

Ticket Pricing in European Football – Analysis and Implications

Gerd Nufer*, Jan Fischer

ESB Business School, Reutlingen University, Alteburgstrasse 150, D-72762 Reutlingen, Germany

*Corresponding author: gerd.nufer@reutlingen-university.de

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Abstract In Europe, football is undeniably sport No. 1. European football clubs attract millions of fans to the venue every season. Despite the highest attendance in European football, the German Bundesliga teams do not capitalise on ticket sales. Surprisingly, the Bundesliga ticket prices are the cheapest among Europe's top leagues. As the price is the most effective profit driver, better pricing decisions can drive revenues and profits up without any upfront investment. The paper comprises a thorough analysis of match day and season ticket prices in the German Bundesliga in comparison to the pricing in other top European football leagues. Derived from the analysis, specific recommendations and implications for pricing strategies in regard of fan acceptance in football are presented. Furthermore, the paper attempts to answer the question of whether revenue management and dynamic pricing could be utilised by football clubs as a profit enhancing pricing tool in the future.

Keywords Ticket Pricing, Price Discrimination, Revenue Management, Dynamic Pricing, Fan Acceptance

1. Introduction

The worldwide popularity of football and the excitement of football fans result in significant turnovers. In 2009/2010, total revenues in the European football industry exceeded 16 billion – an increase of 11% over the 2007/2008 season despite the economic turmoil [7]. Typically, football clubs generate revenues from three broad sources, namely broadcasting, commercial activities, and ticket sales [3]. Especially English clubs are able to capitalise on all revenue streams, making the English Premier League the richest league in European football way ahead of the German Bundesliga.

In contrast to English clubs, teams in the Bundesliga rely foremost on revenues from commercial activities and are unable to capitalise on ticket sales despite of the highest attendance in European football. Yet, ticket sales are the most controllable revenue stream for football clubs and charging the right price for a ticket can drive revenues and

profits up without any upfront investment. The Bundesliga's revenues have grown by more than 20% between 2006/07 and 2009/10 [8]. To ensure continuing growth, clubs need to take advantage of further revenue potentials. According to research from A.T. Kearney [1], ticket pricing represents one major revenue opportunity in the Bundesliga as ticket prices are considerably lower than in the Premier League or the Spanish La Liga.

2. Purpose and Methodology

The focus of this paper is a thorough review of literature and SWOT analysis on the current model of match day and season ticket prices in European football and of the different forms of price discrimination applied by the clubs. Derived from the analysis, specific implications and recommendations for the German Bundesliga clubs are presented. In addition, the paper will look at future ticket pricing strategies and attempts to answer the question whether dynamic pricing/revenue management could be utilised by football clubs as a profit enhancing pricing tool (for recent work addressing variable pricing see [12, 13]). Broadcasting and sponsoring revenues of football clubs are not the scope of this paper. Furthermore, this analysis of ticket prices excludes executive boxes and business seats.

The analysis required the collection of ticket prices of English, Spanish, Italian, and German football clubs. Ticket prices of the current season could mostly be collected from the clubs' websites. Past ticket prices could be researched and validated through extensive online research and in some cases with the support of clubs themselves in form of interviews with club representatives.

3. Analysis of Ticket Pricing in the Top European Football Leagues

Bundesliga clubs are known for quoting significantly lower ticket prices than their counterparts in other European leagues. How ticket prices compare among Europe's top leagues and whether Bundesliga tickets are under-priced will be assessed in the following sections (top league refers

to the top 4 leagues in the UEFA country coefficient ranking, namely the English Premier League, the Spanish La Liga, the German Bundesliga, and the Italian Serie A).

3.1. Situation Analysis and Benchmarking

One of the major strengths of the Bundesliga is arguably its superb infrastructure – mainly the result of heavy investments in the redevelopment of existing stadia and the construction of new arenas ahead of the FIFA World Cup 2006. An impressive sum of €1.4 billion was invested in the twelve stadia that hosted the 2006 World Cup matches [1]. Figure 1 summarises the numbers of newly constructed stadia in Europe’s premier leagues since the year 2000.

In the Bundesliga season 2011/12, 8 out of 18 clubs play in stadia that opened their gates for the first time in the new millennium. In the Premier League, clubs invested about €2.5 billion in raising the quality of their pure-football stadia over the last 20 years [28]. In contrast, a lack of investment in Italy constrains the majority of Serie A clubs to play in outdated stadia. Roughly half of Italian stadia still have a running track. Today, the majority of Bundesliga clubs play in high-capacity stadia that are unmatched by

clubs in other European leagues. In the first half of the 2011/2012 season, Bundesliga clubs attracted a record average attendance of 45,100 to their home games – staggering 31% more than the clubs in the English Premier League (34,400). In fact, it is the second highest average attendance across all sports leagues worldwide behind the National Football League (NFL) [8].

Figure 2 illustrates the average stadium capacity and utilisation in Europe’s top leagues.

On average, clubs in the German Bundesliga manage to fill 93 out of 100 seats per game. Bundesliga clubs benefit from their state-of-the-art stadia, but this alone does not explain the impressive numbers. In fact, ticket prices quoted in the Bundesliga are on average lower than prices charged in other top leagues, especially in the English Premier League.

Figure 3 compares ticket prices of selected top football clubs for low- and high-profile matches. The German clubs Borussia Dortmund and Bayern Munich quote considerably lower prices than their counterparts in England, Spain, and Italy. In the case of Bayern Munich, ticket prices are inexplicably low.

