that has to be dealt with in every valuation exercise. In football, the strong dependence of the success of the team is the most important factor. If a team is successful it is e.g. more interesting for sponsors, more fans are attracted to fill the stadium on match days. While the FCF for the next season can easily be forecasted, it becomes difficult for the period thereafter.

Furthermore, the last season helps to evaluate the potential of success in the following year. But this is not the case when thinking of a season in say five years. In this time period the player roster can change dramatically. This makes it even more difficult to forecast the development of success in the future.¹²¹

Another interesting point is to think about why investor's enter the football sector and whether they seek to maximize (financial) value. An example is Evonik - one of the three strategic investors of Dortmund. Evonik was established in 2007 and their company name is on the jerseys of Dortmund.¹²² With this marketing device

¹¹⁹ Crasselt (2004), p. 232.

¹²⁰ Berg (2014)

¹²¹ Korthals (2005), pp. 16-17.

¹²² Rehm (2014)

they want to establish brand recognition and with the investment in Borussia's equity they seek to establish a long term relationship to the football company.¹²³ Nevertheless, the investors have shareholders themselves. So they can not completely ignore the financial development of their investment even though their primary incentive – in Evonik's case – is the communication device.

Most of the above mentioned problems regarding the DCF approach apply not only to the football sector. It is always difficult to find the right inputs or to forecast FCFs. The DCF method is backed by a solid theory and is therefore considered to be the best tool to evaluate a football company and see if the company is worth investing in. Nevertheless, the potential drawbacks should be kept in mind and if possible assessed (e.g. scenario analysis and sensitivity analysis).¹²⁴

2.5.4 Qualitative analysis methods

Choosing the best fitting model is crucial in a valuation. In theory it is clear how to evaluate an asset or a company. In practice it is an important task to determine the input factors for the cost of capital. Furthermore, the assumptions about the future development (e.g. different growth rates of sales) are another important issue. To be able to deal with these issues, an understanding of the industry the firm operates in is a starting point of any valuation.¹²⁵

- Porter's five forces

A good way to analyze an industry is the tool developed by of Porter (five forces). It is called five forces (see Figure 6) because – according to the model – five factors determine the profit potential of any industry. The strength of each of the five forces vary across industries. They help explain why in some sectors companies are able to generate substantial profits and in others not. For any industry it should be the goal for a company to position itself in a way, in which they can influence

¹²³ Borussia Dortmund GmbH & Co. KGaA (2014b)

¹²⁴ Escher (2007), p. 42.

¹²⁵ Rosenbaum & Pearl (2009), p. 114.

the forces towards their interest on the one hand, and on the other hand, to defend the own position against these forces.¹²⁶

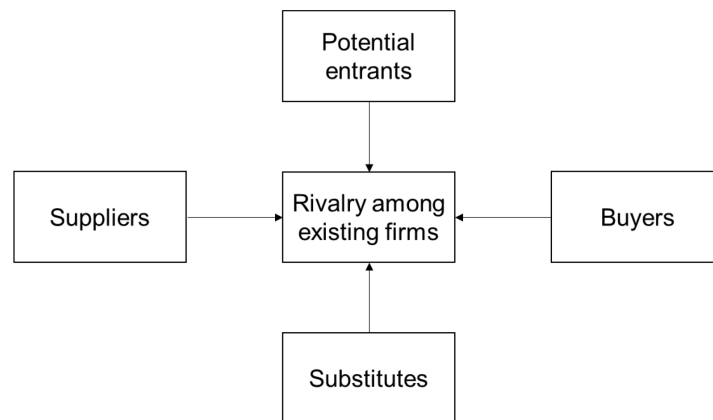


Figure 6: Porter's five forces¹²⁷

If returns companies earn are significantly above their risk adjusted costs investors would be attracted by the industry. This would lead to a capital inflow and more competition. Furthermore, it is important to determine the key factors and not focus on short term factors such as strikes. It is the goal to identify the fundamental characteristics (economically as well technologically) that define the industry. This helps the individual firm in their decision of how to position the firm strategically.¹²⁸

- SWOT analysis

Another helpful tool in the qualitative analyses is called SWOT analysis. This tool is used to monitor the internal (strength and weakness) and external (opportunities and threats) environment of a specific company.¹²⁹ An opportunity is hereby defined as “an area of buyer need and interest that a company has a high probability of satisfying.”¹³⁰ A threat is a trend that cannot be matched by the company and would hence lead to declining sales and profit.

To evaluate the strengths and weaknesses, a starting point is to use a checklist. It covers marketing, finance, manufacturing and organizational issues as categories. The list is a guidance (more factors can play a role) for firms to perform an analy-

¹²⁶ Porter (1998), p. 4.

¹²⁷ Own representation based on: Porter (1998), p. 4.

¹²⁸ Porter (1998), pp. 5-6.

¹²⁹ Kotler & Keller (2012), p. 48.

¹³⁰ Kotler & Keller (2012), p. 48.

sis of its specific strengths and weaknesses. Furthermore, it is important to objectively evaluate the situation. ¹³¹

¹³¹ Kotler & Keller (2012), pp. 48-52.

3 Valuation of Borussia Dortmund

This chapter deals with the analysis and valuation of Borussia Dortmund. In the next step the sector of Dortmund is the major point of concern. Following that, firm specific issues are addressed. Thereafter the valuation of Borussia Dortmund is presented.¹³²

3.1 Economic outlook

The economic outlook for the upcoming years is still fragile. Especially developed countries are still having trouble to cope with the financial crisis. The world gross domestic product (GDP) is expected to grow with 3,0% and 3,3% in 2015 and 2016. In the United States GDP growth has picked up and is forecasted with 3,2% and 3,0% in 2015 and respectively 2016 and the United Kingdom with 2,9% in 2015 and 2,6%. Both countries will thus exceed pre crisis levels.¹³³

In the euro zone the situation is not as optimistic and GDP growth did not gain momentum. Thus, the forecasts for the euro area are below their Anglo-Saxons counterparts with a growth rate of 1,1% in 2015 and 1,7% in 2016.¹³⁴ In Germany forecasts vary for 2015 from 1,0% to 1,7% and for 2016 from 1,6% to 1,9% indicating a higher growth rate than the average of the euro zone.¹³⁵

To target the danger of deflation, the European Central Bank introduced an asset purchase program. Also the key interest rates are at an all-time low. A consequence of this monetary policy is the devaluation of the Euro with respect to the US-Dollar.¹³⁶

Also, the oil price fell from over USD120 to half of it (depending on the sort of oil). The potential impact to the world economy is not clear. While it can be interpreted as a sign of an overall shortage of demand it has also the potential to act as an

¹³² Kruschwitz & Löffler (2006), p. 12.

¹³³ World Bank Group (2015), pp. 3-4.

¹³⁴ European Commission (2014), p. 1.

¹³⁵ Bundesverband der Deutschen Arbeitgeberverbände (2015)

¹³⁶ European Central Bank (2015), p. 5.

economic stimulus as it frees up money for consumer firms that can be spend now.¹³⁷

3.2 Five forces analysis of the football sector

The Borussia Dortmund GmbH & Co. KGaA (Kommanditgesellschaft auf Aktien) operates a professional football team in Germany. Hence, the Bundesliga is the most important competition for Borussia. In Germany they compete with other football companies who take part in the Bundesliga. Furthermore, Dortmund competes on European level (Champions League or Europa League) with football companies from Europe. They furthermore compete with them globally (e.g. Asia) for brand awareness and fans.¹³⁸

3.2.1 Threat of entry

The establishment of a top team needs a substantial amount of capital. Roman Abramowitsch – the owner of the FC Chelsea (football company in England) invested in the first decade of his ownership €987,9m only for transfer fees.¹³⁹ The same is true for the stadium that would have to be built. The stadium in Munich cost €340m.¹⁴⁰

Furthermore, players have the opportunity to leave the company without a transfer fee after their contract expires.¹⁴¹ To avoid this from happening, a common practice is to sign a player for as long as five or even six years. Prior to the '14/'15 campaign Real Madrid acquired Toni Kroos from Bayern Munich and he signed a contract until June 2020. In the case that another football company approaches the current firm to acquire the player, a longer lasting contract will give them – if they consider selling the player – a better negotiation position. The downside of a longer contract is the performance risk of the new acquisition. If the football com-

¹³⁷ Deutsche Bundesbank (2015), p. 5.

¹³⁸ Borussia Dortmund GmbH & Co. KGaA (2014c), pp. 34-35.

¹³⁹ 11 Freunde (2013)

¹⁴⁰ Schallenberg (2005)

¹⁴¹ Reimann & Bellstedt (2005)

pany cannot sell them because there is no market for the player he is on the payroll for a longer time.¹⁴²

In Germany investors cannot own more than 50% of the voting rights of a football company. This is a major competitive disadvantage to other countries in Europe where investors are allowed to take over control. This distorts the incentives for investing in a football company.¹⁴³ However, there is an exception of this rule. If a sponsor has shown a long lasting relationship to the football company (sponsoring the football company for more than twenty years) then they are allowed own more than 50% of the voting rights of the company.

To reduce the likelihood of insolvencies the UEFA introduced the Financial Fair Play (FFP). The most important goal of the FFP is to create a financially stable football sector. A major rule of the FFP is the break even requirement. All Relevant expenses of a football company should not exceed all relevant income. Externally injected money from outside investors is not considered as relevant. Starting with the '14/'15 season the last three years are taken into account for the calculations. The FFP is only of relevance to football companies who qualified through their national leagues to UEFA Champions League and Europa League.¹⁴⁴

How the FFP will change the football business remains to be seen. Potentially, it might even manifest the status quo. Teams that are currently taking part in the Champions League have significantly higher income than teams who do not take part in this competition. The option of a financial boost through equity injections is now abandoned. This makes it more difficult for teams who are currently not taking part in these competitions to qualify for it.¹⁴⁵ However, it will be interesting to see how the FFP is enacted. Especially through sponsorship deals patriarchs (or the company they own) have still the option to inject a significant amount of money to finance the football company.

¹⁴² Transfermarkt GmbH & Co. KG (2015)

¹⁴³ Deloitte (2014a), p. 12.

¹⁴⁴ Vöpel (2013), pp. 5-8.

¹⁴⁵ Vöpel (2013), pp. 17-18.

Due to high emotional ties of fans it would be very difficult for a newly established club to attract many fans. Additionally, income generated through ticket and merchandising sales will not be as high as those from established teams that have a long lasting history. The image and popularity is furthermore an important issue for sponsor or potential sponsors.¹⁴⁶

3.2.2 Intensity of rivalry among existing competitors

The already existing clubs are in fierce competition for the top spots in the national league. The top spots guarantee the participation in the financially attractive Champions League. The problem can further be described as rat race. In Germany the money clubs receive from broadcasting rights is based on their league position of the previous five years. The rights are sold to the media companies for a fixed period of time and hence everybody knows the overall distributable amount. The procedure is also true for the distribution of the broadcasting rights of the Champions League and Euro League. With an increase of expenditures a club might be able to reach a better spot and hence increase its size of the pie (but not the pie itself). If other clubs react in the same way and increase their expenditures this will eventually drive down profits.¹⁴⁷

The biggest five Leagues in Europe (England, Germany, Spain, Italy and France) generated sales of €9,8bn in '12/'13. This is an increase of 5,00% with respect to the previous season.¹⁴⁸ In Germany, sales grew the tenth consecutive time. In the '03/'04 clubs generated sales of €1,09bn and in the '13/'14 season the sum grew to €2,45bn. This represents a compounded annual growth rate (CAGR) of 8,45% – significantly higher than the GDP growth during this time period.¹⁴⁹

If an exit of an investor would mean that the club had to declare bankruptcy this could seriously harm the reputation of the investor (if the investor is depended on

¹⁴⁶ Korthals (2005), p. 19.

¹⁴⁷ Korthals (2005), pp. 70-71.

¹⁴⁸ Deloitte (2014a), p. 6.

¹⁴⁹ DFL Deutsche Fußball Liga GmbH (2015), p. 7.

the fans as customers himself). If this can be avoided (shares are sold to another investor) than the barrier to exit is not an issue.¹⁵⁰

Policy issues are an important topic in football. In England and France the top teams are owned by wealthy individuals who were able to support football companies with financial aids that enabled the clubs to spend more on transfer fees and wages than football companies in Germany (Restrictions through 50+1 rule). This gave them a significant competitive advantage over clubs that are mostly dependent on the income generated through its operational activities.¹⁵¹ How the competitive balance in Europe will develop under the FFP regime is an interesting point of consideration.

3.2.3 Pressure from substitute products

Substitute product are not of relevance. In Germany, football is the undisputable number one sport when it is compared to other sports' popularity. Boxing and Car Racing – the number two and three – follow with a significant gap and both do have different broadcasting times than football.¹⁵²

3.2.4 Bargaining power of buyers

Media companies are major buyers of the product football. They buy the right to broadcast football matches on television or the internet. The strong increase of the broadcasting deals in the past decades shows that the competition is fierce and media companies are eager to get the rights. This is due to the popularity of the sport within the European countries. Thus, it is crucial to obtain the rights for the companies in order to attract customers themselves.¹⁵³

Another buyer are the fans. They are very broadly diversified. Some of them are organized in fan clubs. In Germany, fan clubs from different teams started an ini-

¹⁵⁰ Deloitte (2014a), p. 12.

¹⁵¹ Deloitte (2014a), p. 12.

¹⁵² Statista (2015)

¹⁵³ DFL Deutsche Fußball Liga GmbH (2012)

tiative to limit the cost of a ticket in a certain area of the stadium to €20 per seat.¹⁵⁴ While in the short run this was successful it is questionable how long this will hold as in other European countries clubs have significantly higher ticket prices.¹⁵⁵ The activities by fans are always covered by the media and thus gain attention. Football companies have to carefully assess the reaction of fans when thinking about raising ticket prices.

The costs of the clubs are easily observable for both major customers. The wages of players are always a big topic in the news coverage and also observable in the annual reports.¹⁵⁶ Since football is a highly emotional issue people are – to certain limits – rather price inelastic. Furthermore, the fans will not change to support another club because the ticket prices are cheaper. The emotional ties, backed by the geographic aspect that other clubs are away from the fans hometown, are two strong reasons.¹⁵⁷

3.2.5 Bargaining power of suppliers

The suppliers of the football company – the football players – are not as concentrated as the clubs. The players have no substitutes that can replace them – this is due to the nature of the product football. The players are in competition within the group of football players. The clubs are highly dependent on their performance as this is their most important input factor. One single player can of course be substituted through the acquisition of a new player. However, there is always a high level of uncertainty involved on how the new player will perform. Players are aware of their importance. This can be observed once they are close to the expiration of their contract. If they know they are a key player for the team they have strong arguments in contract negotiations.¹⁵⁸

¹⁵⁴ THE UNITY – Supporters Dortmund e.V (2015)

¹⁵⁵ Statista (2015a); Statista (2015b)

¹⁵⁶ Korthals (2005), p. 15.

¹⁵⁷ Korthals (2005), p. 19.

¹⁵⁸ Korthals (2005), p. 17.

Furthermore, wages of the players are the highest expenses clubs have. In Germany the wages to turnover ratio was 36,80% in the '13/'14 season. This is well below the European average of 65,00%.¹⁵⁹

3.3 Borussia Dortmund

In this part the history and the structure of the football company are presented.

3.3.1 History

The club was founded 1909 in Dortmund. At the beginning the club had 40 members and was named "Ballspiel-Verein Borussia 1909" which translates to Ball sports Club Borussia. In the fifties, Dortmund won the national title the first time and in the sixties they managed to win their first international title. In the early seventies the now famous stadium opened its gates and has since then been the place for the home games of Borussia. In the nineties the club won two national championships and the Champions League – the club's biggest success so far. In the first year of the new millennium the club went public. Although most professional football clubs in Germany are now corporations, Dortmund remains the only football company that is listed on the German stock exchange. Following this event Dortmund won the national title again and advanced to the UEFA Cup Final (the UEFA Cup is the predecessor of the Europa League) in the early years of the new millennium. In 2005 the football company was close to insolvency but eventually could avoid bankruptcy. Some years after the almost-collapse the football company was highly successful again and won the national championship twice and advanced to the final of the UEFA Champions League.¹⁶⁰

3.3.2 Structure of the company

When the club went public it was necessary that the newly established entity is still controlled by the football club. Meaning that no external investor is legally allowed

¹⁵⁹ DFL Deutsche Fußball Liga GmbH (2015), p. 6.

