MODELLING THE EUROPEAN FOOTBALL DEMAND FOR THE 2014/2015 SEASON

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ÖZET

Spor ekonomisi literatüründe, seyirci sayısını etkileyen faktörleri tespit etmek son yıllarda, önemli bir ilgi alanı olmuştur. Son yıllarda hızla büyüyen spor endüstrisi, takımları firmalara, oyuncuları girdilere ve seyircileri müşterilere dönüştürmüştür bu sebeple eğer müşteri olmaz firmalar hayatta kalamaz. Çin'den Brezilya'ya dünyanın dört bir yanında, Avrupa'nın büyük liglerindeki maçlar naklen yayınlanmaktadır. Tribünleri doldurma konusunda İngiltere Premier Lig'i ve Alman Bundesliga son derece başarılıyken, Fransız ve İtalyan ligleri bunu başaramamaktadır. Bu çalışma Avrupa'nın 5 Büyük Lig'inde tribün doluluk oranlarını etkileyen faktörleri saptamayı denemektedir. Etkin faktörler saptandıktan sonra, tribünlerdeki seyirci sayısını arttırmak için de kullanılabilirler. Tribünlerin doluluğu, Avrupa futbolunun sürdürülebilirliği açısından son derece önemlidir. Taraftarlar, takımlarını seyretmek ve desteklemek için para ödemeye devam ettiği sürece endüstri var olmayı başaracaktır. Çalışmanın sonucunda, azalan önem sırasına göre, şu faktörlerin talep üzerinde etkin olduğu saptanmıştır: ortalama bilet fiyatının kişi başı yıllık gelire oranı, lisanslı futbolcu sayısının nüfus içerisindeki oranı, ligdeki rekabet seviyesi, ev sahibi takım tarafından toplanan puan, sezon başında lig atlamış olmak ve televizyonda naklen yayınlanan maç sayısı.

ABSTRACT

Identifying the influential factors on the demand for spectating sports has been a major area of interest for numerous scholars in recent years. The rapid growth of the sports industry in last decades has converted the clubs to firms, players to inputs and fans to customers; hence as in any sector in the absence of customers there is no point of operating the firms. Millions of people are watching the major European league games live, every week from China to Brazil. In Europe, English Premier League and German Bundesliga are the most successful in terms of attracting the crowds to the stands, whereas France and Italian leagues are failing to do so. This paper tries to identify the influential factors on the demand for football in the top five major European leagues- English, German, Spanish, French and Italian- utilizing the tools of econometrics. Once influential factors are identified they can be used to increase the attendance levels which would enable the sustainability of the football industry in Europe and that is the main motivation behind this paper. The industry will stand if and only if fans keep on paying to watch and support their teams. This study reveals that, listed in the order of descending importance, the ticket prices as ratio of average annual personal income, ratio of licensed football players in a country to its population, the level of competition in the league, the number of points gathered by home team, being promoted to the top division and the number of televised games every week are influential factors on the demand for football.

1. INTRODUCTION

Conventional economic theories suggest that the demand for a good will decrease when its price increases, however when it comes to football the rationality assumption of consumers might not hold. Children are named after top scorers, special days get forgotten and events get rescheduled all because of football. Cristiano Ronaldo once said "without football my life is worth nothing" and he is not the only one feeling this way. Many people all around the world share the same emotions with him, however even this much love and passion is not enough to fill the stadiums sometimes. Why and how German and English teams manage to attract the crowds every week when French and Italians fail to do so?

Figure 1 provides the average attendance rates for the 2014/2015 season and it can be seen that English Premier League is the most successful one and Italy has the lowest average attendance levels among the five major leagues in Europe. This study aims to determine the influential factors on demand which would provide an explanation for the differentiation among the leagues in attendance levels.