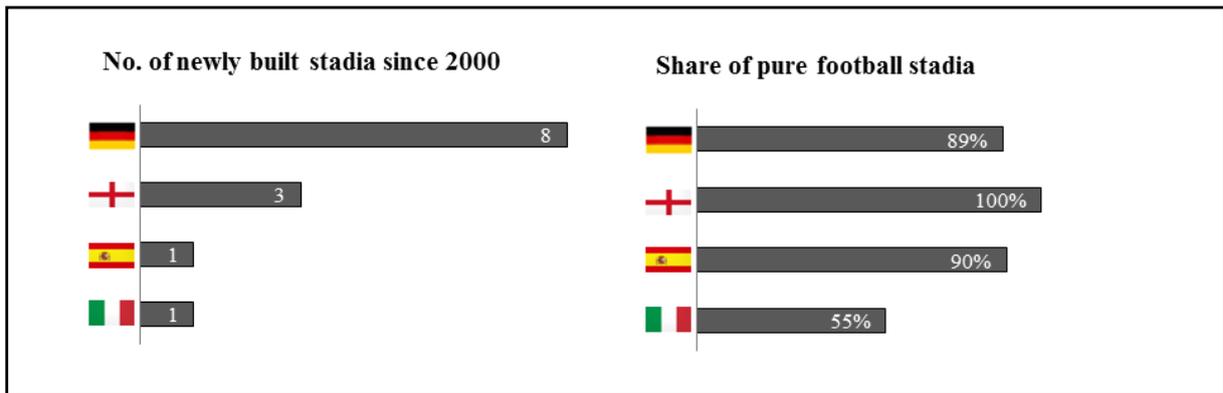


Figure 1. Stadium infrastructure in Europe’s top leagues

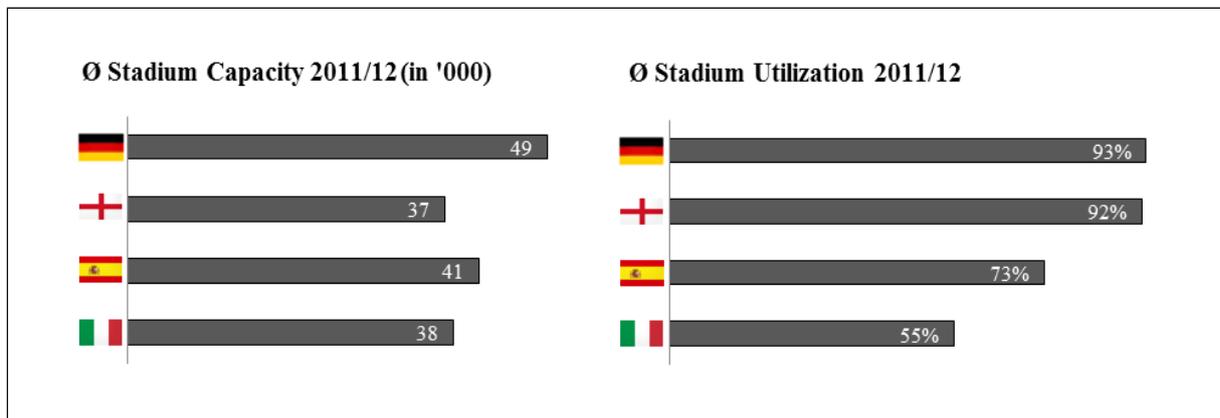


Figure 2. Stadium capacity and utilisation in Europe’s top leagues

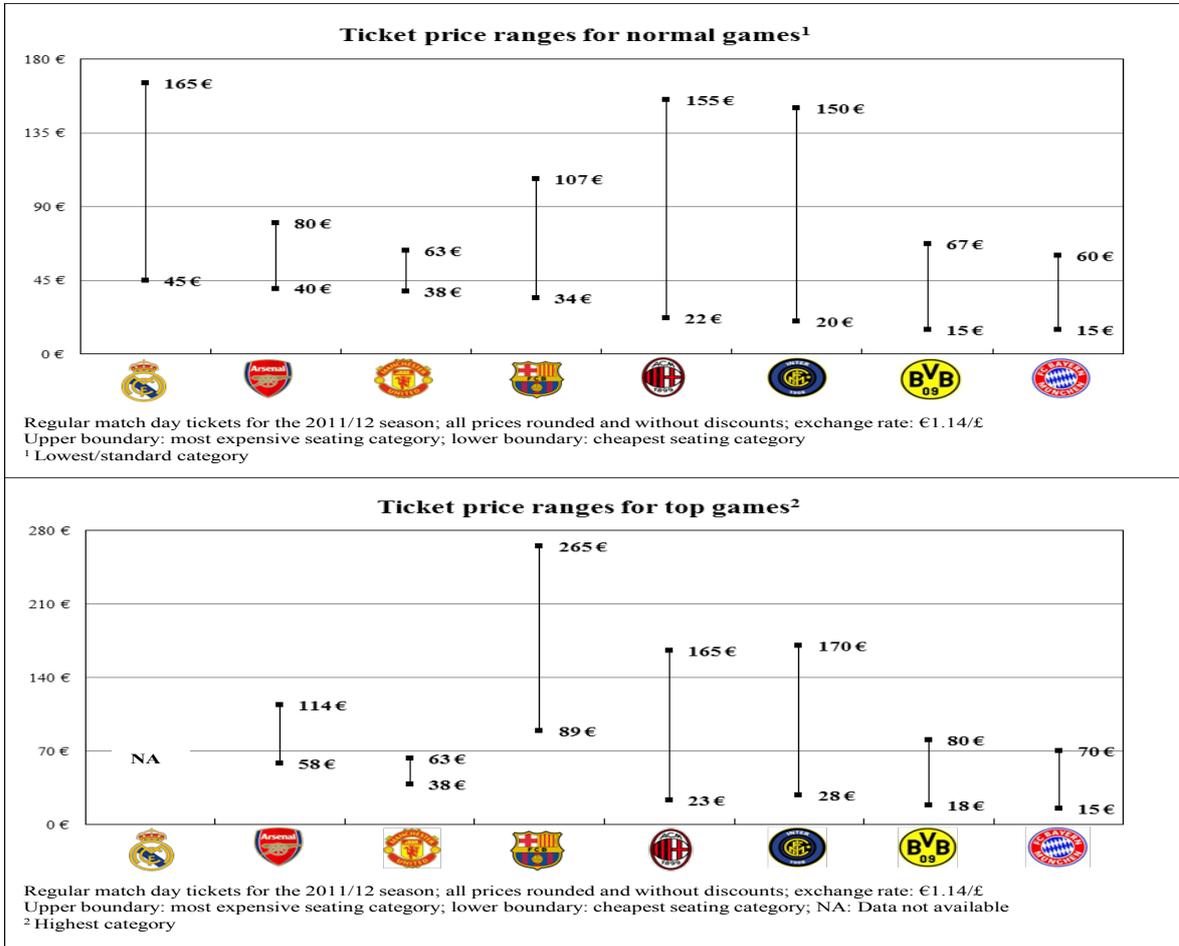


Figure 3. Comparison of ticket prices among European top clubs

The record Bundesliga champion Bayern Munich is one of the most successful teams in European football and competes for the Bundesliga and Champions League title every year. In the first half of the 2011/12 season the club reported sell-outs for all of its 8 home games. English powerhouses Manchester United and Arsenal London sell their tickets at premium prices relative to these two Bundesliga clubs.