¹⁶⁰ Borussia Dortmund GmbH & Co. KGaA (2014d)

to have more than 50% of the voting rights.¹⁶¹ The entity that went public is called Borussia Dortmund GmbH & Co. KGaA. The KGaA is a mixture of a public, limited company and a limited partnership. Legally, only one partner is liable towards its creditors. In the case of Borussia, the Geschäftsführungs GmbH is the liable and managing entity of the KGaA. Furthermore, the Geschäftsführungs GmbH is fully owned by the – still existing club – Borussia Dortmund. Another difference to an ordinary public limited company is the rights of the supervisory board. They do not have the right for appointing or dismissing managers. Furthermore the KGaA does not have a management board.¹⁶²

The free float of the football company is 60,76%. The company has three strategic investors: Evonik with 14,78%, Signal Iduna with 5,43% and Puma with 5,00%. A private individual owns 8,50% and the club (the one established in 1909) another 5,53%.¹⁶³ All of the strategic investors are also sponsors of the company with long term contracts. Evonik's name is on the jerseys of the players, the stadium is named after Signal Iduna and Puma is the equipment supplier of the team.¹⁶⁴ In September 2014 the football company entered the small cap Index (SDAX).¹⁶⁵

3.4 SWOT analysis

In this section the SWOT analysis helps to evaluate Borussia Dortmund's current situation.

3.4.1 Strengths

- Team

The business model of the firm is to operate a football team. Hence the roster of the club is a major issue. At the beginning of the season '13/'14 the management invested €54m in new players and thus added depth to the roster. For each posi-

¹⁶¹ Christ, Dr. Elfring, & Linck (2014), p. 13.

¹⁶² Borussia Dortmund GmbH & Co. KGaA (2015)

¹⁶³ Borussia Dortmund GmbH & Co. KGaA (2014e), p. 12.

¹⁶⁴ Frankfurter Allgemeine Zeitung GmbH (2014)

¹⁶⁵ Handelsblatt GmbH (2014)

tion the coaches have two alternatives. This means they can compensate injuries of players.¹⁶⁶

The playing style of Borussia is well known within Germany and through the Champions League participations also in Europe. It is very intense and builds up on physical strength of the players. Audiences like the way Borussia performs on the pitch and this helps to gain international attention. This factor is attributable to the coaching staff with the head coach Jürgen Klopp. He and his team joined Borussia at the beginning of the 08/09 campaign and installed this signature playing style.¹⁶⁷

In the last six years Dortmund was successful. They won two times the national title in Germany and once the German cup final. Furthermore they reached the UEFA Champions League four times in a row. This guarantees worldwide fan attention as well as a steady cash flow stream. Also it makes the club appealing for potential new signings because they want to compete on the top level.¹⁶⁸

- Financials

The current management team took over in 2005. At that time the club was close to insolvency and only generated sales of €78,5m.¹⁶⁹ In the '13/'14 season the club increased the revenue to €266,0m.¹⁷⁰ This represents a CAGR of 14,54%. In Germany, only Bayern Munich has a higher turnover. In Europe Dortmund ranks eleventh in terms of sales.¹⁷¹

The cash generated through the equity capital increase is used to pay down the financial debt. Furthermore, the capital increase will be used to finance future growth and to maintain a liquidity reserve. It should not be used to finance short term actions such as the acquisition of (too) expensive players. The reduction of

¹⁶⁶ Transfermarkt GmbH & Co. KG (2014a)

¹⁶⁷ Schwenkenbecher (2014), p. 5.

¹⁶⁸ Borussia Dortmund GmbH & Co. KG (2014c)

¹⁶⁹ Borussia Dortmund GmbH & Co. KGaA (2005), p. 58.

¹⁷⁰ Borussia Dortmund GmbH & Co. KGaA (2014c), p. 2.

¹⁷¹ Deloitte (2014), p. 3.

debt reduces the risk of insolvency significantly. Now, the club has four shareholders with each owing more than five percent of the shares.¹⁷²

Also, major sponsors (among them the also the strategic investors) prolonged their sponsoring contracts for a long time period (some up to ten years). These two factors (equity and sponsoring) imply stability for the future of the club because all of the investors indicate their long-term interest in the club.¹⁷³

Compared to its international competitors Borussia has a conservative cost structure, meaning that the percentage of sales that are used for player salaries is lower than in other European clubs. This gives the club more flexibility for future contract negotiations with members of the current squad or potential new signings.¹⁷⁴

- Marketing

Due to success of the recent years the club gained interest in the media. In Germany surveys indicate that the club has approximately ten million fans and 110.000 members. Especially the latter figure keeps growing continuously. This underlines the high identification of the fans as they all pay a member fee.¹⁷⁵

Additionally, the club has a long tradition. It was founded in 1909 and is hence deeply rooted in the region. The club belongs to the city and the emotional binding of the people in the city to the club is very high.¹⁷⁶ This is amplified through the stadium of the club which has the greatest capacity in Germany and ranks ninth in Europe.¹⁷⁷ It is famous for “the yellow wall”. One side of the stands fits 25.000 people and they are all standing which creates a special atmosphere in the home games. Overall, the stadium fits some 80.645 people and almost every home game is sold out. Again, this shows the huge interest of the fans and the emotional attachment they have to club.¹⁷⁸

¹⁷² Borussia Dortmund GmbH & Co. KGaA (2014e)

¹⁷³ Borussia Dortmund GmbH & Co. KGaA (2014b)

¹⁷⁴ Bundesliga Finance (2014)

¹⁷⁵ Borussia Dortmund GmbH & Co. KGaA (2014f)

¹⁷⁶ Borussia Dortmund GmbH & Co. KGaA (2014d)

¹⁷⁷ finanzen.net GmbH (2014)

¹⁷⁸ Borussia Dortmund GmbH & Co. KGaA (2014g)

Dortmund uses the tag line “Real Love” as their main marketing slogan. Furthermore, the club has won several marketing prizes and awards for their brand management.¹⁷⁹ After a successful re-launch of the webpage, the club was awarded the first place in a European comparison.¹⁸⁰ Surveys indicate that the club is perceived very positively in Germany.¹⁸¹ This fact makes the club interesting to sponsors who hope to take advantage of the positive image of Borussia Dortmund.¹⁸²

- Organization

The IPO of the football company was poorly executed and the money was not spent wisely (e.g. acquisitions of players with high transfer fees and high fixed salaries).¹⁸³ The new management team professionalized the management of Borussia and installed people with a business background. The CEO was the manager of his own security clothing firm which he still owns. The CFO worked as a partner of an audit company that consulted Dortmund in the restructuring process. Thereafter, he joined Borussia.¹⁸⁴ The marketing manager was employed a sports rights agency.¹⁸⁵ All of them have a business background and are not just people who have a famous name in football. The management team took advantage of the fact that the club is listed and did not see e.g. the publication responsibilities as a burden.¹⁸⁶

3.4.2 Weaknesses

- Team

The roster of the team is – compared to Dortmund’s top European competitors – not as balanced. It has gotten better in depth throughout the last years. But in the recent history the top players left the team. In 2012 it was Nuri Sahin and Shinji

¹⁷⁹ Borussia Dortmund GmbH & Co. KGaA (2014h)

¹⁸⁰ Departamento de Internet (2014)

¹⁸¹ Woisetschläger, Backhaus, Dreisbach, & Schnöring (2014), p. 10.

¹⁸² Woisetschläger, Backhaus, Dreisbach, & Schnöring (2014a), pp. 8-9.

¹⁸³ Giesen (2013)

¹⁸⁴ Borussia Dortmund GmbH & Co. KGaA (2014i)

¹⁸⁵ Batke (2014)

¹⁸⁶ HORIZONT Sport Business (2004)

Kagawa (both of them were resigned), in 2013 Mario Götze and in 2014 Robert Lewandowski.¹⁸⁷

The current season did not develop as assumed by many experts. In the second half of the season the team stabilized their performances but in the first half they ranked last for some time in the Bundesliga. They had problems with injuries and some players were not in good shape. All of these factors show how difficult it is to forecast – and in this case even short term – success.¹⁸⁸

- Financials

As Dortmund is traded on the stock exchange they have to deal with the capital markets and their valuation of the company. The current market value of the company is well below the valuation Bayern Munich received when they issued new equity capital. There is no doubt about the fact that Munich is worth more than Dortmund. But the gap is large. The same argumentation is true for Hertha BSC, which was valued not significantly less than Borussia's market value at that time when a private equity firm injected equity capital.

Furthermore, the market notation cost the club money (e.g. they have to have an investor relations department, increased publication duties). Even though sales have picked up, they are still well below the top teams in Europe. Real Madrid € 603,9m and Barcelona generated sales of € 530m.¹⁸⁹ Dortmund is clearly lacking behind these numbers.

Furthermore, Dortmund does not have a patriarch who would give the club more financial opportunities and flexibility. In England almost all major clubs have owners who manage the club as if it was a hobby. The winning of trophies is the most important to them – which is understandable. But in some cases the economic reasoning behind e.g. the amount of transfer fees is questionable.¹⁹⁰

The geographic area, in which Dortmund is allocated has already seen its best economic times. Furthermore, in the "Ruhrgebiet" are many football clubs who

¹⁸⁷ Völkl (2014)

¹⁸⁸ Frankfurter Allgemeine Zeitung GmbH (2015)

¹⁸⁹ Badenhausen (2014); Badenhausen (2014a)

¹⁹⁰ Baxter (2014); 11 Freunde (2013)

compete for sponsors. In Munich – Borussia's biggest rival in Germany – there are more financially potent firms that are willing and able to sponsor Bayern Munich.¹⁹¹

Since it is the clubs strategy not to load on debt to finance the roster, they miss out on the advantages of the tax shield the debt would create.¹⁹²

- Marketing

In Germany the club is very well known and popular. But internationally (especially in Asia) other European teams are better known. Due to the higher brand awareness of those team this helps to boost merchandising sales. Furthermore, this helps their league to negotiate better broadcasting deals with foreign countries – another effect of the popularity of the teams of the specific leagues.¹⁹³

The company is very dependent on the team's success. Basically, all income streams are strongly related to the success of the team on the pitch.¹⁹⁴

3.4.3 Opportunities

- Team

The current squad has very few players that are close to their thirties. Most of the new signings are in their early twenties. This means they have their best years ahead of them. This gives the coaches the chance to develop the players into better athletes. This is part of the clubs strategy.¹⁹⁵

The CEO said that he could not imagine to pay €15m for a thirty year old player. The company's strategy is to acquire young and talented players. The transfer history proves that they really pursue this strategy.¹⁹⁶ Furthermore, the young players are highly motivated and keen to present themselves in their best possible way in order to increase their market value. This, in turn will help them in future contract negotiations.

¹⁹¹ Hofer, Weyer, & Zak (2013)

¹⁹² Borussia Dortmund GmbH & Co. KGaA (2014c), p. 34.

¹⁹³ Die Welt (2014)

¹⁹⁴ Borussia Dortmund GmbH & Co. KGaA (2014c), p. 34.

¹⁹⁵ Transfermarkt GmbH & Co. KG (2014a); Borussia Dortmund GmbH & Co. KGaA (2014c), p. 34.

¹⁹⁶ Sport1 (2014); Transfermarkt GmbH & Co. KG (2014a)

Borussia's success in the recent history helps the club to spend more money (due to increased revenues) – and most likely – acquire better players to improve the team. This in turn, will increase the likelihood of future Champions League appearances and hence better players. Since it is the club strategy to develop young players, the transfers of those players to other clubs could potentially create transfer fees that can be well above the amount Borussia spent on them.¹⁹⁷

- Financials

In 2013 Dortmund and Munich were in the Champions League final. Furthermore, Bayern Munich was internationally very successful in the last five years and thus generated more attention for the entire League. The win of the world cup by the German national team in Brazil could help to further improve the image of the Bundesliga internationally.¹⁹⁸ This an important factor when it comes to the selling process of the broadcasting rights internationally. Here, the German Bundesliga has huge catch up potential to other European football leagues

Also, the national bidding process for the broadcasting rights could lead to substantially higher income. The last one increased the Bundesliga's broadcasting income from €412m to €628m per season. Since it is expected that more companies compete for the rights in the future, estimates are that the next broadcasting deal could generate as much as € 1bn per year.¹⁹⁹

For the current holders of the live broadcasting rights – Sky Deutschland AG – the Bundesliga is the most important vehicle to sell their pay television program.²⁰⁰ The current contract guarantees the rights until the end of the season '16/'17. It is crucial to their business model to maintain the rights in the future. In a bidding war they might overpay in terms of net present value to further pursue their strategy. This in turn would increase the income stream for all clubs in the league.

Regarding the stadium there is catch up potential in the hospitality sector. The club could try to rebuild parts of the stands into more expensive seats that would gen-

¹⁹⁷ UEFA (2014)

¹⁹⁸ Galebraith (2014)

¹⁹⁹ Schwenkenbecher (2014), pp. 10-12.

²⁰⁰ Sky Deutschland AG (2014), pp. 6-7.

erate more revenue than ordinary tickets in the stands.²⁰¹ Also the average ticket prices in the Bundesliga are the low in a comparison with the other European leagues. This gives Borussia another chance to increase revenues.²⁰²

The popularity of Borussia gives the management the opportunity to negotiate better sponsoring deals.²⁰³ Also, if the internationalization (especially Asia) of the club is successful the club could potentially become attractive for foreign companies.²⁰⁴

Starting with the season '13/'14 the UEFA introduced the FFP (see chapter 3.2.1). This could eventually be beneficial to Borussia as the football company follows a conservative financial policy, meaning that they are able to finance the company with their operating income.²⁰⁵

Furthermore, in Germany exists the 50+1 rule, meaning that the old established club should always own 50% plus 1 share of the football company. The intention behind this rule is that no investor should take over control of the team. If this rule would be abandoned, possibly new investors could enter the Bundesliga. Hence Dortmund could raise more capital.²⁰⁶

- Marketing

In September 2014 Dortmund opened up an office in Singapore to start to build up brand awareness in the Asian region. The last minute summer transfer of Shinji Kagawa – a Japanese born midfielder who Borussia bought from Manchester United – should be of big help to establish a footprint in the Asian market.²⁰⁷ The planned trip in the next summer break of the Bundesliga should help to create merchandising revenue in Asia, if the team is able to conserve the success this.²⁰⁸

²⁰¹ Steffens (2014); Zimmer (2013)

²⁰² Statista (2015a); Statista (2015b)

²⁰³ Woisetschläger, Backhaus, Dreisbach, & Schnöring (2014), p. 10

²⁰⁴ Borussia Dortmund GmbH & Co. KGaA (2014j)

²⁰⁵ Vöpel (2013), pp. 14-19

²⁰⁶ Christ, Dr. Elfring, & Linck (2014), p. 15.

²⁰⁷ Galebraith (2014a)

²⁰⁸ Wallrodt (2014)

3.4.4 Threats

- Team

A major threat for the success of the team is the transfer of players. As Borussia does not pay salaries as high as some e.g. clubs in the British Premier League pay players might be willing to move to another club to earn more money.²⁰⁹

Furthermore, the city of Dortmund might not be as attractive for players as Munich, Paris, Madrid or London. Also the coaching team might be willing to take on other chances. Right now, the contracts of the coaching staff expires in June 2018 – which is quite a long time in football. The current success is to a great deal attributable to the coaches. It will be seen what happens if they leave.²¹⁰

- Financials

Especially in comparison with the British League, the Bundesliga is lacking behind in terms of worldwide money generation with broadcasting rights. The latest deal the Bundesliga negotiated guarantees significantly more than the previous contracts (€ 625m). The British Premier League currently generates €1bn.²¹¹ Starting from the 16/17 season this figure raises to €2,3bn – this is not including the broadcasting income from selling the rights internationally.²¹² It remains to be seen whether or not the gap widens further or if the Bundesliga will be able to close it.