Figure 1. Average Capacity Utilization
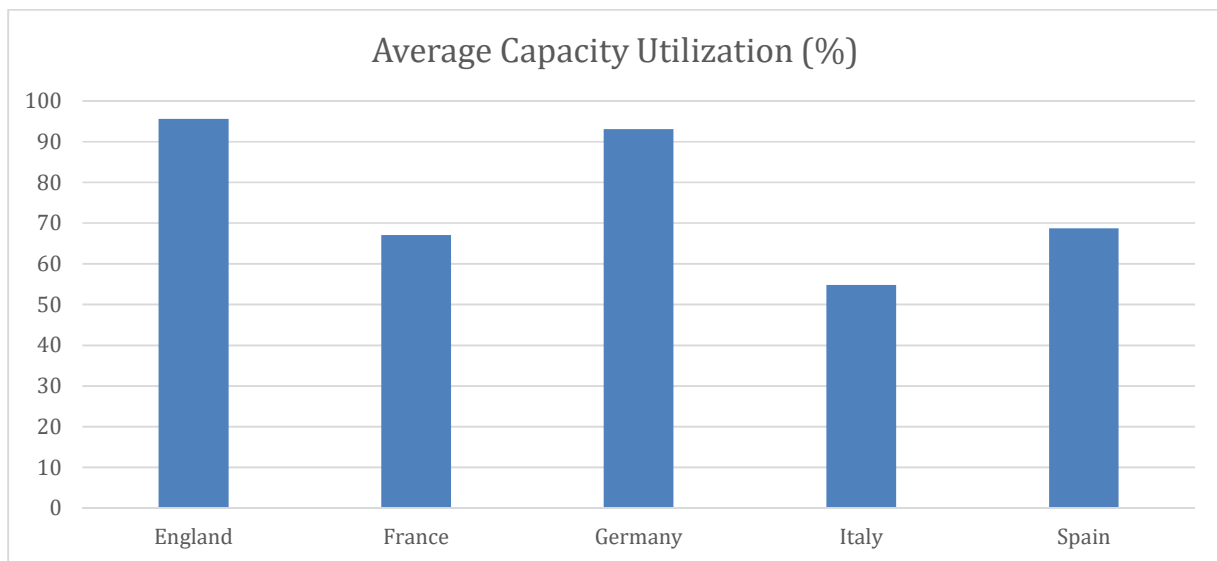
The fans not only enhance team performance by motivating players (Borland ve Macdonald 2003) and creating a home side advantage but also generate revenue for the team as also mentioned by Buraimo (2008). Even though match day revenues are no longer the most important sources of revenue for some clubs such as Real Madrid, Manchester United or Bayern Munich (Deliotte - Sports Business Group 2014), due to the broadcasting agreements and sponsorship deals, the survival of clubs with smaller reputation still depend largely on match day revenues and fans. On the other hand, the main reason behind the billion euro sponsorship and broadcasting deals is the millions of people which can be reached through football teams. If the interest in football is lost and the teams fail to attract the crowds to the stands, the billion euro deals will no longer be available even for the biggest clubs. In some lower reputation European leagues, such as Austrian Bundesliga, Swiss Super League or Greek Super League, policy makers have tried different league formats to increase uncertainty in

outcome of the championship and increased attendance with some success (Pawlowski & Nalbantis, 2015).

This is why determining the factors for football demand is crucial for teams and policy makers in football. Once the factors are determined they can be used to increase the stadium attendance levels. A cross-sectional data analysis will be made for the 2014/2105 season for the 98 teams in the top 5 European Leagues (England, France, Germany, Italy and Spain) for investigating the factors which are influential on the demand for football. The 5 leagues will generate 5 blocks of observations and once the influential factors are distinguished, the cross-sectional league blocks will enable comparing and contrasting the leagues as well as the teams. The comparison among the leagues will enable the determination of country wise effective policies. These 5 leagues are leading the world football industry in terms of quality and value, determining the influential factors on attendance levels in these leagues would be beneficial for the world football since similar policies can be applied to other leagues as well.

Numerous studies have been made regarding factors affecting stadium attendance for different types of sports, from college football to rugby (Fizel & Bennett, 1989; Baimbridge, Cameron & Dawson, 1995). Filling stadiums is one of the main concerns for scholars, policy makers, club owners or whoever slightly interested in any kind of sport because they all know that the wheels won't turn without the fans in the stands. In the case of European football, (Barry 2015), Buraimo (2008) and Forrest & Simmons (2006) have all provided empirical evidence regarding the determinants of stadium attendance. These studies have common characteristics such as uncertainty in the result of the game, recent performance of the performing teams and physical conditions such as the time of the game, the location of venue etc. This study puts emphasis on internal determinants regarding the football game itself, such as the number of goals scored, points collected and transfers made rather than external factors such as the time of the game, the location of the venue or the conditions of the stadium.

The complexity of football demand makes the modelling process quite challenging. The factors related to football and related to conventional demand theories should be analyzed in detail for being able to construct a model. Every fan of every team from every country all have one common wish which is to see their team succeed. For some teams; success is winning continental titles whereas for some avoiding relegation is something to celebrate. Football will not exist without fans which make the clubs and policy makers obliged to attract the crowds to the stadiums.