¹ However, those prices are still reasonable compared to the prices quoted by top clubs in Spanish and Italian football and allow for almost perfect stadium utilisation (see Figure 4). The four Bundesliga and Premier League clubs have an (almost) perfect utilisation, whereas both Milanese clubs play their home game in front of half-empty ranks. Real Madrid C.F. and the FC Barcelona charge premium ticket prices and still achieve relatively high ticket sales thanks to great sporting success and highly enthusiastic and loyal fans.

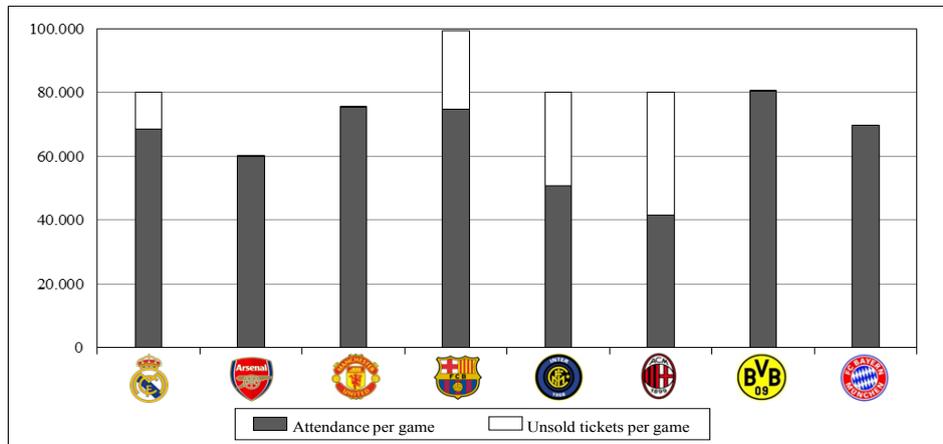


Figure 4. Comparison of stadium utilisation among European top clubs

¹ English stadia only have seats, no stances. This partially explains the considerably higher prices at the lower end.

3.2. Game Day and Season Ticket Pricing

How ticket prices compare among the 18 Bundesliga teams is illustrated in Figure 5.