Even though the stadium of Borussia is famous for its size and atmosphere it is not as profitable as it could potentially be. Ticket prices are low in comparison. This unused potential could again widen the gap to other (European) opponents.²¹³

²⁰⁹ Bundesliga Finance (2014)

²¹⁰ Hofer, Weyer, & Zak (2013)

²¹¹ Pearce (2012)

²¹² Süddeutsche Zeitung GmbH (2015)

²¹³ Zimmer (2013)

If in Germany the 50+1 rule would be abandoned, potential investors could invest in other teams and hence new rivals for Dortmund would arise in the Bundesliga.²¹⁴

Another problem is the central broadcasting rights selling process. In Spain, clubs negotiate the deals themselves with the media companies. Especially the top teams are able to receive significantly more money than their German counterparts. Again, it is questionable whether the gap will narrow or widen in the future.²¹⁵

- Marketing

Problems can occur with the fans that are really deeply rooted in the region. To them, Borussia is more than a football company. The ongoing commercialization process (e.g. speaking of the company as a “brand”) of their beloved game is something they do not like. Since those people are the ones responsible for the impressive atmosphere in the stadium, the club should be careful with their marketing activities.²¹⁶

Another issue is the competition within the league. In the last three years almost the same clubs were among the top four teams in the Bundesliga. Thus they qualified for the Champions League. If this keeps going on, the Bundesliga could be perceived as boring or as a league with no balanced competition. This could lead to a decline in the interest of fans and lower overall income.²¹⁷

²¹⁴ Christ, Dr. Elfring, & Linck (2014), pp. 12-15.

²¹⁵ Duff (2014)

²¹⁶ Steffens (2014); Tittmar (2014)

²¹⁷ Neale (1975), p. 204.; UEFA (2014a); UEFA (2013); UEFA (2012)

3.5 DCF valuation of Borussia Dortmund

In this part of the paper the discounted cash flow valuation (APV method) of the football company is performed. To assess the difficulty of forecasting future success of the team three different business cases (average, best and worst case) are presented. For each case a sensitivity analysis is conducted as well. The chapter starts with the assumptions that are valid for all cases. Then each case and its specific assumption are presented individually. Furthermore, only the relevant revenues and costs are described. The valuation date is first of March 2015 (four months to the end of the financial year of Dortmund). The season '18/'19 represents the last forecasted season. A longer detailed forecasting period would be difficult to implement as future success of the team is difficult to forecast. Thereafter the TV is calculated.

3.5.1 Assumptions for all cases

- Capital Structure

The assumptions with regards to the Capital Structure are based on the statement by Dortmund's CEO. Whenever asked, he states that the club will not load up on debt to finance the roster of team. But this does not imply that nothing is financed with debt any more. It is not ruled out that investments in the infrastructure of the club (e.g. replacement investments in the stadium) are financed with debt.

Currently, some of Borussia's office buildings are financed through Leasing. This type of leasing can be considered as debt as it shows up on the balance sheet and the interest payments are visible in P&L account. In the last three annual reports (2012, 2013, 2014) this figure is at a relatively stable amount. Hence, the assumption is that Dortmund will always carry the average of those years on its balance sheet in the future. This backs the use of the APV method for the valuation. The assumption is that the level of debt (and not a debt/equity ratio) will remain constant. Thus, the APV method is appropriate to evaluate Dortmund.

The financial policy of the football company has more similarities with the trade-off theory than with the pecking order theory. The main point of the trade-off theory (trading off tax advantages of debt and the increased risk of bankruptcy) is of high relevance for the managers of the company. They want avoid the risk of bankruptcy. Hence, the risk of bankruptcy is a crucial factor in the financing decision of the company. Furthermore, the management team wants to finance the company (for the most part) with income generated from operations. This is in line with the pecking order theory. As mentioned, the company issued new shares last year. The proceeds were to a substantial part used to pay down the existing debt. This is a contradiction to the pecking order theory (equity as last option to finance a firm). The difficulties of forecasting future success of the team support this behavior. With equity, there are no fixed payments and hence the management team has more flexibility in their decisions. Furthermore, it can be assumed the investors who bought large parts of last year's equity issuance are more interest in the strategic value of Dortmund than in the financial value. This is backed by the fact that all of the strategic investors have long term sponsorship contracts with Borussia. Another reason is the history of the football company. They were on the brink of bankruptcy ten years ago and want to avoid a similar situation and hence the clear positioning regarding their financial policy.

The debt to equity ratio is below 0,1 and hence it is appropriate to use the cost of debt as discount factor to calculate the present value of the tax shield. Due to the low amount of debt bankruptcy costs are not considered in the valuation. No football company in Germany had to declare bankruptcy in the history of the Bundesliga. Furthermore, it can be assumed in the event of financial distress that the company will be bailed out (e.g. city of the football company).²¹⁸

- Cost of Capital, terminal value and tax rate

Starting point for the calculation of the cost of capital is the risk free rate. As a proxy for the risk free return a ten year German government bond is used. Currently, the return of this type of bond is at 0,328%.²¹⁹ An – on a historical perspec-

²¹⁸ Vöpel (2013), p. 17.

²¹⁹ Appendix IV

tive – extremely low value. This type of security is considered safe – and consequently riskless – as the German state is the issuer. The second input factor for the cost of capital is the market risk premium. The proxy for the equity risk premium used is based on the performance of the S&P 500. Currently the premium is 5,75%. Since Dortmund is a German based football company a specific country premium of 0,43% is added to the obtained market risk premium.²²⁰ This is justified by the fact that the German capital market is not as developed as in the United States of America. The third input factor is the beta factor. The beta factor is at 0,54.²²¹ The factor is obtained by a linear regressions of Dortmund's five year weekly share return with the returns of the SDAX (Dortmund is in this small cap index – hence it is reasonable to use it as references).²²² The obtained cost of capital is 3,68%. For the terminal value a long-term growth rate of 2,00% is assumed.

As tax rate the marginal income tax rate in Germany of 29,58% for is used.²²³ This is in line with the average tax rate of 25,96% Borussia paid in the last four years. The use of the marginal tax rate is a common assumption made in valuation exercises as the effective tax rate is often distorted due to various reasons and hence difficult to estimate.²²⁴

- Net working capital, capital expenditure and depreciation

When calculating the FCF, the net operating profit less adjusted taxes has to be adjust with the changes in NWC, capital expenditures (CAPEX) and depreciation. The yearly changes in the past of Dortmund's NWC do not show a development that would imply a forecastable trend.²²⁵ This is mainly due to the receivables positions of the current assets. This position shows transfer fees for sold players but the cash is not yet received.²²⁶ Furthermore, it is difficult to forecast future transfer fees that a football company may generate as many different factors play a role.

²²⁰ Damodaran (2015)

²²¹ Appendix V

²²² Deutsche Börse AG (2015)

²²³ KPMG (2015)

²²⁴ Rosenbaum & Pearl (2009), p. 119.

²²⁵ Appendix X

²²⁶ Borussia Dortmund GmbH & Co. KGaA (2013), pp. 93-96.

Additionally, there are no costs of goods sold (due to business model of the company), which are a possible starting point for NWC projections. As a consequence of these considerations changes in NWC are not accounted for in the valuation of Borussia Dortmund. If used, the estimates would rather distort the result than increase its accuracy.

Capital expenditures and depreciations are also closely related to transfers. The transfer rights of the players are shown in the balance sheet under the position intangible assets. Another part of the balance sheets non-current assets is the stadium. Together they make up the most part of a football companies non-current assets.²²⁷ In the forecasting period Borussia's CAPEX equal the depreciations every year. This assumption is based on the recent year's investment policy in intangible assets by Borussia. The value of the players as shown in the balance sheet is assumed to stay on a constant level as the company is expected to buy and sell players which will keep this figure constant. The investments in tangible assets and the related depreciation are based on the same assumption. This means also that the investments in e.g. the stadium will equal the depreciation for the forecasting period. The amount is derived through the depreciation from the company's half-year report. It is therefore multiplied by two and adjusted for the future depreciation of a player Borussia bought in the winter transfer period.²²⁸

- Broadcasting income

Dortmund receives income through broadcasting income from three sources. Furthermore, prize money from the competitions the football company takes part in are included in this income stream. The first one – Bundesliga broadcasting income – consists of the domestic and international broadcasting contract. Both of them expire after the '16/'17 season. On average, the domestic contract guarantees an income of €628m for the Bundesliga. The assumption for the time period thereafter is an increase to almost €1bn per season starting with the '17/'18 campaign. This increase is based on the assumption that the new deal will increase by

²²⁷ Borussia Dortmund GmbH & Co. KGaA (2014c), p. 118.

²²⁸ Borussia Dortmund GmbH & Co. KGaA (2015a), p. 27.; Transfermarkt GmbH & Co. KG (2015a)

the same percentage as the old contract did. Furthermore, it is backed by estimations of experts in the football industry.²²⁹

The percentage each team receives from the overall amount is based on their individual performance in the Bundesliga in the past five years. It is calculated as a weighted average in which the most recent season has the biggest impact. Currently the number one ranked team receives €37m per season. This is twice as much as the number 18 in the ranking. All other teams are in between this range – the higher the rank in the five year average the higher the percentage.²³⁰ The assumption for the valuation is that this 2:1 key will remain in the future as well.

The international broadcasting contract has been renewed in November 2014. The DFL was able to double the income from €70m to €150m per season. The contract is valid until the '16/'17 campaign.²³¹ The assumptions for the time thereafter is that the contract will increase by the average percentage of the last two increases. This would generate €274m from the '17/'18 season onwards for the Bundesliga. The assumption is based on the fact that German teams have been successful in the Champions League over the recent years. Furthermore, the German national team won the world cup last year. Both factors help to create more international awareness for the Bundesliga as well. A further assumption is that the distribution key of the international broadcasting income will be the same as the one in place today. It is based upon a fixed and a variable amount. From the '15/'16 season each team will receive a fixed sum of €2,8m each year. The teams of the second Bundesliga get in total €1,2m. The variable amount (in the '15/'16 season €96,9m) is allocated to the teams who participated in the Champions League or Europa League in the last five years. Basis for the distribution is the UEFA rankings for club competitions.²³²

The second source of income comes from the competition in the Champions league or Euro League. In the Champions League season '09/'10 the UEFA distributed €746m. In the two seasons '10/'11 and '11/'12 the distributed amount in

²²⁹ Schwenkenbecher (2014), p. 11.

²³⁰ Franzke (2014), p. 2.

²³¹ DFL Deutsche Fußball Liga GmbH (2014)

²³² DFL Deutsche Fußball Liga GmbH (2014a); Franzke (2014), p. 3.; UEFA (2015b)

the Champions League rose to per season €754m.²³³ In the seasons '12/'13, '13/'14 and '14/'15 the UEFA distributed a total of €904m to the 32 participating clubs. For the three seasons from '15/'16 until '17/'18 the UEFA will distribute €1,257bn.²³⁴ For the last detailed forecasted year '18/'19 the assumption is that amount will grow to €1,508bn. This reflects an increase of 19,98% which is the average of the previous three increases. Furthermore, the assumption is that the allocation key will be the same as today.

The distribution key is based on two factors. The first one is the based on the each team's success during the Champions League season (participation and performance bonuses). There are fixed payments for the outcome of the games as well as a participation bonus for taking part in the Champions League (figures for the season '14/'15: €8,6m participation bonus, €1m. for a win in the group stage, €0,5m for a draw, €3,5m for advancing to the round of last 16, €3,9m for the quarterfinal, €4,9m for the semifinal, €6,5m for the runners up and €10,5m for the winner of the final). The second layer is called market pool. The amount each team receives is based on the broadcasting arrangement the UEFA has with the individual country. The market pool in Germany had a size of €52m in the seasons '13/'14 and '14/'15. Half of the amount is distributed based on the rank (first rank: 40%, second rank: 30%, third rank: 20% and fourth rank: 10%) in the previous Bundesliga season. The other half of the market pool depends on the games played relatively to the overall games played by German teams in the Champions League.²³⁵ The new contract (seasons '15/'16 – '17/'18) it is known that the participation bonus will increase to €12m and the winner of the Champions League will receive €15m.²³⁶ Both increases reflect the overall increase of 39%. Hence, the assumption is that all other participation and performance related payments will increase by this percentage as well.

In the Euro League a similar concept applies. In the season '09/'10 the UEFA distributed €135m, in the following two seasons €150m, from '12/'13-'13/'14

²³³ UEFA (2010); UEFA (2011); UEFA (2012a);)

²³⁴ UEFA (2013a); UEFA (2014a); UEFA (2014b); Westdeutscher Rundfunk Köln (2015)

²³⁵ UEFA (2014a)

²³⁶ Westdeutscher Rundfunk Köln (2015)

€209m.²³⁷ In the season '14/'15 €232,5m are distributed. For the upcoming three seasons the UEFA distributes €381m per year.²³⁸ For the last forecasted season '18/'19 the assumption is that the distribution will grow to by an average of the last four increases to €500,7m.

Just like in the Champions League, parts of the money are allocated based on participation and performance in the Europa League (figures for the season '13/'14: €1,3m participation bonus, €0,4m for a win in the group stage, €0,1m for a draw, €0,4m. for the win of the group stage, €0,2m for rank two in the group stage, €0,2m for the round of the last 32, €0,35 for the round of the last 16, €0,45m for the quarterfinal, €1m for the semifinal, €2,5m for the runners up and €5m for the winner of the '13/'14 campaign). The market pool (€7,7m in '13/'14 in Germany) in the Europa League is only distributed based on the games played relatively to the games played by the other German teams. The rank in the previous Bundesliga season is no factor in the Europa League.²³⁹ Although the participation bonus (starting from '15/'16: €2,4m) was raised by relatively more than the overall contract increase, the assumption is that the distribution key will not change in the future.²⁴⁰

The third source of broadcasting income is generated through the German cup games. In the first round each team receives €0,1m, for the second round €0,3m, for the round of the last 16 €0,5m, for the quarterfinal €1m for the semifinal €2,1m, the runners up will receive €2,2m and the winner €2,2m.²⁴¹ Due to the lack of more information of the broadcasting deal for the cup games the assumption for the valuation is that will grow by two percent each year.

Furthermore, the Bundesliga generates €29m from a general sponsorship deal.²⁴² The assumption is that the same key as for the domestic broadcasting contract money is used. The figures is expected to grow by the long term growth rate of two percent each year.

²³⁷ UEFA (2010a); UEFA (2011a); UEFA (2012b); UEFA (2013b); UEFA (2014a);

²³⁸ Westdeutscher Rundfunk Köln (2015)

²³⁹ UEFA (2014a)

²⁴⁰ Westdeutscher Rundfunk Köln (2015)

²⁴¹ Franzke (2014a)

²⁴² Franzke (2014), p. 2.

The assumption for the development of fees Dortmund receives when members of the team play for their national teams is based on the fees from previous years. The amount depends on whether or not there is a World Cup/European Championship or not in the respective year. The figures are adjusted for a growth rate of 2%.

3.5.2 Average case scenario

The assumption for the average case is that Borussia will not reach a rank that in the '14/'15 would be sufficient to participate in either the Champions League or the Europa League in next year's football season. In the Champions League season '14/'15 it is assumed that they will not qualify for the quarterfinal. In the German cup they will reach the semifinal. From the Bundesliga season '15/'16 onwards the assumption is that Dortmund will reach the fifth rank in the Bundesliga each year. This qualifies them for the Europa League each. In the international competition it is assumed that they will reach the round of the last 16 each year. In the German cup the assumption is that Borussia will reach the semifinal in the current season and from next season onwards the quarter final in each year.

- Revenue

In the '15/'16 campaign – largely due to the fact that no income from the Champions League or Europa League is generated revenue will decrease from €271m in '14/'15 to €239m. Afterwards revenue is expected to grow constantly until it reaches €301m in the season '18/'19 – the last forecasted year. It will take until the financial year '17/'18 to reach the '14/'15 level. Furthermore, the football company would miss its own target. The CEO said that the goal is to reach total revenues of €300m in the season '17/'18 at the latest.²⁴³ This in turn is attributable to the assumption of the case that Borussia will not compete in the Champions League.