2. Data Collection & The Models

Collecting credible data and designing appropriate models are crucial for generating reliable results. Data collection is relatively easier than designing the model if reliable sources of information can be found. While trying to identify the determinants of football demand different set of variables should be used to capture the effects of different factors (Garcia ve Rodriguez 2002). In this study socio-economic, such as population in team's hometown, income, ticket prices etc. and football related factors, such as goals, the importance of the game, competition in the league etc. are used. Once the factors are analyzed and the probable influential ones are identified, they will be tested in order to measure the significance of the factors on the demand for football in the 5 major leagues.

Data regarding football is quite easy to find thanks to the internet, however the high number of available resources for data collection create credibility issues. For increasing the liability of the data, two well-known and widely utilized websites are used as the main sources of data, which are: Transfermarkt.com and Worldfootball.net. Other than these 2 websites, the official pages of the clubs in the 5 major leagues and their football associations' pages were used along with the World Bank – Database for acquiring data regarding the economic and demographic indicators of countries.

Two models have been constructed for this study and they are going to be tested using OLS which has 98 observations with cross-sectional data. The first model (Model 1) is a simpler model treating the demand for football as a regular commodity such as bread or water. Many probable influential factors regarding the football game are disregarded

Model 1 is quite similar to the one used by Késenne (2007) to model the demand for professional team sports. Késenne has used price, market size and winning percentage (as an indicator of uncertainty). The author's model is the demand function for a single team, whereas this study tries to construct the aggregate demand function for 98 teams. In this model price and market size (population of the club's hometown) and level of competition (CV) is used. Instead of using the winning percentage of each team, CVs of 5 leagues are used as proxies for uncertainty.

Model 1

$$PercentageFull = \beta_0 + \beta_1 P + \beta_2 CityPopulation + \beta_3 CV$$

$Y = PercentageFull$: Average attendance as per cent capacity for each club at home games.
$X_1 = P$: Average price for the season tickets for the 2014/2015 season.
$X_2 = CityPopulation$: The number of inhabitants in the football club's hometown. City population is used as proxy for the market size for the tickets.
$X_3 = CV$: Coefficient Variation: An indicator for the level of competition in the league which is the ratio of the standard deviation to the mean of the league table in terms of total points in the end of the 2014/2015 season $\left(\frac{\sigma}{\mu}\right)$ (Sloane, 1971)

Model 2 is a more complicated model when compared to Model 1. More independent variables are added to the model to capture the influence of a wide range of factors related to football.

Model 2

$$\begin{aligned} PercentageFull = \\ \beta_0 + \beta_1 ShareOfLicensedPlayers + \beta_2 RatioOfSpending + \beta_3 PointsHG + \beta_4 GoalsHG \\ + \beta_5 CV + \beta_6 P + \beta_7 ShareOfP \; \beta_8 TelevisedHG + \beta_9 CityPopulation \\ + \beta_{10} Promotion + \beta_{11} European \end{aligned}$$

$Y = PercentageFull$: Average attendance as per cent capacity for each club at-home games.
$X_1 = ShareOfLicensedPlayers$: Number of licensed football players in the country over the population of that country.
$X_2 = RatioOfSpending$: The transfer spending made by each club in the beginning of the 2014/2015 season divided by the team's total squad value.
$X_3 \& X_4 = PointsHG \& GoalsHG$: The points collected and the sum of goals scored & conceded at home league games for each team.
$X_5 = CV$: Coefficient Variation. An indicator for the level of competition in the league which is the ratio of the standard deviation to the mean of the league table in terms of total points in the end of the 2014/2015 season $\left(\frac{\sigma}{\mu}\right)$ (Sloane, 1971)

$X_6 = P$: Average price for the season tickets for the 2014/2015 season.
$X_7 = logP$: The natural logarithm of the average price for season tickets for the 2014/2015 season.
$X_8 = ShareOfP$: The share of the average ticket price in GDP per capita.
$X_9 = TelevisedHG$: The number of televised home league games for the 2014/2015 season.

$X_{10} = CityPopulation$: The number of inhabitants in the football club's hometown. City population is used as proxy for the market size for the tickets.

X_{11} & $X_{12} = Promotion$ & $European$: Dummy variables indicating whether the team has promoted from the second division the previous season and whether the team is going to participate in one of the European Tournaments (UEFA Europa League & UEFA Champions League) in the 2014/2015 season.