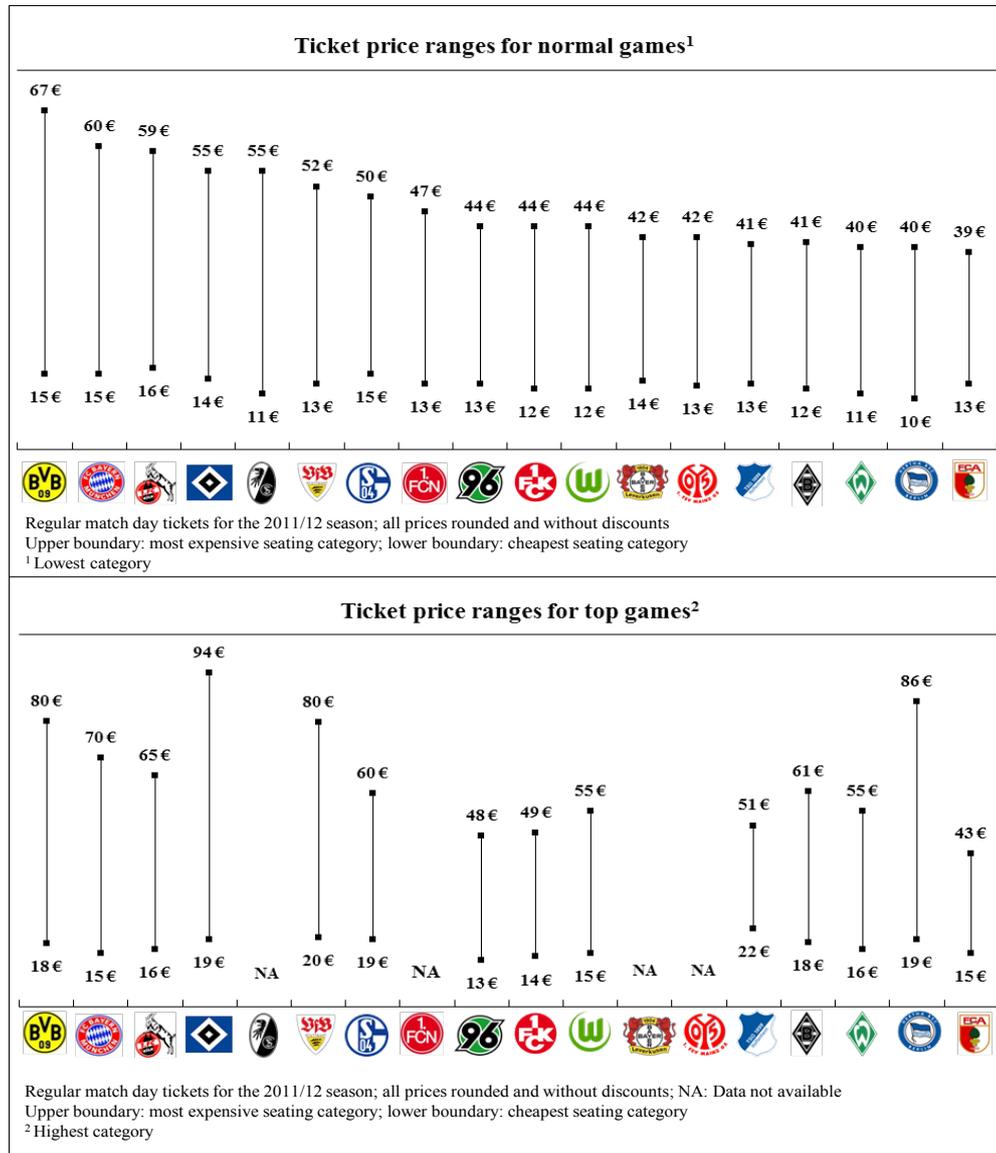


Figure 5. Comparison of ticket prices among Bundesliga clubs

Borussia Dortmund quotes the highest ticket prices for normal games (without top-game surcharges). Astonishingly, the 1.FC Cologne charges the same prices for its games as German powerhouse Bayern Munich. Hertha BSC Berlin, one of two newly promoted teams, offers the cheapest tickets at €10. Interestingly, ticket prices for the lowest seating category, i.e. the standing section, are all between €10 and €16.² Ticket prices vary more strongly for top games, as clubs charge very different surcharges for their home games against the most prestigious and attractive opponents. Especially, the Hamburger SV and Hertha BSC Berlin capitalise on strong ticket demand for their home games against Bayern Munich and charge up to 70% and 115% more compared to their games against the FC

Augsburg and the SC Freiburg.

Bundesliga clubs have strong fan bases, a prerequisite for strong ticket demand. As a result, close to 27,000 season tickets were sold on average per team prior to the 2011/12 season – a new Bundesliga record [14]. Figure 6 illustrates the proportion of season and match day tickets to total capacity for each club. Borussia Dortmund sold 53,000 season tickets until the end of July, 2011 – the most season tickets of all clubs. In fact, Dortmund set once again a new club and Bundesliga record for season tickets and stopped sales early after reaching its self-imposed limit. The 1. FSV Mainz 05 sold the most season tickets relative to total capacity (3 out of 4 seats are reserved for season ticket holders), while Hertha BSC Berlin sold the least (1 in 4 seats).

² Only two clubs in the Bundesliga have only seats in their stadium, namely Hertha BSC Berlin and Bayer 04 Leverkusen.

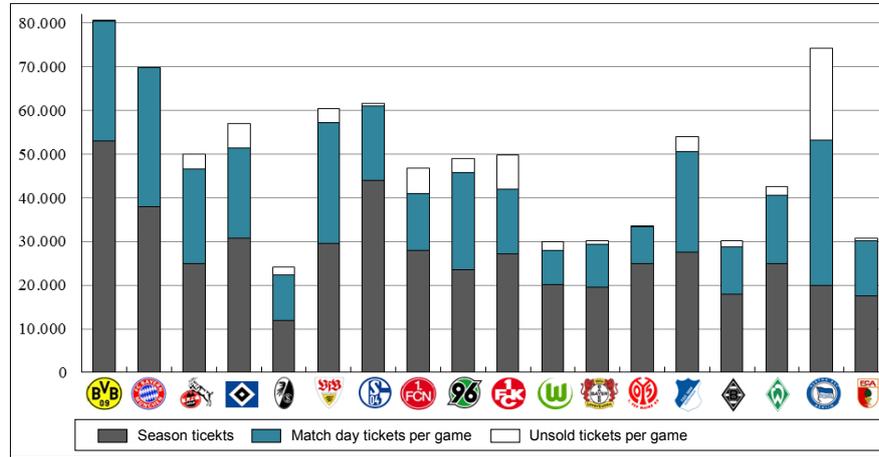


Figure 6. Stadium capacity and utilisation in the Bundesliga

In total, 55% of all seats available in the Bundesliga were sold already weeks ahead of the 2011/12 season kick-off. Some clubs such as Borussia Dortmund and Bayern Munich have excess season ticket demand and still offer generous discounts. Figure 7 summarises season ticket discounts granted by the 18 Bundesliga clubs. Borussia Dortmund offers about 30% discount on all seating categories and Bayern Munich tops the chart with 53% discount on tickets for its standing section.

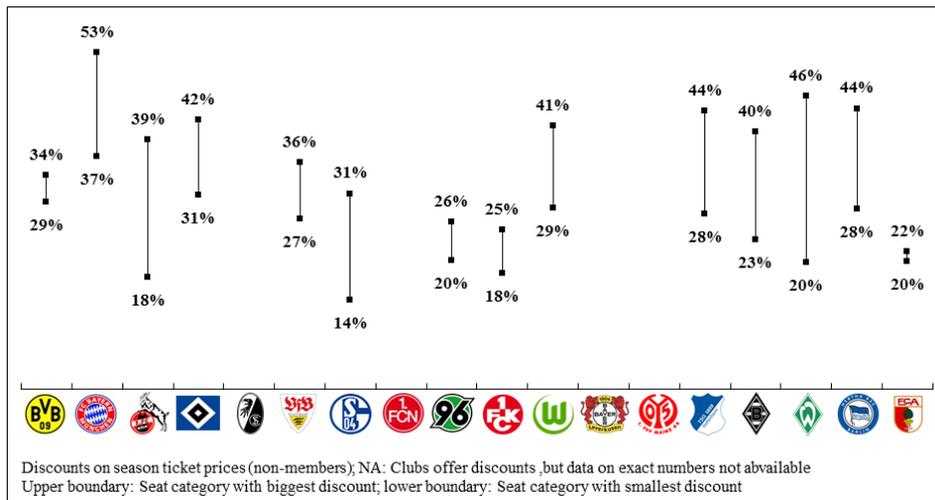


Figure 7. Season ticket discounts offered by Bundesliga clubs

The question is why season ticket holders get tickets for half-off, although since tickets are in extremely high demand. Bayern Munich has long waiting lists for its season tickets and match day tickets are often sold for more than twice the face value on the secondary market. Due to the high number of Bundesliga season tickets, those discounts have a strong negative impact on the clubs' bottom lines. For instance, if on average each Bundesliga season ticket sold was under-priced by €20 (less than €1.2 per game), then roughly €10 million in consumer surplus would have been left on the table – certainly a benefit for fans but also high opportunity costs for clubs.