²⁴³ Borussia Dortmund GmbH & Co. KGaA (2014k)

Average case - in TEUR	30.06.2015 E	30.06.2016 E	30.06.2017 E	30.06.2018 E	30.06.2019 E
Total Income	272.015	239.280	264.602	293.167	300.553
y/y growth in %	2,28%	-12,03%	10,58%	10,80%	2,52%
Broadcasting	79.396	52.968	64.201	87.254	92.055
Bundesliga	44.198	50.953	47.077	70.088	70.119
Cup	4.049	2.016	2.056	2.097	2.139
Champions League / Europe League	31.149	0	15.069	15.069	19.797
in % of total income	29,19%	22,14%	24,26%	29,76%	30,63%
y/y growth in %	-2,51%	-33,29%	21,21%	35,91%	5,50%
Matchday	41.339	30.560	43.009	43.869	44.746
in % of total income	15,20%	12,77%	16,25%	14,96%	14,89%
y/y growth in %	2,00%	-26,07%	40,74%	2,00%	2,00%
Commercial	80.279	81.885	83.522	85.193	86.897
in % of total income	29,51%	34,22%	31,57%	29,06%	28,91%
y/y growth in %	10,00%	2,00%	2,00%	2,00%	2,00%
Merchandising	62.292	63.538	64.808	66.105	67.427
in % of total income	22,90%	26,55%	24,49%	22,55%	22,43%
y/y growth in %	10,00%	2,00%	2,00%	2,00%	2,00%

Figure 7: Average case – overview of main income streams²⁴⁴

For the season '14/'15 Dortmund ranks second in the domestic broadcasting ranking and thus receives €36,2m. Furthermore, they receive 1,6m from the general sponsorship deal that is distributed by the DFL to all clubs. The assumption for this specific ranking is that they will drop to rank three in the '15/'16 season and to rank number five in the season '16/'17. This reflects the assumption about the performance of the team in the upcoming years.

From the international Bundesliga distribution rights Borussia receives €6m in the '14/'15 campaign total. The assumption for the variable part (UEFA-coefficient-ranking) is that they will drop to rank 4 in '15/'16 and to rank five in the season thereafter as they will always take part in the quarter final of the Europa League.

From the Europa League season '16/'17 the assumption is that Dortmund will win four group games in the group stage and will advance to the quarter final. In total, Borussia will play 12 games each season (six in the group stage and six in the knock out phase). All German teams together will play 20 games in every Europa League season.

A good approximation of the matchday income is the average of the past three years (adjusted for a growth rate of two percent). This is a reasonable assumption because – on average – they should have the same amount of games if they participate in the Europa League as assumed in the case. Furthermore, the stadium is almost always sold out and hence the chances to increase revenues is narrow.

²⁴⁴ Appendix VI

The dip in the 15/16 season is due to the fact that Dortmund will not participate in an international competition in that season.

Due to the renegotiations of the some majors sponsors deals the commercial income is expected to increase by ten percent in the '14/'15 season. Thereafter this figure will grow by two percent each year. This slowdown is justified by the assumption that the sponsorships deals have also a variable component included. Since the assumption of the average case is that Borussia will not compete in the Champions League, strong increases are not expected. Furthermore, this figure has grown strongly in the past years. Hence it is reasonable to assume a slower growth as Borussia will not be as successful as in the previous years.

Merchandising income is expected to grow with ten percent in the '14/'15 campaign. This increase is mainly due to the opening of an office in Singapore. Nevertheless, afterwards growth is expected to fall to two percent per year – due to the same reasons as the commercial income.

- Costs

Costs of materials and other operating expenses will develop as an average of the previous four years. Their relative share of the revenues was in a narrow range (Cost of materials between 5-8% and other operating income between 34-38% of revenues less transfer income).

Average case - in TEUR	30.06.2015 E	30.06.2016 E	30.06.2017 E	30.06.2018 E	30.06.2019 E
Cost of materials	-17.884	-15.732	-17.397	-19.275	-19.761
in % of total Income less transfer income	-7%	-7%	-7%	-7%	-7%
Personnel expenses	-108.806	-95.712	-105.841	-117.267	-120.221
in % of total Income less transfer income	40%	40%	40%	40%	40%
Other operating expenses	-98.858	-86.961	-96.164	-106.545	-109.229
in % of total Income less transfer income	-36%	-36%	-36%	-36%	-36%

Figure 8: Average case – overview of main costs²⁴⁵

The future development of the personnel expenses is based on a statement by the CEO. To him personal costs of €120m are reasonable if the company generates

²⁴⁵ Appendix VI

sales of €300m. Hence, the assumption is that personnel expenses are dependent on revenue and will make up 40% of them in each year.²⁴⁶

- Result from APV method

The valuation with the APV method yields a value per share of €6,18. This value is €2,09 more than the price of the share at the 1st of March and would hence support the thesis of Mr. Watzke who stated that the share is undervalued. Nevertheless the enterprise value is with €535m below the €600m the CEO mentioned. Furthermore, a large part of the value comes from the terminal value in the valuation which is always difficult to forecast.

Average case – in TEUR	30.06.2015 E	30.06.2016 E	30.06.2017 E	30.06.2018 E	30.06.2019 E
EBIT	1.981	2.332	6.657	11.537	12.799
Taxes	586	690	1.969	3.413	3.786
NOPLAT	349	1.642	4.688	8.124	9.013
Depreciations	9.636	38.543	38.543	38.543	38.543
CAPEX	-9.636	-38.543	-38.543	-38.543	-38.543
Delta NWC	0	0	0	0	0
FCF	349	1.642	4.688	8.124	9.013
PV	346	1.572	4.333	7.251	7.767
PV of cash flows 2015-2019	21.269				
Terminal Value	588.958				
PV of Terminal Value	507.577				
PV of Tax Shield	6.020				
Enterprise Value	534.866				
Debt	19.284				
Cash	52.711				
Net Debt	-33.427				
Equity Value	568.293				
Total shares outstanding	92.000.000				
Value of share	6,18 €				

Figure 9: Average case – valuation result from APV method²⁴⁷

- Sensitivity analysis

In the sensitivity analysis the cost of capital and the growth rate for the terminal value are varied. It is obvious that the value per share varies substantially when changing either of the factors.

²⁴⁶ Berg (2014)

²⁴⁷ Own estimations

TV growth rate	Average case scenario – value per share							
	Cost of capital							
	3,25%	3,50%	3,56%	4,00%	4,50%	5,00%	6,00%	8,00%
1,00%	4,36	3,96	3,87	3,35	2,91	2,58	2,13	1,61
1,50%	5,53	4,88	4,74	3,96	3,35	2,92	2,33	1,71
2,00%	7,64	6,42	6,18	4,89	3,97	3,36	2,59	1,83
2,50%	12,56	9,49	8,96	6,43	4,89	3,98	2,93	1,97
3,00%	37,14	18,72	16,72	9,51	6,44	4,90	3,37	2,15

Figure 10: Average case – sensitivity analysis²⁴⁸

3.5.3 Best case scenario

In the best case scenario it is also planned that Borussia will not reach a Bundesliga rank that would qualify them for one of European competitions in the following season. In the German Cup the semifinal assumption holds as well. Starting from the '15/'16 season Dortmund will reach rank 2 in the Bundesliga. They would be qualified for the Champions League each year. The assumption here is that they reach the quarter finals each year. The forecast for the German cup a constant participation in the semifinals.

- Revenue

For the financial year '14/'15 revenue is expected to increase to €272m as in the average case). Due to the non-participation in either the Champions League or the Euro League revenue is forecasted to decline to €250m in the '15/'16 campaign. Thereafter revenue will increase continuously to €376m in '18/'19 – the last detailed forecasted year. Borussia will reach the €300m milestone in the season '16/'17.

²⁴⁸ Own estimations

Best case - in TEUR	30.06.2015 E	30.06.2016 E	30.06.2017 E	30.06.2018 E	30.06.2019 E
Total Income	272.015	249.803	317.420	359.310	376.892
y/y growth in %	2,28%	-8,17%	27,07%	13,20%	4,89%
Broadcasting	79.396	59.214	108.165	139.651	149.422
Bundesliga	44.198	55.084	55.649	87.051	87.085
Cup	4.049	4.130	4.213	4.297	4.383
Champions League / Europe League	31.149	0	48.303	48.303	57.955
in % of total income	29,19%	23,70%	34,08%	38,87%	39,65%
y/y growth in %	-2,51%	-25,42%	82,67%	29,11%	7,00%
Matchday	41.339	30.560	43.009	43.869	44.746
in % of total income	15,20%	12,23%	13,55%	12,21%	11,87%
y/y growth in %	2,00%	-26,07%	40,74%	2,00%	2,00%
Commercial	80.279	84.293	88.508	92.933	97.580
in % of total income	30%	34%	28%	26%	26%
y/y growth in %	10,00%	5,00%	5,00%	5,00%	5,00%
Merchandising	62.292	65.406	68.677	72.111	75.716
in % of total income	22,90%	26,18%	21,64%	20,07%	20,09%

Figure 11: Best case – overview of main income streams²⁴⁹

As the assumption for the best case is that Dortmund will reach rank two each year in the they will also maintain that spot in the relevant five year average ranking on which the Bundesliga broadcasting distribution is based on. Since Borussia will reach the quarter final each year in the Champions League the assumption is that they will be ranked number two in the UEFA-club ranking for Germany – based on this ranking parts of the international broadcasting income of the Bundesliga are distributed.

Starting with the Champions League season '16/'17 the assumption is that Dortmund will win four group games and will advance to the quarter final. This implies that Borussia will play 10 games each season (six in the group stage and four in the knock out phase). Furthermore, it is anticipated that the German teams in total will play 38 games (one team in semifinal, one team in quarterfinal, one team in round of the last 16, one team will drop out in the group stage and two qualification games for the fourth ranked team of the Bundesliga season to reach the group stage). Borussia's share from the market pool based on games played is thus 26%. The share of the market pool based on last year's Bundesliga rank (second rank in the best case scenario) will be 30%.

After a dip in in the '15/'16 campaign matchday income is forecasted based on the on the '13/'14 figures (Borussia reached the quarter final in the Champions League in that season). They are expected to increase with a growth rate of two percent.

²⁴⁹ Appendix VII

The income from matchday is in line with the average case scenario. In both cases they advance to the quarterfinal in the international competitions. While there is one more round in the knock out phase in the Euro League in the average case scenario Borussia advance to the semifinal in the German cup in the best case scenario. Hence, as an approximation the assumption regarding matchday income is reasonable.

As mentioned in the average case, commercial income will grow by ten percent in the '14/'15 season. Following the current season this income stream will grow by five percent each year. The constant participation in the Champions League is an important factor for the future and current sponsors as it creates an international awareness that is significantly higher than in the Europa League. In the last years Dortmund has experienced higher growth rates. This was due to fact that they were not as successful in the years before. Now, the assumption is that they will stay in these dimensions.

For the income from merchandising activities the same growth rates as for the commercial income are forecasted. Again, the higher growth rates compared to the average case are due to the fact that the success in the Bundesliga and Champions League will generate more awareness in Germany and internationally (Dortmund opened up an office in Singapore) that is expected to further drive revenue.

- Costs

For the cost of materials and other operating expense the same logic (averages of the previous years in relation to total revenue less transfer income) as for the average case applies. Furthermore, 40% of revenue is forecasted to be spend on personnel costs.

Best case - in TEUR	30.06.2015 E	30.06.2016 E	30.06.2017 E	30.06.2018 E	30.06.2019 E
Cost of materials	-17.884	-16.424	-20.870	-23.624	-24.780
in % of total Income less transfer income	-7%	-7%	-7%	-7%	-7%
Personnel expenses	-108.806	-99.921	-126.968	-143.724	-150.757
in % of total Income less transfer income	40%	40%	40%	40%	40%
Other operating expenses	-98.858	-90.785	-115.359	-130.583	-136.973
in % of total Income less transfer income	-36%	-36%	-36%	-36%	-36%

Figure 12: Best case – overview of main costs²⁵⁰

- Result from APV method

In the best case scenario Borussia's share is worth €12,05. That is almost three times as much as the current share price. The enterprise value is €1,08bn. In this almost €400m above the statement by the CEO. Again, the figures are heavily depend on the terminal value of the DCF-valuation.

Best case – in TEUR	30.06.2015 E	30.06.2016 E	30.06.2017 E	30.06.2018 E	30.06.2019 E
EBIT	1.981	4.129	15.680	22.836	25.839
Taxes	586	1.221	4.638	6.755	7.643
NOPLAT	1.395	2.908	11.042	16.081	18.196
Depreciations	9.636	38.543	38.543	38.543	38.543
CAPEX	-9.636	-38.543	-38.543	-38.543	-38.543
Delta NWC	0	0	0	0	0
FCF	1.395	2.908	11.042	16.081	18.196
PV	1.383	2.783	10.206	14.403	15.682
PV of cash flows 2015-2019	44.456				
Terminal Value	1.189.059				
PV of Terminal Value	1.024.759				
PV of Tax Shield	6.020				
Enterprise Value	1.075.235				
Debt	19.284				
Cash	52.711				
Net debt	-33.427				
Equity Value	1.108.662				
Total shares outstanding	92.000.000				
Value of share	12,05 €				

Figure 13: Best case – valuation result from APV method²⁵¹

²⁵⁰ Appendix VII

²⁵¹ Own estimations

- Sensitivity analysis

As in the average case the value of the share fluctuates substantially when changing the cost of capital and the growth rate of the TV.

TV growth rate	Best case scenario – value per share							
	Cost of capital							
	3,25%	3,50%	3,56%	4,00%	4,50%	5,00%	6,00%	8,00%
1,00%	8,52	7,69	7,51	6,43	5,54	4,87	3,93	2,87
1,50%	10,84	9,50	9,23	7,64	6,40	5,51	4,33	3,06
2,00%	15,00	12,53	12,05	9,44	7,59	6,36	4,82	3,28
2,50%	24,73	18,59	17,53	12,45	9,39	7,55	5,44	3,54
3,00%	73,34	36,76	32,79	18,47	12,37	9,33	6,28	3,85

Figure 14: Best case – sensitivity analysis²⁵²

3.5.4 Worst case scenario

In the worst case scenario Dortmund will not reach a rank in the current season that would guarantee a qualification for a European competition in the next year. Furthermore it is assumed that they will lose in the round of the last sixteen in the Champions League and in the German cup in the quarter final. From next season onwards the assumption is that Borussia reaches rank ten each year in the Bundesliga. This implies no future competition in the Champions League nor Europa League. In The German cup the assumption is a constant participation in the third round.

- Revenue

Overall revenue is estimated to be €270m for the season '14/'15. This figures is just slightly lower than in the other two cases and due to the assumption that Borussia will drop out in the German cup in the quarter final. Thereafter revenue will decline to €226m in '15/'16 and stay on that level in the upcoming years.

²⁵² Own estimations

Worst case - in TEUR	30.06.2015 E	30.06.2016 E	30.06.2017 E	30.06.2018 E	30.06.2019 E
Total Income	269.942	225.973	219.067	232.537	228.081
y/y growth in %	1,50%	-16,29%	-3,06%	6,15%	-1,92%
Broadcasting	77.323	47.511	40.498	53.860	49.292
Bundesliga	44.198	46.557	39.526	52.867	48.280
Cup	1.976	954	973	992	1.012
Champions League / Europe League	31.149	0	0	0	0
in % of total income	28,64%	21,02%	18,49%	23,16%	21,61%
y/y growth in %	-5,06%	-38,56%	-14,76%	32,99%	-8,48%
Matchday	41.339	30.560	30.560	30.560	30.560
in % of total income	15,31%	13,52%	13,95%	13,14%	13,40%
y/y growth in %	2,00%	-26,07%	0,00%	0,00%	0,00%
Commercial	80.279	80.279	80.279	80.279	80.279
in % of total income	30%	36%	37%	35%	35%
y/y growth in %	10,00%	0,00%	0,00%	0,00%	0,00%
Merchandising	62.292	62.292	62.292	62.292	62.292
in % of total income	23,08%	27,57%	28,44%	26,79%	27,31%
y/y growth in %	10,00%	0,00%	0,00%	0,00%	0,00%

Figure 15: Worst case – overview of main income streams²⁵³

For the broadcasting income from the Bundesliga rights the assumption is that Dortmund will drop to rank number five in the relevant five year average ranking for the season '15/'16. In the season '16/'17 they are expected fall to rank number seven and from the seasons thereafter they will drop to rank ten – in line with their athletic development. For the variable part of the international broadcasting money Dortmund is expected to fall to rank five in the season '15/'16 and to rank number ten in the two season thereafter. The assumption for the year '18/'19 and thereafter is that Dortmund will not be ranked in the UEFA-club ranking anymore and hence only receive the fixed amount that is distributed to all clubs of the Bundesliga.