The dependent variable in the model is "average attendance as per cent capacity" for each club at home games ($PercentageFull$) rather than the number of spectators. The stadium capacities vary greatly from 6.000 (Eibar) to 99.786 (Barcelona) hence it would be unfair to measure a team's performance in filling its stadium based on the number of fans attending the games.

Some countries are just better at sports than the others, some win more Olympic medals, some win more football games, some win more basketball games and some others have more successful tennis players. Some sports are more popular in some countries where as some are not even played at all. Disregarding the physical differences, sportsmanship is a culture and countries who invest more in sports are generally more successful than others, except a few exceptions. To measure the popularity of football and the investment made in football in a country, considering the number of licensed players would be appropriate. To normalize the variances which would occur due to population differences from country to country, the percentage of licensed football players in population is used instead of the number of licensed football players ($ShareOfLicensedPlayers$).

Every fan likes to see new transfers in his/her team and the summer is one of the most thrilling parts of the season for the football fans. Fans enjoy watching expensive stars whereas a makeover in the team creates excitement, as more euros are spent fans are more eager to see their team play. To measure the influence of new transfers on the demand, an independent variable is added to model regarding the transfer spending. Instead of the amount of transfer spending, the ratio of total spending made to the team's value in the beginning of the season is used ($RatioOfSpending$). As in the case of stadium capacities, budgets and team values' differ from club to club. To compare the spending made by Real Madrid and SC Padderborn will not make sense, hence the ratio is used instead of the total sum of euros spent.

Fans want their team to win, that's the motivation in being a fan and if someone is a fan of a team it's because that person would want his/her team to win without any hesitation. In the case of football, the second best thing after a win is seeing goals, preferably scored by a fan's team, but since scoring is scarce in football compared to other sports, a goal is a rare moment in the game to enjoy football. To observe the influences of wins and goals on attendance, the points collected at home games ($PointsHG$) and goals scored and conceded ($GoalsHG$) are added to the model.

The debate over the influence of level of competition on the demand for football has been going on for a while. Some argue that as the uncertainty in the outcome of the game increases, the game would be more appealing so the demand would increase, whereas some others argue that there is not enough evidence to support such a claim (Peel ve Thomas 1988). To test the influence of the level of competition, the coefficient variation in the league table in the end of the 2014/2015 season (CV) is used in the model. The level of competition in the league will provide the seasonal uncertainty as defined by Szymanski (2003) and its influence on seasonal attendance levels will be tested.

To test the conventional economic theory, which states that the demand for a good will decrease as its price increases, the prices for the season tickets are added to the model together with the share of the season ticket price in GDP per capita. Since there are 5 different leagues from 5 different countries, the real cost of the tickets will differ from country to country due to the differences in the yearly earnings of the citizens.

The substitute good for attending a game would be to watch it on TV so the availability of the TV broadcast of football games might be influential on the demand. To test whether the availability of the TV broadcast is influential on demand, the number of televised home games ($TelevisedHG$) is added to the model.

Finally two dummies are added to the model, to test whether if the team has just promoted to the league from the lower division ($Promotion$) and whether if the team is going to be participating in European competitions ($European$) that season. Newly promoted teams might have more eager fans since playing in the top division would be a new thrill for them. Participating in European competition is an indicator that the team performed well the previous season which might motivate the fans to go to the games.

3. Findings & Discussion

The regression of the models, which were discussed in detail in the Data Collection & The Models section, yield the following results when the data is regressed using OLS estimation.

Figure 2 – Model 1 Results

[1]Dependent Variable: PercentageFull	
Constant	102,85***
	(6,86)
CityPopulation	0,000002***
	(3,15)
P	-0,0071
	(-1,31)
CV	-83,59*
	(-1,82)
Adjusted R^2	0,1
Number of observations	98

The results for the first model are not promising, out of the 3 independent variables only *CityPopulation* is statistically significant in 95% confidence which has a very low coefficient so it can be said that its influence on attendance is pretty low. The model is not successful in explaining the variation in attendance between the 98 teams in the top 5 football leagues of Europe for the 2014/2015 season even though the model is statistically significant. Both price of the tickets and the competition in the league are not statistically significant and has no influence.

Model 2, which has more independent variables added to the model to capture the influence of a wide range of factors related to football, is tested as two different models (Model 2A and Model 2B) which differ slightly.

The difference between Model 2A and Model 2B is the independent variables P and $logP$. Model 2A uses the season ticket prices as level where as Model 2B uses the natural logarithm of the prices.

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[1] *: Significant at 90%, **: Significant at 95%, ***: Significant at 99%

It's quite common to use the natural logarithm of price while modeling demand and furthermore since the dependent variable is in percentage terms it would be easier to interpret the effect of prices on demand when $logP$ is used instead of P.