3.3. Forms of Price Discrimination

Price discrimination allows service firms to consider differences in willingness to pay and to capture additional

consumer surplus [9, 21, 27]. Football clubs satisfy all requirements for effective price discrimination, such as the ability to group fans into different segments and the possession of a certain degree of monopoly power. Fans are extremely heterogeneous and differ strongly according to geographic, demographic, psychographic, and behavioural variables [3]. Bundesliga clubs respond to differences in a fan's ability and willingness to pay by charging different prices for tickets, e.g. according to the location of the seat in the stadium and the attractiveness of the opposing team. The different forms of price discrimination and their use by Bundesliga clubs will be assessed in the following.

3.3.1. First-degree Price Discrimination

Individual price discrimination would require clubs to auction their tickets, i.e. to sell tickets to the bidder with the highest willingness to pay. So far ticket auctions have not

been practiced by clubs in European football (the primary market). In contrast, the secondary market has realised the profit potential of the ticket bidding process. As a result, ticket brokers capture the consumer surplus (i.e. additional profit) that could have been gained by clubs beforehand.

3.3.2. Second-degree Price Discrimination

Bundesliga clubs respond to the heterogeneity of fans by segmenting their stadia into differently priced sections. The total number of those seating categories varies strongly among clubs (see Table 1). Fans of TSG 1899 Hoffenheim, for instance, can only choose among three differently priced categories. It is very unlikely that differences in willingness to pay are efficiently captured by Hoffenheim, as the quality of the seats (i.e. the view to the pitch) differs strongly within each category. In contrast, Borussia Mönchengladbach offers tickets at 10 different prices, a set of prices that allows fans to choose tickets according to ability and willingness to pay. Clubs can increase the value of a seat, e.g. by improving seat comfort. 1. FSV Mainz 05 offered comfortable leather seats to some of their home games without any hospitality service attached to it. The higher prices for the ticket (1st category: €50 vs. €42) reflects the improved seating comfort.

A third form of price discrimination applied by Bundesliga teams is price bundling. All clubs offer season tickets which is a form of mixed price bundling. Fans have the choice of either buying tickets for each game

individually or in one package at a discount. Some teams, who did not reach their full-season ticket limit prior the season, also provide fans the option to buy packages for the second half of the season. 1. FC Cologne and Bayer 04 Leverkusen additionally offer two or three match ticket packages. Surprisingly, those packages are not sold at a discount compared to single ticket prices, so there is no monetary benefit to the buyer. Such a non-discount package will only be of value to the buyer, if buying the package grants exclusive admission to a high-demand game, i.e. if tickets for a top game are only available in the package (pure bundling). In that case, bundling an attractive game (with low-elasticity of demand) with an unattractive game (with high elasticity of demand) will increase total ticket sales. However, such a practice will most likely trigger negative fan response and urge fans to sell undesired ticket on the secondary market.

3.3.3. Third-degree Price Discrimination

All Bundesliga clubs segment fans based on demographics such as age and status. Clubs offer discounts for students, unemployed, pensioners, and families. For instance, VfL Wolfsburg reserves one section in its stadium exclusively for families and offers inexpensive tickets for children and accompanying adults. Further, clubs charge different prices related to date of the game. For example, some teams charge a surcharge for the last game of the season which often involves a high-level of thrill.

Table 1. Second degree price discrimination in the Bundesliga

	Club	No. of categories		Ticket packages	
		Seating	Game	Season	Multi-game
	Borussia Dortmund	6+	2	Yes	No
	FC Bayern Munich	5	2	Yes	No
	1. FC Cologne	6+	3	Yes	Yes
	Hamburger SV	6	4	Yes	No
	SC Freiburg	6+	1 or 2	Yes	No
	VfB Stuttgart	6+	4	Yes	No
	FC Schalke 04	4	2	Yes	No
	1. FC Nuremberg	6+	1 or 2	Yes	No
	Hanover 96	6	2	Yes	No
	1. FC Kaiserslautern	6+	2	Yes	No
	VfL Wolfsburg	6+	2	Yes	No
	Bayer 04 Leverkusen	6+	1 or 2	Yes	Yes
	1. FSV Mainz 05	6+	1 or 2	Yes	No
	TSG 1899 Hoffenheim	3	3	Yes	No
	Borussia Mönchengladbach	6+	3	Yes	No
	Werder Bremen	6	3	Yes	No
	Hertha BSC Berlin	6+	4	Yes	No
	FC Augsburg	4	2	Yes	No

3.4. Ticket Pricing and Fan Acceptance

Fans are the lifeblood of any football club. A club without a loyal fan base will play in front of empty ranks and, thus, not be of any interest for sponsors and the media [3, 4]. The core product of any football match is arguably the competition between the two teams on the pitch. Yet, fans take on the role of a co-producer since production and consumption of the service (i.e. the football match) occur simultaneously [19, 22, 32]. They are responsible for the atmosphere in the stadium and can transform a high-quality football match into an exceptional game day experience. To conclude, clubs depend heavily on fans in order to generate revenues from match days, commercial activities and broadcasting.

The strong position of fans in football results in a certain degree of bargaining power. For example, no club in the Bundesliga charges €20 or more for a ticket in the standing section. This is the result of a fan campaign called “Kein Zwanni für nen Steher” (twenty Euro for standing – no way) that was initiated as a reaction to the pricing of the derby between Borussia Dortmund and FC Schalke 04 on September 19, 2010 [16]. In that season Borussia Dortmund charged a surcharge of 50% on ticket prices in order to capitalise on the enormous demand for that prestigious match-up. However, the surcharge raised ticket prices for the standing section above €20 and led to a fan boycott of the derby. The campaign is still active and regularly boycotts games in order to call a halt to increasing ticket prices [29].

The example above illustrates that ticket pricing can be a very sensitive topic among fans and trigger undesired fan response. Clubs should avoid giving fans the feeling that ticket prices are opportunistic. Especially, the club’s most loyal fans and supporters know exactly what they have paid for games in the past and will compare new and old prices. Clearly, clubs should not endanger their healthy and valuable relationships with their most loyal fans by charging unreasonable high prices. Still, fans differ strongly in the ability and willingness to pay. Clubs need to identify differences in price elasticities among customer groups and price tickets accordingly.