Since the assumption in the case is that Dortmund will not take part in either the Champions League or the Europa League they consequently will not receive any income from that source.

A basis for the matchday income is the income generate in the season '10/'11 – adjusted for a yearly growth rate of two percent. During that season Borussia took part in the Europa League and dropped out in after the group stage. Hence they played three additional home games.²⁵⁴ It is still reasonable to use this season as reference point because in the years following that season Dortmund did some

²⁵³ Appendix VIII

²⁵⁴ Kicker Sportmagazin (2010)

changes to the stadium (installed more business seats).²⁵⁵ The assumption is that both factors will offset each other. In the years afterwards this figure is expected to remain stable on that level – attributable to the fact that Borussia will not be as successful as in the past.

Commercial and merchandising income '14/'15 are in line with the average and best case scenario. Thereafter both of them will not grow anymore. Since the sponsorship deals with major partner of Dortmund have been prolonged recently it is expected that they have fixed amounts – hence the stable amount. The merchandising assumption takes into account the opening of a branch in Singapore which should help to support sales and the large fan base Dortmund has in Germany.

- Costs

The assumption for the development of the costs is the same as in the other cases. Material and other operating expenses will develop based on an average of the previous years and the personnel expenses will make up 40% of the revenue each year.

Worst case - in TEUR	30.06.2015 E	30.06.2016 E	30.06.2017 E	30.06.2018 E	30.06.2019 E
Cost of materials	-17.748	-14.857	-14.403	-15.289	-14.996
in % of total Income less transfer income	-7%	-7%	-7%	-7%	-7%
Personnel expenses	-107.977	-90.389	-87.627	-93.015	-91.232
in % of total Income less transfer income	40%	40%	40%	40%	40%
Other operating expenses	-98.105	-82.125	-79.615	-84.511	-82.891
in % of total Income less transfer income	-36%	-36%	-36%	-36%	-36%

Figure 16: Worst case – overview of main costs²⁵⁶

²⁵⁵ Steffens (2014)

²⁵⁶ Appendix VIII

- Result from APV method

The result of the value per share is €0,62 and an enterprise value of €24m. This result is significantly below the share price at the 1st of March and shows the dependency on the performance of the team on the value of the football company.

Worst Case – in TEUR	30.06.2015 E	30.06.2016 E	30.06.2017 E	30.06.2018 E	30.06.2019 E
EBIT	1.892	58	-1.121	1.180	419
Taxes	560	0	0	349	124
NOPLAT	1.333	58	-1.121	831	295
Depreciations	9.636	38.543	38.543	38.543	38.543
CAPEX	-9.636	-38.543	-38.543	-38.543	-38.543
Delta NWC	0	0	0	0	0
FCF	1.333	58	-1.121	831	295
PV	1.321	56	-1.036	742	254
PV of cash flows 2015-2019	1.336				
Terminal Value	19.262				
PV of Terminal Value	16.600				
PV of Tax Shield	6.020				
Enterprise Value	23.957				
Debt	19.284				
Cash	52.711				
Net debt	-33.427				
Equity Value	57.384				
Total shares outstanding	92.000.000				
Value of share	0,62 €				

Figure 17: Worst case – valuation result from APV method²⁵⁷

- Sensitivity analysis

Again, the high sensitivity towards the input factor of the discount rates is obvious.

TV growth rate	Worst case – value per share								
	Cost of capital								
	3,25%	3,50%	3,56%	4,00%	4,50%	5,00%	6,00%	8,00%	
	1,00%	0,47	0,47	0,46	0,46	0,46	0,45	0,45	0,44
	1,50%	0,54	0,53	0,53	0,51	0,50	0,49	0,47	0,46
	2,00%	0,67	0,63	0,62	0,58	0,55	0,53	0,51	0,48
	2,50%	0,97	0,84	0,81	0,70	0,63	0,59	0,55	0,51
3,00%	2,46	1,45	1,34	0,94	0,77	0,69	0,60	0,53	

Figure 18: Worst case – sensitivity analysis²⁵⁸

²⁵⁷ Own estimations

²⁵⁸ Own estimations

3.5.5 Discussion of the cases

Compared to the value of the share of €4,09 at the beginning of March the market values Dortmund somewhere in between above presented average and worst case. This would imply that a constant participation in the Europa League quarter-final is not assumed. Another reason could be a different discount rate or growth rate for the terminal value.

All of the three scenarios show how dependent the financial success of the company is on the team's performance on the football field is. All major income streams are dependent on the success of the team, even though Dortmund tries to establish the name of the football company as a brand and hence make merchandising sales less dependent on the success of the squad. Furthermore, Dortmund signed long-term sponsorship contracts with its strategic investors. While this is good development and gives the management flexibility in the near future for investments it is questionable that in the long run the performance sponsors will pay as much as they currently do.

Furthermore, the most important source of income – broadcasting income – is very dependent on the team's performance. To be consistently among the top four teams in the Bundesliga season is crucial to get the chance to participate in the financially attractive Champions League. Also the income gap from the Europa League to the Champions League is significant (comparing the average case with the best case).

Another issue is the unpredictability of the outcome of games. Prior to the current season a broad range of experts agreed that the team Dortmund is very well balanced.²⁵⁹ Nevertheless, no one would have anticipated that the team ranks on the last place at the end of the first half of the season. This development is interesting for audiences of football as it makes it interesting to watch. The high uncertainty of outcome thus income make it difficult to forecast the financial development of any football company. This becomes evident when looking at the different values per share in the three cases.

²⁵⁹ Biermann (2014); Tittmar (2014a)

In the most recent years Borussia was not able to compensate the loss of their best players. Furthermore, – even though teams scout potential new signings intensively – it is still difficult to estimate whether or not the new player will perform as assumed and how he will fit into the team.²⁶⁰ Another not forecastable risk and hence a substantial uncertainty is the injuries of players. One of Dortmund's best midfielders was out for 14 month – this represents more than one season and a huge risk for the football company.²⁶¹

Another issues are the inputs for the cost of capital. Overall, the 3,56% used for the valuation are in a historical context very low. The results of the sensitivity analyses further show the impact of an increase of the cost of capital. A raise to 5,00% would mean that the share would be only worth half of the forecasted figures (in the average and best case scenario, keeping the growth for the TV constant). To a large part the low cost of capital are due to the low risk free rate that is based upon the ten year German government bond. Furthermore, the beta factor is another important input for the discount rate. When looking at the diagram it is obvious that the relationship between the returns of the SDAX and the returns of Dortmund's share is limited. The R^2 is only 0,045, meaning that only 4,50% of the returns of Borussia's share is explained by the returns of the SDAX. One could also argue that there is no relationship between the share and the index and hence the cost of capital using the beta is not meaningful.²⁶²

Additionally the terminal value has – in all three cases a strong impact on the value of the firm. This is a common problem in DCF-analysis and should be considered when talking about the result. Especially the assumptions regarding the development of the last forecasted year are here have to be taken into account as it serves as basis for the calculation of the terminal value. It is very difficult to estimate how the broadcasting contracts – as major source of income – will develop in four years. Furthermore, it remains to be seen whether the distribution keys will stay as they are. Especially traditional football companies (that have been around

²⁶⁰ Dersch (2015)

²⁶¹ Gonscherowski (2014)

²⁶² Appendix III

for decades and hence have a strong fan base) are pushing for a higher weight of membership and fan base in the distribution process of the broadcasting money.

While in the past two decades the football industry was booming it will be interesting to see when the times of high growth rates (e.g. broadcasting contracts) will come to an end.²⁶³

A major problem that should be considered before investing in Dortmund's share is the issue of the potential goal conflict of a football company. Not always are decisions that maximize firm value in line with the success of the team. Also, the strategic investors of Dortmund are likely to see their investment as a marketing device that creates awareness for their brands. Hence it is not a pure financial investment that generates dividends. Thus an investor who is purely interested in the financial value should consider the limitations he has through the regulations (50plus1 rule) in Germany and the interests of current shareholders, which might not always be the maximizations of firm value.²⁶⁴

²⁶³ Deloitte (2015), p. 8.

²⁶⁴ Korthals (2005), pp. 64-70.

4 Conclusion

The thesis is split into two parts. In the first theoretical part different reasons and occasions for company valuations are presented. An explanation of different valuation methods and their individual pros and cons follows. It is examined that the DCF approach is the most suitable way to analyze a football company. In the second part of the thesis the valuation of Borussia Dortmund is performed. In a first step the football industry in Germany is analyzed with Porter's five Forces. Thereafter Borussia Dortmund's individual strengths, weaknesses, opportunities and threats are analyzed. The valuation with the APV method of Borussia Dortmund follows. Due to the difficulties of forecasting the results of football games three different business cases are presented. Furthermore, sensitivity analyses show how the value per share varies when changing key inputs of the model.

Major goal of this master thesis was to perform a valuation of Borussia Dortmund – the only listed football company in Germany – and to assess whether or not the share is trading at its fair price. The answer to this question is very dependent on the assumption about the future performance of the football team. If the assumption of a constant participation in either the Champions League or the Europa League will prove to be correct the share is undervalued. If this assumption does not hold the football company is overvalued.

The avoidance of bankruptcy is the major point of consideration of the company's management team in financing decisions. Thus, the financial policy of Borussia Dortmund has more similarities with the trade-off theory than with the pecking order theory.

The thesis disclosed some fundamental problems that are involved in any valuation. In theory it is clear how much an asset is worth and how to derive the value. However, when applied to a real case it is evident how difficult it is to choose the right inputs for the model. In the case of Borussia Dortmund it is also obvious that the years close to the time of the valuation can be forecasted significantly better than the time period thereafter. This is due to the fact that the income football companies generate is partly based upon their past performance. Furthermore, the

more precise planning of the first periods is only of limited use since the most part of the value of Dortmund is derived through the TV. However, the TV varies substantially when changing its inputs. Additionally, the assumptions and discussed problems with the applied discount rate need to be taken into account.

From a valuation perspective it would be interesting to see how different assumptions regarding NWC and CAPEX could enhance the valuation result. Another interesting point of consideration is the discount rate. The question is whether there are other ways to estimate the discount rate for the DCF model for a football company. On a more general level it will be interesting to see whether more (German) football companies go public or if Dortmund remains – as it has been for over a decade now – the only listed football company.

References

- 11 Freunde. (2013, July 3). *FC Chelsea: Zehn Dinge über Roman Abramowitsch - 987,9 Millionen Euro für neue Spieler*. Retrieved October 7, 2014, from <http://www.11freunde.de/artikel/fc-chelsea-zehn-dinge-ueber-roman-abramowitsch/page/1>
- Atiyet, B. A. (2012). The Pecking Order Theory and the Static Trade Off Theory: Comparison of the Alternative Explanatory Power in French Firms. *Journal of Business Studies Quarterly*, 4(1), pp. 1-14.
- Badenhausen, K. (2014, September 9). *Real Madrid Posts Highest Revenue In History of Team Sports*. Retrieved October 4, 2014, from <http://www.forbes.com/sites/kurtbadenhausen/2014/09/05/real-madrid-posts-highest-revenue-in-history-of-sports/>
- Badenhausen, K. (2014a, July 29). *FC Barcelona Reports Record Revenue Topping \$700 Million*. Retrieved October 4, 2014, from <http://www.forbes.com/sites/kurtbadenhausen/2014/07/29/fc-barcelona-reports-record-revenue-topping-700-million/>
- Baker, M., & Ruback, R. S. (1999). Estimating Industry Multiples. *Working paper*.
- Ballwieser, W. (2011). *Unternehmensbewertung: Prozeß, Methoden und Problem*. Stuttgart: Schäffer-Poeschl.
- Barthel, C. W. (2007). Unternehmenswert: Auswahl der Bezugsgrößen bei Market Multiples. *Finanz Betrieb*, 9(11), S. 666-674.
- Batke, A. (2014). *BVB-Topmanager: „Auf Sponsor-Million verzichtet“*. Retrieved October 4, 2014, from <http://www.noz.de/deutschland-welt/sport/artikel/511582/bvb-topmanager-auf-sponsor-million-verzichtet>
- Bausch, A. (2000). Die Multiplikator-Methode: Ein betriebswirtschaftlich sinnvolles Instrument zur Unternehmenswert- und Kaufpreisfindung in Akquisitionsprozessen? *Finanz Betrieb*, 2(7-8), pp. 448-459.

- Baxter, K. (2014, March 20). *Foreign owners invade English Premier League*. Retrieved October 10, 2014, from <http://articles.latimes.com/2014/mar/29/sports/la-sp-soccer-baxter-20140330>
- Berg, D. (2014, August 20). *Watzke-Interview*. Retrieved September 15, 2014, from <http://www.derwesten.de/wp/sport/fussball/bvb/watzke-ueber-usa-reisen-fernsehgelder-und-das-bvb-gehaltsbudget-page2-id9721473.html>
- Berk, J., DeMarzo, P., & Harford, J. (2012). *Corporate Finance* (2 ed.). Upper Saddle River: Prentice Hall.
- Biermann, C. (2014, August 23). *Die Saisonvorschau 2014/15: Borussia Dortmund – Zurück zum Beton*. Retrieved April 9, 2015, from <http://www.11freunde.de/artikel/die-saisonvorschau-201415-borussia-dortmund/page/1>
- Bloomberg. (2015). *Historical Price Table German government bond*.
- Bloomberg. (2015a). *Historical Beta*.
- Bloomberg. (2015b). *Equity Relative Valuation*.
- Borussia Dortmund GmbH & Co. KGaA. (2005). *Geschäftsbericht 2004/2005*. Retrieved from <http://aktie.bvb.de/Publikationen/Geschaeftsberichte/Geschaeftsbericht-2004-2005-KGaA-Konzern>
- Borussia Dortmund GmbH & Co. KGaA. (2009). *Geschäftsbericht 2008/2009*. Retrieved from <http://aktie.bvb.de/Publikationen/Geschaeftsberichte/Geschaeftsbericht-2008-2009-KGaA-Konzern>
- Borussia Dortmund GmbH & Co. KGaA. (2010). *Geschäftsbericht 2009/2010*. Retrieved from <http://aktie.bvb.de/Publikationen/Geschaeftsberichte/Geschaeftsbericht-2009-2010-KGaA-Konzern>

Borussia Dortmund GmbH & Co. KGaA. (2011). *Geschäftsbericht 2010/2011*. Retrieved from <http://aktie.bvb.de/Publikationen/Geschaeftsberichte/Geschaeftsbericht-2010-2011-KGaA-Konzern>

Borussia Dortmund GmbH & Co. KGaA. (2012). *Geschäftsbericht 2011/2012*. Retrieved from <http://aktie.bvb.de/Publikationen/Geschaeftsberichte/Geschaeftsbericht-2011-2012-KGaA-Konzern2>

Borussia Dortmund GmbH & Co. KGaA. (2013). *Geschäftsbericht 2012/2013*. Retrieved from <http://aktie.bvb.de/Publikationen/Geschaeftsberichte/Geschaeftsbericht-2012-2013-KGaA-Konzern>

Borussia Dortmund GmbH & Co. KGaA. (2014, August 06). *Borussia Dortmund GmbH & Co. KGaA führt Kapitalerhöhung durch*. Retrieved from <http://aktie.bvb.de/IR-News/Ad-Hoc-News/Borussia-Dortmund-GmbH-Co.-KGaA-fuehrt-Kapitalerhoehung-durch>

Borussia Dortmund GmbH & Co. KGaA. (2014a, September 10). *Borussia Dortmund schließt Kapitalerhöhung erfolgreich ab*. Retrieved April 1, 2015, from <http://www.bvb.de/News/Uebersicht/Borussia-Dortmund-schliesst-Kapitalerhoehung-erfolgreich-ab>

Borussia Dortmund GmbH & Co. KGaA. (2014b, August 21). *BVB beschließt weitere Kapitalerhöhung - Signal Iduna verlängert*. Retrieved September 16, 2014, from <http://www.bvb.de/News/Uebersicht/BVB-beschliesst-weitere-Kapitalerhoehung-Signal-Iduna-verlaengert>