3.5. Recommendations

The analysis of ticket prices has revealed several inefficiencies in clubs’ ticket pricing strategies. The following recommendations could be derived from the analysis and might translate into better pricing decisions.

3.5.1. Understanding the effects of any price change

Before changing ticket prices, clubs need to know the impact of any price de- or increase on ticket demand. Changing prices in one section might affect ticket sales in another part of the stadium. Fans are very heterogeneous and have different willingness to pay. Clubs need to analyse the price elasticities of different fan segments. Supporters in the standing section have different price elasticities than corporate fans in the VIP section that might not even pay the bill themselves. In addition, clubs need to resist the

temptation to offer generous discounts. Rampantly discounting season tickets may fill the stadium, but also harm the bottom line.

3.5.2. Knowing the perceived value of a ticket

Fans take many different factors into consideration when making a ticket purchase decision. Clubs need to identify these factors and incorporate them into their price setting decision. Analysing data and accurately forecasting demand for each game will result in better pricing decisions and additional profits.

3.5.3. Taking advantage of dynamic pricing

Clubs set ticket prices months before the actual game takes place. As a result, prices cannot be adjusted to fluctuations in demand. In addition, many teams divide opponents into two or more price categories ahead of the season. However, a team that played well in the previous season might not do so in the following season and vice versa. Some teams already apply a more dynamic approach and publish their classification shortly before tickets go on sale. The ultimate revenue and profit potential of dynamic pricing can be witnessed on the secondary market. Table 2 shows a random selection of eBay auction prices for Bayern’s home game against FC Schalke 04 on February 25, 2012.

Apparently, the buyers’ enormous willingness to pay was driven by two factors: First, the attractiveness of the opponent, and second, the time of the ticket purchase. In fact, auctions ended shortly before Christmas and tickets were purchased as gifts for friends or family. The original prices quoted by Bayern did not reflect either factor. Dynamic pricing would allow for ticket price adjustments according to actual demand and provide teams a tool to compete with the secondary market. Dynamic pricing/revenue management as a future ticket pricing strategy will be discussed extensively in the following section.

4. Implications for Future Ticket Pricing in European Football

Clubs in European football apply different forms of variable pricing, but have great potential to manage stadium capacity more profitably by setting prices according to actual demand. Revenue management is an effective tool, initially applied by the US airline industry, to optimise overall pricing and hence drive revenues and profits. Recently, revenue management has gained widespread acceptance in major U.S. sports in the form of dynamic pricing.³ In the following section, the concept of revenue management will be presented. It serves as a basis for the following section on dynamic pricing in sports and a discussion, whether dynamic pricing can also be an effective profit engine for teams in European football.

³ The term revenue management (or yield management) is mostly used in scientific literature on the airline and hotel industry, whereas the term dynamic pricing is primarily used in context of the live entertainment industry.

Table 2. Bayern Munich – eBay ticket prices

Seating cat.	Ticket face value	Ebay bid price	No. of tickets	Bid price/ticket	Mark-up	Auction end
1	70€	351.00 €	2	175.50 €	151%	17.12.2011
		426.00 €	2	213.00 €	204%	17.12.2011
		367.00 €	2	183.50 €	162%	17.12.2011
		406.00 €	2	203.00 €	190%	18.12.2011
		302.01 €	2	151.01 €	116%	18.12.2011
		451.00 €	2	225.50 €	222%	18.12.2011
		386.14 €	2	193.07 €	176%	19.12.2011
		401.99 €	2	201.00 €	187%	20.12.2011
		300.00 €	2	150.00 €	114%	20.12.2011
		401.00 €	2	200.50 €	186%	21.12.2011
2	60€	301.00 €	2	150.50 €	151%	17.12.2011
		327.14 €	2	163.57 €	173%	18.12.2011
		327.14 €	2	163.57 €	173%	18.12.2011
		305.89 €	2	152.95 €	155%	18.12.2011
		308.98 €	2	154.49 €	157%	18.12.2011
		383.12 €	2	191.56 €	219%	19.12.2011
		351.00 €	2	175.50 €	193%	21.12.2011

4.1. Revenue Management

Revenue management is a tool for managing capacity in a profit maximising way. More precisely, it is the utilisation of information technology systems and pricing strategies allowing businesses to allocate the right capacity to the right customer at the right place and time for the right price [17, 30]. Revenue management considers the differences in willingness to pay among customers at the time of purchase and allocates available units of capacity to available demand in the most profitable manner. It is a more sophisticated and advanced form of price discrimination, as it forecasts real-time customer demand, and helps businesses to cope with the challenge of maximising capacity utilisation while selling at maximum prices [5, 10].

The origin of revenue management can be traced back to the late 1970s when the US airline industry was deregulated. Soon after, the first low-cost, low-fare airlines entered into the passenger airline industry [6]. By undercutting prices of major existing airlines, the new entrants successfully enticed price-sensitive customers who had not been served by airlines yet. When the low-cost carriers further expanded into the key markets (main air routes) of the industry's big players, American Airlines decided to compete with the increasing threat by allocating some low-fare tickets to price-sensitive customers while maintaining full fares to time-sensitive business travelers [24, 31]. The implementation of revenue management turned out to be a major competitive advantage. It resulted in significant revenue boosts for American Airlines and was quickly taken up by all other major airlines, such as Delta and United. Today, revenue management is not only a proven method in the airline industry, but also common practice in various other industries, such as the hotel and car rental

industry.

4.2. Dynamic Pricing in Sports

To date, revenue management has not been applied by European football clubs and not even been publicly discussed as a future ticket pricing strategy. The picture is very different in the US sports market. In 2009, the San Francisco Giants, a Major League Baseball (MLB) team, became the first sports team to implement a dynamic ticket pricing system, similar to revenue management systems used by airlines and hotels. After successfully experimenting with 2,000 dynamically priced seats, the Giants adopted dynamic pricing to all single-game seats available in their ballpark in 2010 [2]. Following the lead, dozens of teams from different US sports leagues, such as the MLB, National Basketball Association (NBA), and National Hockey League (NHL), have adopted dynamic pricing in 2011.