Borussia Dortmund GmbH & Co. KGaA. (2014c). *Geschäftsbericht 2013/2014*. Retrieved from <http://aktie.bvb.de/Publikationen/Geschaeftsberichte/Geschaeftsbericht-2013-2014-KGaA-Konzern>

Borussia Dortmund GmbH & Co. KGaA. (2014d). *Borussen Chronik 1909*. Retrieved October 3, 2014, from <http://www.bvb.de/Der-BVB/Chronik/1909>

Borussia Dortmund GmbH & Co. KGaA. (2014e). *Investorenpräsentation 2013/2014*. Retrieved October 10, 2014, from <http://aktie.bvb.de/ger/Publikationen/Praesentationen>

Borussia Dortmund GmbH & Co. KGaA. (2014f, September 13). *BVB begrüßt 110.000 Mitglied*. Retrieved October 3, 2014, from <http://www.bvb.de/ger/News/Uebersicht/BVB-begruesst-110.000.-Mitglied>

Borussia Dortmund GmbH & Co. KGaA. (2014g). *Signal Iduna Park*. Retrieved October 3, 2014, from <http://www.bvb.de/Der-BVB/Signal-Iduna-Park/SIGNAL-IDUNA-PARK>

Borussia Dortmund GmbH & Co. KGaA. (2014h, February 2). *BVB campaign wins Sports Marketing Award*. Retrieved October 3, 2014, from <http://www.bvb.de/eng/News/Overview/BVB-campaign-wins-Sports-Marketing-Award>

Borussia Dortmund GmbH & Co. KGaA. (2014i). *BVB Aktie - Geschäftsführung*. Abgerufen am 4. Oktober 2014 von <http://aktie.bvb.de/BVB-auf-einen-Blick/Geschaeftsfuehrung2>

Borussia Dortmund GmbH & Co. KGaA. (2014j, August 20). *Suresh Letchmanan to head Singapore office*. Retrieved October 8, 2014, from <http://www.bvb.de/eng/News/Overview/Suresh-Letchmanan-to-head-Singapore-office>

Borussia Dortmund GmbH & Co. KGaA. (2014k, August 14). *Bilanz-PK*. Retrieved March 29, 2015, from <http://aktie.bvb.de/Services/Bilanz-PK>

Borussia Dortmund GmbH & Co. KGaA. (2015). *Corporate Governance*. Retrieved February 10, 2015, from <http://aktie.bvb.de/ger/aktie.bvb.de/Corporate-Governance/Corporate-Governance>

Borussia Dortmund GmbH & Co. KGaA. (2015a). *Halbjahresfinanzbericht H1 2014/2015*. Retrieved from <http://aktie.bvb.de/Publikationen/Halbjahresfinanzberichte/Halbjahresfinanzbericht-2014-2015>

- Bundesliga Finance. (2014, July 26). *Gehaltskosten der europäischen Spitzenteams*. Retrieved October 4, 2014, from <http://buli-finance.blogspot.de/2013/11/gehaltsvergleich-fc-bayern-munchen-vs.html>
- Bundesverband der Deutschen Arbeitgeberverbände. (2015). *Prognosen des Bruttoinlandsprodukts 2015 und 2016*. Retrieved from [http://www.arbeitgeber.de/www/arbeitgeber.nsf/res/BIP_Verbr_Prod_Prognosen.pdf/\\$file/BIP_Verbr_Prod_Prognosen.pdf](http://www.arbeitgeber.de/www/arbeitgeber.nsf/res/BIP_Verbr_Prod_Prognosen.pdf/$file/BIP_Verbr_Prod_Prognosen.pdf)
- Christ, J., Dr. Elfring, C., & Linck, C. (2014). Beitrag - Aktuelle Überlegungen zur Rechtsform von Bundesligacclubs. In F. Schuster, & C. Unterhitzenberger, *Bälle Tore und Finanzen XI* (pp. 12-15). Ernst & Young.
- Coenenberg, A. G., & Schultze, W. (2002). Das Multiplikator-Verfahren in der Unternehmensbewertung: Konzeption und Kritik. *Finanz Betrieb*, 4(12), S. 697-703.
- Cooper, I., & Cordeiro, L. (2008). Optimal Equity Valuation Using Multiples: The Number of Comparable Firms. *Working paper*.
- Cooper, I., & Nyborg, K. G. (2007). Valuing the Debt Tax Shield. *Journal of Applied Corporate Finance*, 19(2), pp. 50-59.
- Crasselt, N. (2004). Betriebswirtschaftliche Investitionsbeurteilung im Profifußball – Möglichkeiten und Grenzen. In P. Hammann, L. Schmidt, & M. Welling, *Ökonmie des Fußballs: Grundlagen aus volks- und betriebswirtschaftlicher Perspektive* (S. 219-240). Wiesbaden: Deutscher Universitäts-Verlag/GWV Fachverlage GmbH.
- Damodaran, A. (2002). *Investment Valuation* (2nd ed.). New York: John Wiley & Sons, Inc.
- Damodaran, A. (2010). *Applied Corporate Finance* (3rd ed.). Hoboken: John Wiley & Sons Ltd, Inc.
- Damodaran, A. (2015, January). *Country Default Spreads and Risk Premiums*. Retrieved March 29, 2015, from http://pages.stern.nyu.edu/~adamodar/New_Home_Page/datafile/ctryprem.html

- Deloitte. (2014, January). *All to play for: Football Money League 2014*. Retrieved from <https://www2.deloitte.com/content/dam/Deloitte/uk/Documents/sports-business-group/deloitte-uk-deloitte-football-money-league-2014.pdf>
- Deloitte. (2014a, January). *A premium blend: Annual Review of Football Finance 2014 – Highlights*. Retrieved from <https://www2.deloitte.com/content/dam/Deloitte/uk/Documents/sports-business-group/deloitte-uk-annual-review-football-finance.pdf>
- Deloitte. (2015, January). *Commercial breaks: Football Money League 2015*. Retrieved April 10, 2015, from <http://www2.deloitte.com/content/dam/Deloitte/uk/Documents/sports-business-group/deloitte-football-money-league-2015.PDF>
- Departamento de Internet. (2014). *Champions League of Website 2014/15*. Retrieved October 3, 2014, from <http://www.championsleaguewebsites.com/2014/en/>
- Dersch, M. (2015, February 2). *Großer BVB-Melancholiker: Das Problem des Henrikh Mkhitaryan ist der Kopf*. Retrieved April 9, 2015, from <http://www.ruhrnachrichten.de/sport/bvb/Borussias-Sorgenkind-Warum-sich-Mkhitaryan-derzeit-selbst-im-Weg-steht;art11635,2633595>
- Deutsche Börse AG. (2015, March 29). *SDAX*. Retrieved from <http://www.boerse-frankfurt.de/de/aktien/indizes/sdax+DE0009653386/zugehoerige+werte>
- Deutsche Bundesbank. (2015). *Monatsbericht: Januar 2015*. Frankfurt am Main: Deutsche Bundesbank. Retrieved from https://www.bundesbank.de/Redaktion/DE/Downloads/Veroeffentlichungen/Monatsberichte/2015/2015_01_monatsbericht.pdf?__blob=publicationFile
- Deutscher Fußball-Bund e.V. (DFB). (2014, January 21). *Bundesliga: Liga Information – Modus*. Retrieved March 21, 2015, from <http://www.dfb.de/bundesliga/liga-information/modus/>
- DFL Deutsche Fußball Liga GmbH. (2012, 04 17). *Rekord-Erlöse für die Bundesliga: 2,5 Milliarden Euro durch neue Medienverträge*. Retrieved 08 11, 2014, from <http://www.bundesliga.de/de/liga/news/2011/rekord-erloese->

fuer-die-bundesliga-2-5-milliarden-euro-durch-neue-
medienvertraege_0000210138.php

DFL Deutsche Fußball Liga GmbH. (2014, November 27). *DFL Sports Enterprises vergibt Bundesliga-Rechte für weitere 18 Länder und wird Erlöse ab 2015/2016 mehr als verdoppeln*. Retrieved March 28, 2015, from <http://www.bundesliga.de/de/dfi/mediencenter/pressemitteilungen/2014/dfi-sports-enterprises-vergibt-bundesliga-rechte-fuer-weitere-18-laender.php>

DFL Deutsche Fußball Liga GmbH. (2014a, March 10). *Ligavorstand beschließt Neu-Verteilung von internationalen Erlösen*. Retrieved March 28, 2015, from <http://www.bundesliga.de/de/liga/news/2013/neuverteilung-der-internationalen-erl-se---dfi-pressemitteilung.php>

DFL Deutsche Fußball Liga GmbH. (2015). *Der Bundesliga Report 2015*. Retrieved from http://www.bundesliga.de/media/native/dokument/dt_DFL_BL_Report_2015_150dpi.pdf

Die Welt. (2014, August 6). *Sport Auslandsvermarktung - Rummenigge setzt die Bundesliga unter Druck*. Retrieved October 7, 2014, from <http://www.welt.de/sport/fussball/bundesliga/fc-bayern-muenchen/article130931002/Rummenigge-setzt-die-Bundesliga-unter-Druck.html>

Drukarczyk, J. (2003). *Unternehmensbewertung* (4th ed.). München: Verlag Franz Vahlen GmbH.

Duff, A. (2014, February 10). *Real Madrid, Barcelona Will Have TV Revenue Limited by Law*. Retrieved October 10, 2014, from [www.bloomberg.com: http://www.bloomberg.com/news/2014-02-10/real-madrid-barcelona-will-have-tv-revenue-limited-by-law.html](http://www.bloomberg.com/news/2014-02-10/real-madrid-barcelona-will-have-tv-revenue-limited-by-law.html)

Escher, M. (2007). *Unternehmensbewertung im Profifußball: Eine Untersuchung von Verfahren zur Wertermittlung*. Saarbrücken: VDM Verlag Dr. Müller e.K.

- Estridge, J., & Lougee, B. (2007). Measuring Free Cash Flows for Equity Valuation: Pitfalls and Possible Solutions. *Journal of Applied Corporate Finance*, 19(2), pp. 60-71.
- European Central Bank. (2015). *Economic Bulletin Issue 1 / 2015*. Retrieved from <https://www.ecb.europa.eu/pub/pdf/ecbu/eb201501.en.pdf??00a7adc1efae4d783a361c345c8a329>
- European Commission. (2014). *European Economic Forecast; Autumn 2014*. Brussels: European Union. Retrieved from http://ec.europa.eu/economy_finance/publications/european_economy/2014/pdf/ee7_en.pdf
- FC Bayern München AG. (2014, February 11). *Allianz beteiligt sich an FC Bayern München AG*. Retrieved August 06, 2014, from <http://www.fcbayern.de/de/news/news/2014/erklaerung-allianz-beteiligt-sich-an-der-fc-bayern-muenchen-ag.php>
- finanzen.net GmbH. (2014). *Die größten Fußballstadien Europas*. Retrieved October 3, 2014, from http://www.finanzen.net/top_ranking/top_ranking_detail.asp?inRanking=49&inPos=22
- Frank, M. Z., & Goyal, V. K. (2003). Testing the pecking order theory of capital structure. *Journal of Financial Economics*, 67(2), pp. 217-248.
- Frankfurter Allgemeine Zeitung GmbH. (2014, August 21). *Kapitalerhöhung: BVB will 114,4 Millionen Euro einsammeln*. Retrieved April 12, 2015, from <http://www.faz.net/aktuell/sport/fussball/bundesliga/kapitalerhoehung-bvb-will-114-4-millionen-euro-einsammeln-13109665.html>
- Frankfurter Allgemeine Zeitung GmbH. (2015, January 18). *Bundesliga-Vorbereitung: Neue Sorgen für Dortmund-Trainer Klopp*. Retrieved April 9, 2015, from <http://www.faz.net/aktuell/sport/fussball/bundesliga/bvb-besserung-bei-reus-und-sokratis-sorgen-um-kehl-13377133.html#/teams-process-t157->

- Franzke, R. (2014, July 24). 50.000.000 Millionen. *Kicker Sportmagazin*(61), pp. 2-3.
- Franzke, R. (2014a, October 27). *Im Pokal rollt der Rubel*. Retrieved March 28, 2015, from http://www.kicker.de/news/fussball/dfbpokal/startseite/614244/artikel_im-pokal-rollt-der-rubel.html
- Galebraith, R. (2014, August 6). *Follow Our Lead – Rummenigge*. Retrieved October 8, 2014, from <http://www.vavel.com/en/international-football/germany-bundesliga/377042-follow-our-lead-rummenigge.html>
- Galebraith, R. (2014a, September 2). *Kagawa to boost BVB marketing*. Retrieved October 8, 2014, from <http://www.vavel.com/en/international-football/germany-bundesliga/387331-kagawa-to-boost-bvb-marketing.html>
- Giesen, C. (2013, May 18). *Borussia Dortmund an der Börse: Aktien für die Fans*. Retrieved April 9, 2015, from <http://www.sueddeutsche.de/wirtschaft/borussia-dortmund-an-der-boerse-aktien-fuer-die-fans-1.1675762>
- Gonscherowski, T. (2014, October 20). *Bundesliga: Nach 434 Tagen - Gündogan trotz Niederlage glücklich*. Retrieved April 9, 2015, from <http://www.bundesliga.de/de/liga/news/2014/ilkay-guendogan-feiert-ordentliches-comeback.php>
- Graham, J., & Campbell, H. (2002). How Do CFOs Make Capital Budgeting and Capital Structure Decisions? *Journal of Applied Corporate Finance*, 15(1), pp. 8-23.
- Greene, J. (2007). Enterprise Valuation Roundtable. *Journal of Applied Corporate Finance*, 19(2).
- Haka, S. F. (2007). A Review of the Literature on Capital Budgeting and Investment Appraisal: Past, Present, and Future Musings. In C. S. Chapman, A. G. Hopwood, & M. D. Shields, *Handbook of Management Accounting Research*: 2 (pp. 697-728). Oxford: Elsevier.

- Handelsblatt GmbH. (2014, June 6). *Aufnahme in den SDax – Dortmund steigt in die Börsenliga auf*. Retrieved April 4, 2015, from <http://www.handelsblatt.com/finanzen/maerkte/aktien/aufnahme-in-den-sdax-dortmund-steigt-in-die-boersenliga-auf/9993330.html>
- Hasler, P. T. (2012). *Aktien richtig bewerten*. Berlin Heidelberg: Springer Verlag.
- Hertha BSC GmbH & Co KGaA. (2014, January 31). Retrieved August 6, 2014, from <http://www.herthabsc.de/de/intern/hertha-neuer-partner/page/4386--17-17--17.html>
- Hofer, J., Weyer, S., & Zak, R. (2013, May 14). *"Wir sind keine Anti-Bayern"*. Retrieved October 4, 2014, from <http://derstandard.at/1363710881255/Wir-sind-keine-Anti-Bayern>
- Holzmüller, H. H., Cramer, C., & Thom, D. C. (2014). Markenführung im Profifußball. *Marketing Review St. Gallen*, 31(2), pp. 68-83.
- HORIZONT Sport Business. (2004). Kickunternehmen zwischen Auf und Nieder. 4(4), pp. 22-25.
- Kaplan, S. N., & Ruback, R. S. (1995). The Valuation of Cash Flow Forecasts: An Empirical Analysis. *The Journal of Finance*, 50(4), pp. 1059-1093.
- Keuper, F., & Djukanov, V. (2008). Das Konzept des Betafaktors und die Nutzung als akzeptierter Manipulationsfaktor in der Unternehmensbewertung. In T. Hering, H. E. Klingelhöfer, & W. Koch, *Unternehmungswert und Rechnungswesen: Festschrift für Univ.-Prof. Dr. Manfred Jürgen Matschke zum 65. Geburtstag* (pp. 55-75). Wiesbaden: Betriebswirtschaftlicher Verlag Dr. Th. Gabler | GWV Fachverlage GmbH.
- Kicker Sportmagazin. (2010). *Europa League - Spieltag / Tabelle*. Retrieved April 10, 2015, from <http://www.kicker.de/news/fussball/uefa/spielrunde/europa-league/2010-11/6/2096/spieltag.html>
- Kicker Sportmagazin. (2014). *2. Bundesliga - Spieltag / Tabelle 2012/2013*. Retrieved August 06, 2014, from <http://www.kicker.de/news/fussball/2bundesliga/spieltag/2-bundesliga/2012-13/0/0/spieltag.html>

Kicker Sportmagazin. (2014a). 1. Bundesliga - Spieltag/ Tabelle 2010/2011.
Retrieved August 06, 2014, from
<http://www.kicker.de/news/fussball/bundesliga/spieltag/1-bundesliga/2010-11/0/0/spieltag.html>

Kicker Sportmagazin. (2014b). 1. Bundesliga - Spieltag / Tabelle 2011/2012.
Retrieved August 06, 2014, from
<http://www.kicker.de/news/fussball/bundesliga/spieltag/1-bundesliga/2011-12/0/0/spieltag.html>

Kicker Sportmagazin. (2014c). 1. Bundesliga - Spieltag / Tabelle 2012/2013.
Retrieved August 06, 2014, from
<http://www.kicker.de/news/fussball/bundesliga/spieltag/1-bundesliga/2012-13/0/0/spieltag.html>

Kicker Sportmagazin. (2014d). Champions League - Spieltag / Tabelle 2012/2013.
Retrieved August 06, 2014, from
<http://www.kicker.de/news/fussball/chleague/spielrunde/champions-league/2012-13/0/0/spieltag.html>

Kicker Sportmagazin. (2014e). 1. Bundesliga - Spieltag / Tabelle 2013/2014.
Retrieved August 06, 2014, from
<http://www.kicker.de/news/fussball/bundesliga/spieltag/1-bundesliga/2013-14/0/0/spieltag.html>

Kim, M., & Ritter, J. R. (1999). Valuing IPOs. *Journal of Financial Economics*, 53(3), pp. 409-437.