Dynamic pricing involves the application of sophisticated pricing software that helps teams to accurately set and adjust ticket prices in real-time based on past price performance, current sales levels, and future sales projections. In a dynamic pricing system, ticket prices are no longer set at the beginning of each season, but constantly adjusted to variables such as the winning record of the home team, the attractiveness of the opponent, days left until game day and the weather forecast [15]. Variables that are also factored in by fans when making a ticket purchase decision and that determine the true, market-based value of a ticket. Dynamic pricing helps teams to compete with the secondary market by capturing some consumer surplus for high-demand games themselves. Additionally, it provides teams the flexibility to increase attendance for low demand

games, by offering tickets at discounted prices.

4.3. Conditions for Revenue Management in European Football

Cross [5] states that revenue management can be successfully applied to every kind of business. Still, certain conditions are necessary for the adequate adoption of revenue management. Whether the European football industry meets these conditions has to be pointed out:

Constrained capacity: Clearly, the capacity of a football stadium is constrained and only a limited number of fans can attend each game. In the case of a sell-out, a club cannot simply add further seats to the stadium in order to match excess demand. Extending capacity requires major rebuilding and implies high costs.

Customer segments: Football clubs have a very mixed range of customers or fans, from the loyal supporters, to the occasional one-off game fan and the hospitality customer. The heterogeneity of fans implies a very different willingness to pay and is the basis for effective customer segmentation.

Perishable inventory: The seating capacity in football stadiums is highly perishable. The ticket for a particular game loses its complete value once the game is over. The ticket cannot be resold and represents a loss in revenue. While an airline operates a flight route several times a day, a football club faces most league opponents only once a year at home.

Advance sale or booking: Most tickets are sold well ahead of game day. In the case of season tickets, tickets are sold up to 10 months before the actual game takes place. Additionally, match day tickets are often sold out many weeks prior to game day, especially in the German Bundesliga. Thus, fans often cannot leave the ticket purchase decision as late as match day.

Fluctuating demand: Demand for different games fluctuates depending on different factors, such as day of the game, e.g. weekend games vs. midweek games and strength or prestige of the opposing team.

Low marginal sales costs: Fixed costs take the lion's share of a club's total cost. The cost associated with an additional fan in the venue is close to zero and gives clubs the flexibility to reduce prices in times of low demand.

This examination leads to the conclusion that European football clubs show all main characteristics necessary for the effective use of revenue management, just like the airline industry does. Yet, revenue management in the airline industry can not directly be transferred to the European football industry, because airlines take advantage of travellers who book a flight at short notice and whose willingness to pay strongly correlates with the degree of urgency. Time-sensitivity is less a factor in the case of football fans.

4.4. Opportunities and Threats of Dynamic Pricing for European Football

With variable pricing, football clubs are required to set ticket prices prior to the season with no ability to adjust prices according to demand. In contrast, dynamic pricing gives teams the flexibility to change prices throughout the season. More precisely, it provides the opportunity to increase revenue either by selling more tickets for low-demand games or by selling tickets at higher prices for high-demand games. In the following, the opportunities and threats of dynamic pricing will be discussed for football clubs with low capacity utilisation and with high capacity utilisation (low capacity utilisation refers to football clubs whose ticket supply exceeds demand (no sell-outs), whereas high capacity utilisation refers to football clubs whose ticket demand exceeds supply (regular sell-outs)). Additionally, important implications for how to manage dynamic pricing will be derived from this discussion.

4.4.1. Football Clubs with Low Capacity Utilisation

In the case of low utilisation, prices of unsold game tickets exceed the willingness to pay of potential buyers. A ticket or seat is highly perishable and every unsold seat represents a loss of potential revenue.

Opportunities: Dynamic pricing gives clubs the option to decrease ticket prices according to demand and, thus, increase ticket sales and capacity utilisation [25]. Due to variable costs close to zero, an increase in ticket sales does not only drive the club's incremental revenue, but directly transforms its bottom line. Furthermore, with every additional supporter in the venue comes the opportunity for cross-selling. Examples include additional sales from food and beverage concessions, from parking or from merchandising articles. Besides, discounted ticket prices might attract new fans and, in the best case, turn them into loyal supporters. With every additional fan, the atmosphere in the stadium is likely to improve, resulting in a better game-day experience for everyone. Clearly, the better the perceived experience, the higher is the probability that a fan will return to the stadium for future games.

Threats: The downside of dynamic pricing for clubs with low utilisation is the potential risk of losing dissatisfied season ticket holders and offended fans that paid a higher price than their seat neighbours for basically the same view. Apparently, season ticket holders are excluded from dynamic pricing, as they buy all tickets packaged prior to the season. If prices for individual game day tickets fall below what season ticket holders pay for their ticket, then the incentive for buying a season ticket upfront is eliminated. Generally, fans may perceive the practice of charging different prices to different fans as unfair and, in the extreme case, boycott future games. Losing valuable season ticket holders and fans would endanger the club's long term success and put a quick and costly end to dynamic pricing.

Implications: Firstly, and most importantly, clubs need to protect season ticket holders. Qcye Inc., a leading provider of dynamic pricing software, makes sure that season ticket holders are getting the cheapest tickets for each game by

incorporating a price floor for all single-game tickets into its system [20]. Additionally, clubs can ease the threat by offering additional value to season ticket holders, such as exclusive access to the team. The threat of losing season ticket holders differs among leagues. In the German Bundesliga, for example, the threat is relatively low as season ticket holders enjoy generous discounts of up to 50%. Secondly, clubs need an effective communication strategy that discusses the new pricing system and explains fans how they will benefit from dynamic ticket pricing. In the case of the San Francisco Giants, dynamically priced tickets for 75% of all games had prices at or below the previous season [23]. Clubs with low capacity utilisation need to focus their communication on the positive message that ticket prices to low-demand games will actually be cheaper than before. Besides giving fans better deals for tickets, dynamic pricing will fill the stadium and give fans a better overall game-day experience.