Koller, T., Goedhart, M., & Wessels, D. (2010). *Valuation: Measuring and Managing the Value of Companies* (5th ed.). Hoboken: John Wiley & Sons.

Korthals, J. P. (2005). *Bewertung von Fußballunternehmen: Eine Untersuchung am Beispiel der deutschen Fußballbundesliga*. Wiesbaden: Deutscher Universitäts-Verag.

Kotler, P., & Keller, K. L. (2012). *Marketing Management* (14th ed.). Upper Saddle River: Prentice Hall.

- KPMG. (2015). *Corporate tax rate table*. Retrieved March 29, 2015, from <http://www.kpmg.com/global/en/services/tax/tax-tools-and-resources/pages/corporate-tax-rates-table.aspx>
- Kraus, A., & Litzenberger, R. H. (1973). A State-Preference Model of Optimal Financial Leverage. *The Journal of Finance*, 28(4), pp. 911-922.
- Kruschwitz, L., & Löffler, A. (2006). *Discounted Cash Flow. A Theory of the Valuation of Firms*. Chichester: John Wiley & Sons Ltd.
- Kuhner, C., & Maltry, H. (2006). *Unternehmensbewertung*. Berlin Heidelberg: Springer Verlag.
- Liu, J., Nissim, D., & Thomas, J. (2002). Equity Valuation using Multiples. *Journal of Accounting Research*, 40(1), pp. 135-172.
- Modigliani, F., & Miller, M. H. (1958). The Cost of Capital, Corporation Finance and the Theory of Investment. *The American Economic Review*, 48(3), S. 261-297.
- Myers, S. C. (1984). The Capital Structure Puzzle. *The Journal of Finance*, 39(3), pp. 575-592.
- Neale, W. (1975). Die eigenartige Ökonomie des Profisports. Ein Beitrag zur Theorie des Unternehmens im sportlichen Wettbewerb und im Marktwettbewerb. In K. Hammerich, & K. Heinemann, *Teste zur Soziologie des Sports* (S. 204-209). Schorndorf: Hofmann.
- Pearce, J. (2012, June 13). *Premier League rights sold to BT and BSkyB for £3bn*. Retrieved October 10, 2014, from [www.bbc.com: http://www.bbc.com/news/business-18430036](http://www.bbc.com/news/business-18430036)
- Porter, M. E. (1998). *Competitive Strategy – Techniques For Analyzing Industries And Competitors*. New York: The Free Press.
- Rappaport, A. (1998). *Creating shareholder value: A guide for managers and investors* (2nd ed.). New York, NY: The Free Press.
- Raupach, G. (2007). Das M & A-Geschäft. In H. J. Hockman, & F. Thießen, *Investment Banking* (S. 203-240). Stuttgart: Schäffer-Poeschel.

- Rehm, H. (2014, September 20). *Evonik und der BVB: Echte Liebe?* Retrieved April 9, 2015, from <http://www.manager-magazin.de/unternehmen/artikel/evonik-und-der-bvb-echte-liebe-a-992737.html>
- Reimann, T., & Bellstedt, K. (2005). *Sportrecht: Zehn Jahre Bosman-Urteil*. Retrieved February 9, 2015, from [stern.de: http://www.stern.de/sport/fussball/sportrecht-zehn-jahre-bosman-urteil-551616.html](http://www.stern.de:551616.html)
- Reinecke, F. (2014, April 22). *So funktioniert das DFL-Lizenzierungsverfahren*. Retrieved August 11, 2014, from <http://www.bundesliga.de/de/liga/news/2013/so-funktioniert-das-dfl-lizenzierungsverfahren.php>
- Röckenhaus, F. (2014, June 10). Der BVB ist mindestens 600 Millionen wert. *Süddeutsche Zeitung*, 31.
- Rosenbaum, J., & Pearl, J. (2009). *Investment Banking: Valuation, Leveraged Buyouts, and Mergers and Acquisitions*. New York City: John Wiley & Sons.
- Schallenberg, J. (2005, May 30). *Allianz-Arena: Der dunkle Schatten des Supertempels*. Retrieved February 9, 2015, from Spiegel Online: <http://www.spiegel.de/sport/fussball/allianz-arena-der-dunkle-schatten-des-supertempels-a-358087.html>
- Schwenkenbecher, C. (2014, September 11). Borussia Dortmund GmbH & Co KGaA. *'Echte Liebe 09': Another way of winning*. Hawk & Aufhäuser Institutional Research AG. Retrieved from <http://aktie.bvb.de/BVB-Aktie/Kapitalmarktbewertung>
- Shyam-Sunder, L., & Myers, S. C. (1999). Testing static tradeoff against pecking order models of capital structure. *Journal of Financial Economics*, 51(2), pp. 219-244.
- Sky Deutschland AG. (2014, October). Sky Deutschland AG. *Unternehmenspräsentation*. Retrieved October 10, 2014, from

[http://ir.sky.de/cgi-](http://ir.sky.de/cgi-bin/show.ssp?companyName=sky&language=German&id=3400)

[bin/show.ssp?companyName=sky&language=German&id=3400](http://ir.sky.de/cgi-bin/show.ssp?companyName=sky&language=German&id=3400)

Sport1. (2014, May 4). *Watzke kündigt weitere Transfers an*. Retrieved October 7, 2014, from

http://www.sport1.de/de/fussball/fussball_bundesliga/artikel_886067.html

Spremann, K., & Scheuerle, P. (2010). *Finanzanalyse*. München: Oldenbourg Wissenschaftsverlag GmbH.

Statista. (2015). *Beliebteste Sportarten in Deutschland nach Interesse der Bevölkerung an der Sportart in den Jahren 2013 und 2014*. Retrieved January 23, 2015, from

<http://de.statista.com/statistik/daten/studie/171072/umfrage/sportarten-fuer-die-besonderes-interesse-besteht/>

Statista. (2015a). *Preise der Dauerkarten für die Fußball-Bundesligasaison 2014/2015 nach Vereinen*. Retrieved January 23, 2015, from <http://de.statista.com/statistik/daten/studie/264760/umfrage/dauerkartenpreise-in-der-bundesliga-nach-vereinen/>

Statista. (2015b). *Preise der Dauerkarten für die Fußballsaison 2014/2015 der Premier League nach Vereinen*. Retrieved from <http://de.statista.com/statistik/daten/studie/316195/umfrage/dauerkartenpreise-in-der-premier-league-nach-vereinen/>

Steffens, K. (2014, May 23). *BVB kündigt 200 Fans "Echte Liebe fühlt sich anders an"*. Retrieved October 8, 2014, from <http://www.reviersport.de/274415---bvb-klub-kuendigt-200-dauerkarten-inhabern.html>

Süddeutsche Zeitung GmbH. (2015, February 11). *Mega-Vertrag der Premier League; Bundesliga diskutiert "unpopuläre Maßnahmen"*. Retrieved February 12, 2015, from <http://www.sueddeutsche.de/sport/mega-vertrag-der-premier-league-bundesliga-diskutiert-unpopulaere-massnahmen-1.2346502>

THE UNITY – Supporters Dortmund e.V. (2015). *Unterstützer*. Retrieved January 20, 2015, from <http://www.kein-zwanni.de/unterstutzer/>

- Tittmar, J. (2014, September 9). *BVB-Marketingdirektor Cramer im Interview - "Der BVB wird der BVB bleiben"*. Retrieved October 10, 2014, from <http://www.spox.com/de/sport/fussball/themenwoche/zukunft-des-fussballs/carsten-cramer-interview-borussia-dortmund-bvb-internationalisierung-marketing-direktor-vertrieb-asien-singapur-maerkte-ausland,seite=2.html>
- Tittmar, J. (2014a, August 21). *Saisonvorschau: Borussia Dortmund – BVB: Neuer, alter Versuch*. Retrieved April 9, 2015, from <http://www.spox.com/de/sport/fussball/bundesliga/saison2014-2015/saisonvorschau/dortmund/borussia-dortmund-bvb-prognose-taktik-wunschelf-klopp-neuzugaenge-immobile-aubameyang-mkhitaryan.html>
- Transfermarkt GmbH & Co. KG. (2014, August 11). *Robert Lewandowski*. Retrieved from <http://www.transfermarkt.de/robert-lewandowski/profil/spieler/38253>
- Transfermarkt GmbH & Co. KG. (2014a). *Borussia Dortmund*. Retrieved Oktober 3, 2014, from http://www.transfermarkt.de/borussia-dortmund/kader/verein/16/saison_id/2014
- Transfermarkt GmbH & Co. KG. (2015). *Toni Kroos*. Retrieved from <http://www.transfermarkt.at/toni-kroos/profil/spieler/31909>
- Transfermarkt GmbH & Co. KG. (2015a). *Kevin Kampl*. Retrieved April 10, 2015, from <http://www.transfermarkt.de/kevin-kampl/profil/spieler/53418>
- UEFA. (2010). *UEFA CHAMPIONS LEAGUE 2009/10 : Distribution*. Retrieved March 14, 2015, from http://www.uefa.com/MultimediaFiles/Download/competitions/General/01/51/72/68/1517268_DOWNLOAD.pdf
- UEFA. (2010a). *EUROPA LEAGUE 2009/10 : Distribution*. Retrieved March 23, 2015, from http://www.uefa.com/MultimediaFiles/Download/competitions/General/01/51/72/70/1517270_DOWNLOAD.pdf

- UEFA. (2011). *UEFA CHAMPIONS LEAGUE : Distribution to clubs 2010/11*. Retrieved March 29, 2015, from http://www.uefa.com/MultimediaFiles/Download/uefaorg/Finance/01/66/11/07/1661107_DOWNLOAD.pdf
- UEFA. (2011a). *UEFA EUROPA LEAGUE : Distribution to clubs 2010/11*. Retrieved March 23, 2015, from http://www.uefa.com/MultimediaFiles/Download/uefaorg/Finance/01/66/11/25/1661125_DOWNLOAD.pdf
- UEFA. (2012, June 21). *Teilnehmerliste 2012/13*. Retrieved October 10, 2014, from <http://de.uefa.com/uefachampionsleague/news/newsid=1830056.html>
- UEFA. (2012a). *UEFA CHAMPIONS LEAGUE : Distribution to clubs 2011/12*. Retrieved March 14, 2015, from http://www.uefa.com/MultimediaFiles/Download/uefaorg/Finance/01/84/05/87/1840587_DOWNLOAD.pdf
- UEFA. (2012b). *UEFA EUROPA LEAGUE : Distribution to clubs 2011/12*. Retrieved March 23, 2015, from http://www.uefa.org/MultimediaFiles/Download/uefaorg/Finance/01/84/05/88/1840588_DOWNLOAD.pdf
- UEFA. (2013, June 1). *UEFA Champions League 2013/14 - Teilnehmerliste*. Retrieved October 10, 2014, from <http://de.uefa.com/uefachampionsleague/news/newsid=1961136.html>
- UEFA. (2013a). *UEFA CHAMPIONS LEAGUE: Distribution to clubs 2012/13*. Retrieved June 6, 2014, from http://www.uefa.com/MultimediaFiles/Download/uefaorg/Finance/01/97/52/97/1975297_DOWNLOAD.pdf
- UEFA. (2013b). *UEFA EUROPA LEAGUE: Distribution to clubs 2012/13*. Retrieved March 23, 2015, from http://www.uefa.com/MultimediaFiles/Download/uefaorg/Finance/01/97/53/15/1975315_DOWNLOAD.pdf

- UEFA. (2014). *UEFA-Ranglisten Klub-Koeffizienten 2014/15*. Retrieved from <http://de.uefa.com/memberassociations/uefarankings/club/>
- UEFA. (2014a). *UEFA Champions League 2014/15 - Teilnehmerliste*. Retrieved October 10, 2014, from <http://de.uefa.com/uefachampionsleague/season=2015/accesslist/listofparticipants/>
- UEFA. (2014b, June 26). *UEFA Champions League and UEFA Europa League – Distribution to clubs 2013/2014*. Retrieved July 16, 2014, from <http://www.uefa.com/uefachampionsleague/news/newsid=2117799.html>
- UEFA. (2014c, September 15). *UEFA Champions League revenue distribution*. Retrieved March 31, 2015, from <http://www.uefa.com/uefachampionsleague/news/newsid=2146867.html>
- UEFA. (2015). *UEFA Champions League – Modus*. Retrieved April 6, 2015, from <http://de.uefa.com/uefachampionsleague/season=2015/competitionformat/>
- UEFA. (2015a). *UEFA Europa League – Modus*. Retrieved April 6, 2015, from <http://de.uefa.com/uefaeuropaleague/season=2015/competitionformat/>
- UEFA. (2015b, March 20). *UEFA-Ranglisten für Klubwettbewerbe*. Retrieved March 28, 2015, from <http://de.uefa.com/memberassociations/uefarankings/club/>
- Völkl, O. (2012, November 29). *Sahin, Kagawa, Barrios - Warnung für Götze: Der Fluch der Dortmund-Abgänge*. Retrieved October 4, 2014, from http://www.focus.de/sport/fussball/sahin-kagawa-barrios-warnung-fuer-goetze-der-fluch-der-dortmund-abgaenge_aid_871202.html
- Vöpel, H. (2013). HWWI Policy Paper 79. *Is Financial Fair Play Really Justified? An Economic and Legal Assessment of UEFA's Financial Fair Play Rules*. Hamburg: Hamburgisches WeltWirtschaftsinstitut (HWWI).
- Wallrodt, L. (2014, September 21). *Der BVB auf der Spur des goldenen Drachen*. Retrieved September 23, 2014, from <http://www.welt.de/sport/fussball/bundesliga/borussia->

dortmund/article132450504/Der-BVB-auf-der-Spur-des-goldenen-Drachen.html

Westdeutscher Rundfunk Köln. (2015, March 31). *Mehr Geld und Macht für Europas Top-Clubs*. Retrieved March 2015, 2015, from <http://www.sportschau.de/fussball/mehr-geld-fuer-europas-top-fussball-vereine100.html>

Woisetschläger, D. M., Backhaus, C., Dreisbach, J., & Schnöring, M. (2014). Fußballstudie 2014. *Die Markenlandschaft der Fußball-Bundesliga*. Braunschweig: Technische Universität Braunschweig – Insitut für Automobilwirtschaft und Industrielle Produktion.

Woisetschläger, D. M., Backhaus, C., Dreisbach, J., & Schnöring, M. (2014a). Sponsoringstudie 2014. *Die Sponsoringpotential in der Fußball-Bundesliga*. Braunschweig: Technische Universität Braunschweig – Institut für Automobilwirtschaft und Industrielle Produktion.