4.4.2. Football Clubs with High Capacity Utilisation

In the case of high utilisation, ticket prices might not capture the market value of tickets in demand. The fans' willingness to pay might exceed the tickets' face price which represents a tremendous revenue opportunity for clubs.

Opportunities: Dynamic pricing gives clubs the valuable option to increase ticket prices according to demand and, thus, to capture some consumer surplus. In its 2010/2011 championship-winning season, the Bundesliga club Borussia Dortmund registered more than 400,000 ticket purchase requests for its final home game. Although this is an extreme case, it does illustrate the ultimate revenue potential of dynamic pricing. For clubs with regular sell-outs and excess ticket demand, dynamic pricing represents a tremendous revenue opportunity. Since those clubs cannot adjust capacity to demand without major rebuilding costs, price is their one and only driver of ticket revenue. The fans' significant willingness to pay for premium games can be observed on the secondary market, such as online ticket exchange viagogo or online marketplace eBay. As already pointed out (see Table 2), fans are willing to pay a mark-up (of 200% and more) based on variables such as attractiveness of the opposing team. Dynamic pricing gives clubs a tool to compete with the strong secondary market by capturing some of the consumer surplus upfront, that otherwise would have been gained by fans and arbitrageurs, i.e. ticket scalpers [26].

Threats: The main threat of dynamic pricing is the fans' perception of price fairness. As pointed out previously, dynamic pricing will provoke customer response and lead to dissatisfaction among buyers. Unrelated to the absolute prices quoted and the tickets' market-value, fans will compare current prices to past prices and perceive higher, profit-enhancing prices as unacceptable. Ultimately, fan initiatives might employ their bargaining power and threaten to boycott future games, if the club does not return to the old pricing scheme. In addition, a poor or imperfect

dynamic pricing system may result in random, untargeted pricing. Selling overpriced tickets results in lower capacity utilisation and, hence, eradicates the revenue benefits gained from the increased prices.

Implications: Firstly, dynamic pricing should only be applied by clubs that understand the effect of any price change they make. Otherwise, changing prices constantly might be a very risky practice, as pointed out above. Secondly, dynamic pricing should only be employed by clubs that are run as a business and highly committed to increasing revenues and profitability. Dynamic pricing is a sophisticated practice and a revenue-enhancing strategy first and foremost. However, installing a dynamic pricing system to increase profits from ticket sales does not implicitly mean to maximise profits by squeezing every euro out of every fan. Clubs rather have the option to set price ceilings to maintain reasonable prices, just like they can set price floors to protect season ticket holders [11]. Finally, clubs need to be very proactive with the media from the beginning and communicate the benefits of dynamic pricing to the fans. Research on revenue management in the airline industry suggests that perceptions of unfair prices decrease with proper education [18]. As fans become more familiar with dynamic pricing, negative responses are likely to fade.

4.5. Directions for Future Research

According to experts and league officials, dynamic pricing will soon become the industry standard in US sports [2]. Due to promising results from the San Francisco Giants and other early adopters of dynamic pricing, more and more US sports teams switch to a dynamic pricing system. In the next years, results from dozens of teams in different sports will provide more valuable information about the real impact of dynamic pricing on ticket revenues. To capitalise on opportunities and overcome threats of dynamic pricing, further research should address the following issues:

Fan alienation: The unresolved question is how fans will react to the implementation of dynamic pricing. Research in dynamic pricing should address fan alienation and analyse whether dynamic pricing poses a serious threat to fan loyalty in the long-term. Football club managers have been reluctant to adopt dynamic pricing due to this concern. If fans get used to dynamic pricing of football tickets, just like customers did in the case of airline tickets, dynamic pricing will also be the future of ticket pricing in European football.

Pricing variables: The algorithms behind dynamic pricing in major league baseball do not perfectly apply to Bundesliga or Premier League football. Certainly, variables that drive fan purchase decisions in baseball differ from those factors that drive fan purchase decision in European football (for instance, baseball fans often go to one particular game to watch their favourite pitcher in action – in European football fans rarely make their ticket purchase decision solely based on one individual player of the opposing team). Future research should address this concern and study the true variables that European football fans

consider when making a ticket purchase decision. Clubs that consider implementing dynamic pricing should conduct individual research on the buying behaviour of their fans beforehand. Ultimately, incorporating the right variables into the system (and weighting them correctly) will result in more profitable pricing decisions.

Multiplier effects: As pointed out previously, fans do not only spend money on tickets. Sold tickets lead to additional sources of match-day income, such as parking fees, merchandising articles, food and drinks. Dynamic pricing systems need to address these multiplier effects of every additional ticket/seat sold. Eventually, incorporating cross-selling factors into the system will allow for more accurate pricing decisions and revenue projections.

5. Conclusion

Price is the most effective profit driver and better pricing decisions can drive revenues and profits up without any investment upfront. Mispricing does have a very negative impact on the clubs' bottom lines. This paper has highlighted the fact that German Bundesliga clubs are unable to capitalise on ticket sales due to inefficient pricing. Especially, the league's powerhouse Bayern Munich offers strikingly low ticket prices, given the excess demand for all its Bundesliga games. The Bavarian club is run as a business and arguably one of the most successful teams in European football. For some inexplicable reason, the club does, however, not capitalise on ticket sales, leaving good money on the table.

Bundesliga clubs set their ticket prices already months ahead of the season, taking away the flexibility to adjust prices according to actual demand. Fans take into consideration many factors when making a ticket purchase decision such as attractiveness of the opponent or time of the game. These variables change in the course of the season, driving the fans' willingness to pay up and down. Ticket scalpers take advantage of under-priced tickets by reselling them at profits on the secondary market. The paper assessed the transferability of revenue management to European football. Dynamic pricing is on the edge of becoming an industry standard in US sports. It gives teams more flexibility to change prices according to demand, thus, eliminating inefficiencies in ticket pricing. The analysis confirmed that European football shows all characteristics necessary for effective revenue management. Hence, it can only be a matter of time before dynamic pricing will also find its way to the big arenas in European football.

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