World Bank Group. (2015). *Global Economic Prospects, January 2015 Having Fiscal Space and Using It*. Washington, DC: The World Bank.

Yoo, Y. K. (2006). The valuation accuracy of equity using a combination of multiples. *Review of Accounting and Finance*, 5(2), S. 108-123.

Zimmer, F. (2013, October 7). *Echte Liebe: Watzke und die Marke Borussia Dortmund*. Retrieved October 8, 2014, from http://www.wuv.de/marketing/echte_liebe_watzke_und_die_marke_borussia_dortmund

Appendix I: Kurzfassung

Die Master Thesis „Valuation of Borussia Dortmund“ behandelt die Bewertung des einzigen Fußballunternehmens das an der deutschen Börse gelistet ist. In dem ersten Teil der Thesis werden Bewertungsmethoden diskutiert. Im zweiten Teil wird die Bewertung von Dortmund mit der discounted cash flow Methode präsentiert. Zuerst wird die qualitative Analyse der Fußball Industrie (Porter's five forces) und das Fußballunternehmen (strength, weaknesses, opportunities and threats Analyse) durchgeführt. Das Ergebnis der discounted cash flow Bewertung ist sehr abhängig von den Annahmen über den zukünftigen Erfolg des Teams. Um dies zu berücksichtigen werden drei verschiedene Fälle gerechnet die jeweils eine Sensitivitätsanalyse beinhalten.

Appendix II: Abstract

The Master Thesis „Valuation of Borussia Dortmund“ deals with the valuation of the only football company that is listed on the German stock exchange. In the first part of the thesis valuation methods are discussed. In the second part the valuation of Dortmund with the discounted cash flow analysis is presented. First off, the qualitative analysis of the football industry (Porter’s five forces) and of the football company (strength, weaknesses, opportunities and threats analysis) is conducted. The outcome of the discounted cash flow valuation is very dependent on the assumption of the future success of team. To address this issue three different cases are calculated with a sensitivity analysis for each of them.

Appendix III: Comparable companies

GRAB
<Menu> to Return

BVB GR Equity 90 Settings Equity Relative Valuation

Borussia Dortmund GmbH & Co KG Comp Source Custom

9) Show Historical Context

Summary of Current Multiples

Name	Mkt Cap (EUR)	FY 1 P/E	LF P/BV	FY 1 EV/Rev	FY 1 EV/EBITDA	FY 1 EV/EBIT
21) BORUSSIA DORTMUND GMBH & CO	327.24M	24.5x	1.2x	1.1x	5.2x	18.6x
Current Premium to Comps Mean		N.A.	-69%	-71%	-77%	N.A.
Mean (Including BVB GR)	495.36M	N.A.	3.7x	3.8x	22.8x	N.A.
Median	187.11M	N.A.	2.6x	3.8x	22.8x	N.A.
Low	18.33M	N.A.	0.8x	2.1x	22.8x	N.A.
High	2.45B	N.A.	11.5x	5.6x	22.8x	N.A.
22) SOCIETA SPORTIVA LAZIO SPA	44.67M	N.A.	11.5x	N.A.	N.A.	N.A.
23) AFC AJAX	166.28M	N.A.	2.0x	N.A.	N.A.	N.A.
24) JUVENTUS FOOTBALL CLUB SPA	263.23M	N.A.	7.4x	1.6x	8.0x	134.6x
25) SPORTING CLUBE DE PORTUGAL -	18.33M	N.A.	1.6x	N.A.	N.A.	N.A.
26) ARSENAL HOLDINGS PLC	1.36B	N.A.	3.1x	N.A.	N.A.	N.A.
27) AS ROMA SPA	207.93M	N.A.	N.A.	N.A.	N.A.	N.A.
28) SPORT LISBOA E BENFICA-FUT S	32.22M	N.A.	6.8x	N.A.	N.A.	N.A.
29) OL GROUPE	77.86M	N.A.	0.8x	2.1x	N.A.	N.A.
30) MANCHESTER UNITED PLC-CL A	2.45B	N.A.	3.6x	5.6x	22.8x	242.8x

10 Analyze List 11) Edit Comparables 12) Select Multiples Grey values excluded from group stats

Australia 61 2 9777 8600 Brazil 5511 2395 9000 Europe 44 20 7330 7500 Germany 49 69 9204 1210 Hong Kong 852 2977 6000
Japan 81 3 3201 8900 Singapore 65 6212 1000 U.S. 1 212 318 2000 Copyright 2015 Bloomberg Finance L.P.
SN 636600 H386-357-3 31-Mar-15 16:20:10 CEST GMT+2:00

Figure 19: Comparable companies²⁶⁵²⁶⁵ Bloomberg (2015b)

Appendix IV: Risk free rate

GRAB

GDBR10 Index 90 Export to Excel Page 1/6 Historical Price Table

Germany Generic Govt 10Y Yield

Range 03/17/2014 - 03/16/2015 Period Daily

Market Bid Price Mid Yield Currency EUR

View Price Table

High 1.646 on 03/20/14
Low .209 on 03/11/15
Average .965
Net Chg -1.287 -82.14%

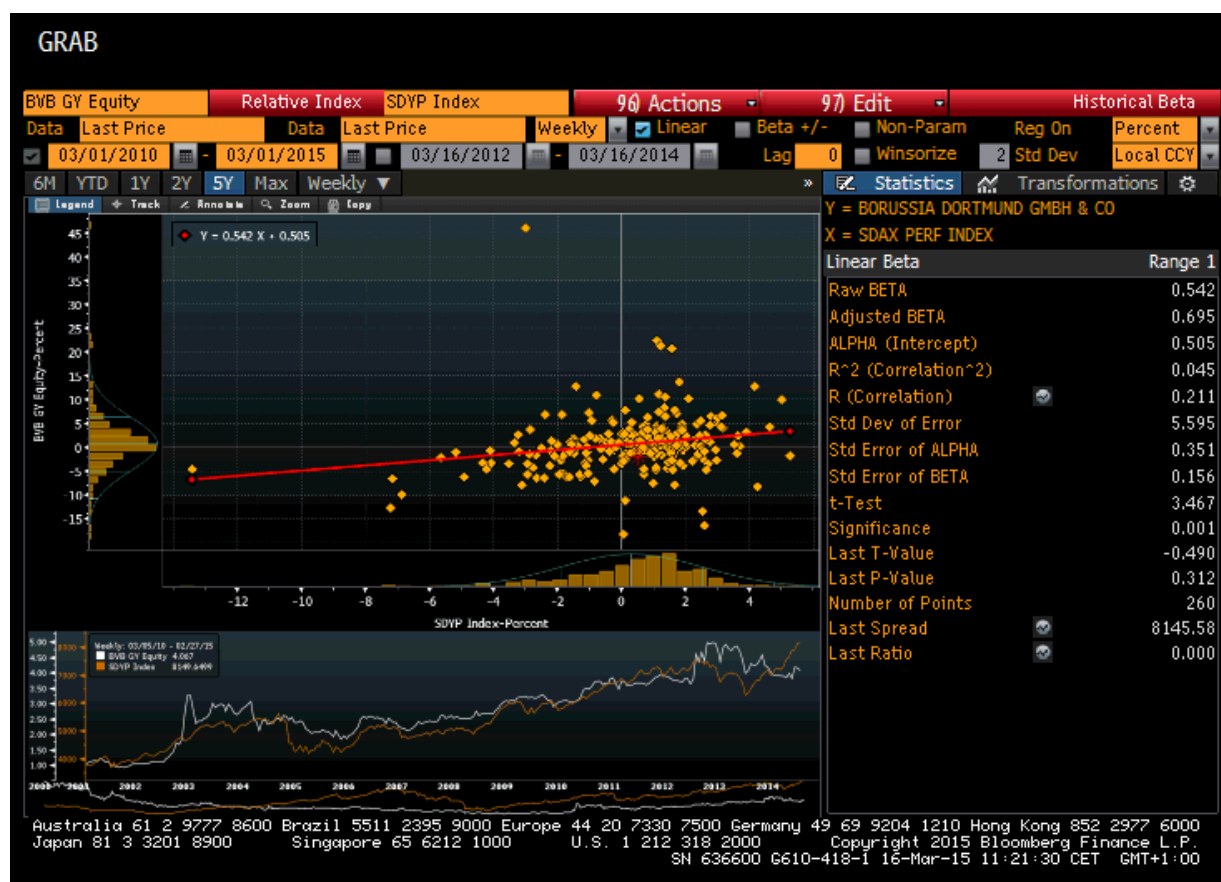
	Date	Bid Price	Mid Yield		Date	Bid Price	Mid Yield		Date	Bid Price	Mid Yield
F	03/20/15			F	02/27/15	.328	.328	F	02/06/15	.375	.375
T	03/19/15			T	02/26/15	.298	.298	T	02/05/15	.366	.366
W	03/18/15			W	02/25/15	.325	.325	W	02/04/15	.367	.367
T	03/17/15			T	02/24/15	.375	.375	T	02/03/15	.346	.346
M	03/16/15	.280	.280	M	02/23/15	.365	.365	M	02/02/15	.313	.313
F	03/13/15	.257	.257	F	02/20/15	.367	.367	F	01/30/15	.302	.302
T	03/12/15	.248	.248	T	02/19/15	.380	.380	T	01/29/15	.359	.359
W	03/11/15	.209	.209	W	02/18/15	.381	.381	W	01/28/15	.353	.353
T	03/10/15	.234	.234	T	02/17/15	.372	.372	T	01/27/15	.383	.383
M	03/09/15	.312	.312	M	02/16/15	.334	.334	M	01/26/15	.395	.395
F	03/06/15	.393	.393	F	02/13/15	.342	.342	F	01/23/15	.362	.362
T	03/05/15	.348	.348	T	02/12/15	.319	.319	T	01/22/15	.447	.447
W	03/04/15	.383	.383	W	02/11/15	.355	.355	W	01/21/15	.524	.524
T	03/03/15	.362	.362	T	02/10/15	.370	.370	T	01/20/15	.449	.449
M	03/02/15	.356	.356	M	02/09/15	.355	.355	M	01/19/15	.439	.439

Australia 61 2 9777 8600 Brazil 5511 2395 9000 Europe 44 20 7330 7500 Germany 49 69 9204 1210 Hong Kong 852 2977 6000
Japan 81 3 3201 8900 Singapore 65 6212 1000 U.S. 1 212 318 2000 Copyright 2015 Bloomberg Finance L.P.
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Figure 20: Risk free rate²⁶⁶

²⁶⁶ Bloomberg (2015)

Appendix V: Beta factor

Figure 21: Beta factor²⁶⁷²⁶⁷ Bloomberg (2015a)

Appendix IX: Balance sheet

in TEUR	30.06.2011	30.06.2012	30.06.2013	30.09.2013	31.12.2013	30.06.2014	30.09.2014	31.12.2014
Non-current assets	196.616	210.404	212.215	258.755	253.711	249.492	298.551	290.611
Intangible assets	18.432	25.749	28.425	73.656	69.596	61.602	109.576	101.781
Property, plant and equipment	170.740	182.602	178.382	180.565	180.185	184.502	186.079	185.899
Financial assets accounted for using the equity method	321	313	266	266	266	293	293	293
Financial assets	1.109	38	113	107	101	91	103	91
Long-term receivables and other financial receivables	972	0	2.786	899	1.427	1.256	8	842
Tax claims	4.916	1.669	1.450	1.450	1.450	1.252	1.252	1.252
Deferred Tax Assets	126	33	793	1.812	686	496	1.240	453
Current assets	25.110	38.302	90.200	57.967	47.142	42.803	161.409	97.642
Inventories	2.328	5.808	7.543	8.749	7.122	5.921	9.069	8.481
Accounts receivables and other financial receivables	19.605	24.534	65.934	30.095	22.679	14.923	35.265	24.159
Tax claims			0	0	185	187	193	282
Cash and Cash equivalents	1.087	5.271	12.536	3.769	6.825	17.852	102.861	52.711
Deferred Tax Assets	2.090	2.689	4.187	15.354	10.331	3.920	14.021	12.009
Sum Assets	221.726	248.706	302.415	316.722	300.853	292.295	459.960	388.253
Equity	67.626	93.455	140.618	142.030	142.434	145.249	287.419	284.167
Subscribed capital	61.425	61.425	61.425	61.425	61.425	61.425	92.000	92.000
Capital reserve	6.002	31.805	78.719	80.109	81.002	83.606	195.175	192.172
Own shares	-127	-122	-119	-119	-118	-116	-116	-115
Equity attributable to shareholders	67.300	93.108	140.025	141.415	142.309	144.915	287.059	284.057
Minority Interest	326	347	593	615	125	334	360	110
Non-current Liabilities	90.735	93.305	87.379	82.618	78.062	76.032	39.865	38.664
Financial liabilities	47.902	41.268	40.827	36.390	34.539	32.139	0	0
Financial lease	9.443	21.149	19.767	19.609	19.049	20.142	19.718	19.284
Accounts payable	0	0	0	0	0	50	0	0
Other financial liabilities		2.141	2.469	2.382	2.294	3.701	1.147	1.380
Deferred tax liabilities	33.390	28.747	24.316	24.237	22.180	20.000	19.000	18.000
Current Liabilities	63.365	61.946	74.418	92.074	80.357	71.014	132.676	65.422
Financial liabilities	13.206	5.974	4.496	8.771	8.804	8.889	40.646	0
Financial lease	529	1.283	1.378	1.200	1.421	1.627	1.652	1.686
Accounts payable	10.525	9.636	14.200	26.549	27.103	18.115	27.330	24.452
Other financial liabilities	19.680	22.008	36.944	18.683	21.484	20.789	22.984	16.194
Tax liabilities	3.154	3.826	3.448	2.201	1.371	571	519	832
Deferred tax liabilities	16.271	19.219	13.952	34.670	20.174	21.023	39.545	22.258
Sum Equity & Liabilities	221.726	248.706	302.415	316.722	300.853	292.295	459.960	388.253

Figure 25: Balance Sheet Borussia Dortmund GmbH & Co. KGaA²⁷¹

²⁷¹ Borussia Dortmund GmbH & Co. KGaA (2012), p. 112.; Borussia Dortmund GmbH & Co. KGaA (2013), p.112.; (Borussia Dortmund GmbH & Co. KGaA (2014c), p. 118.

Appendix X: Net working capital development

in TEUR	30.06.2008	30.06.2009	30.06.2010	30.06.2011	30.06.2012	30.06.2013	30.06.2014
Current assets							
Inventories	1.713	2.269	1.788	2.328	5.808	7.543	5.921
Accounts receivables and other financial receivables	23.126	9.073	5.070	19.605	24.534	65.934	14.923
Tax claims				0	0	0	187
Deferred Tax Assets	0	2.714	2.632	2.090	2.689	4.187	3.920
Sum current assets	24.839	14.056	9.490	24.023	33.031	77.664	24.764
y/y change		-10.783	-4.566	14.533	9.008	44.633	-52.900
Current liabilities							
Financial liabilities	5.220	11.750	15.832	13.206	5.974	4.496	8.889
Financial lease	0	263	286	529	1.283	1.378	1.627
Accounts payable	10.685	10.374	6.460	10.525	9.636	14.200	18.115
Other financial liabilities	40.466	11.086	10.632	19.680	22.008	36.944	20.789
Tax liabilities	2.113	2.054	1.132	3.154	3.826	3.448	571
Deferred tax liabilities	0	14.774	15.068	16.271	19.219	13.952	21.023
Sum current liabilities	58.484	50.301	49.410	63.365	61.946	74.418	71.014
y/y change		-8.183	-891	13.955	-1.419	12.472	-3.404
Changes in Net working capital		-2.600	-3.675	578	10.427	32.161	-49.496

Figure 26: NWC development Borussia Dortmund GmbH & Co. KGaA²⁷²

²⁷² Borussia Dortmund GmbH & Co. KGaA (2009), p. 110.; Borussia Dortmund GmbH & Co. KGaA (2010), p. 98.; Borussia Dortmund GmbH & Co. KGaA (2011), p. 100.; Borussia Dortmund GmbH & Co. KGaA (2012), p. 112.; Borussia Dortmund GmbH & Co. KGaA (2013), p.112. ; (Borussia Dortmund GmbH & Co. KGaA (2014c), p. 118.