Figure 3 – Model 2A Results

[2]Dependent Variable: PercentageFull	
Constant	2,9843
	(0,15)
CityPopulation	0,0000002
	(0,53)
ShareOfLicensedPlayers	481,6748***
	(6,49)
RatioOfSpending	-3,4020
	(-0,35)
PointsHG	13,5399***
	(3,81)
GoalsHG	2,2850
	(0,80)
CV	188,8367***
	(3,97)
P	0,0648***
	(2,65)
ShareOfP	-1812,867***
	(-2,90)
TelevisedHG	-1,9249***
	(-4,89)
Promotion	9,9241***
	(2,76)
Europe	1,9184
	(0,58)
Adjusted R^2	0,67
Number of observations	98

The findings suggest that the both models 2A and 2B are significant even in 99% confidence interval even though some of the independent variables are statistically insignificant. As can be seen from Figure 3 and Figure 4 some of the independent variables in these models, $CityPopulation, RatioOfSpending, GoalsHG$ and $European$ are statistically insignificant where as the rest of the dependent variables are statistically significant. The next two sections will discuss and interpret the influence and insignificance of the independent variables.

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[2] *: Significant at 90%, **: Significant at 95%, ***: Significant at 99%.

Figure 4 - Model 2B Results

[3]Dependent Variable: PercentageFull	
Constant	-54,4094
	(-0,87)
CityPopulation	0,0000004
	(0,94)
ShareOfLicensedPlayers	519,0865***
	(6,49)
RatioOfSpending	-8,3467
	(-0,81)
PointsHG	13,3964***
	(3,65)
GoalsHG	1,7702
	(0,60)
CV	126,5552***
	(3,28)
logP	15,3892
	(1,60)
ShareOfP	-646,6623**
	(-2,08)
TelevisedHG	-2,2403***
	(-5,93)
Promotion	9,4495**
	(2,52)
Europe	2,4506
	(0,73)
Adjusted R^2	0,66
Number of observations	98

3.1. No more hometown loyalty? Why the fans don't care about spending, goals and European cups?

Caring about a team is like caring a person, the fan cares about the well being of his/her team and tries to keep up with the changes effecting the team. People tend to support local and regional teams since it creates a sense of belonging and becoming proud of one's town and region as in the case of supporting national teams (Dixon, 2001). Perhaps it was the case a few decades ago or perhaps it's the case for lower division teams who play in front of a few hundred fans, but today's football is much more global than it was a few decades ago. Every year European giants travel across the world in summer for friendly fixtures, from China to USA. The friendly fixtures are not about getting ready for the next season any more but to promote the team in the large markets such as China and the US, where the football market is not saturated yet. The globalization of football, like any other

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[3] *: Significant at 90%, **: Significant at 95%, ***: Significant at 99%.

commodity, is altering the demand patterns. The foreign capital which had started flowing into European football is changing the structure of the clubs as well as the fans. Every year thousands of foreigners attend the games of clubs such as Barcelona, Real Madrid and Manchester United. The fans in the stands are no longer only from the neighbourhood since there are other people who are willing to pay much more and travel much further to see their favourite team playing. After all these being said, the statistical insignificance of the $CityPopulation$ is not surprising. There is no evidence to say that the population of the city which a club is founded at is influential on the demand for its game tickets.

The empirical evidence suggests that there is no influence of the transfer spending made in the beginning of the season on the number of attendees. Fans are usually excited to read about transfer gossips and new signings appear to create a thrill however there is no empirical evidence to state that signing new players attract crowds do the stadiums. Clubs tend to transfer more players after an unsuccessful season hence a club spends more if the previous season was a failure. The probable negative effect created by the last season's low performance might neutralize the thrill created by the new signings and perhaps this is the reason why transfer spending does not have positive influence on that year's attendance, even though it may be considered as an investment to success in the next season to be followed by better attendance. Borussia Dortmund has one of the highest capacity utilization percentages in Europe. The German club has managed to achieve one of the most remarkable financial recoveries in European football thanks to their high attendance levels. In the 2004/2005 season Borussia Dortmund did not spend any money on transfers yet they have managed the achieve the highest attendance in the German league.

One of the dummy variables in the model, $European$, is also statistically insignificant. The $European$ dummy is included as an indicator related to the influence of whether the team is going to participate in the European competitions in the season or not, which is actually a measure of success of the previous season. One would expect that after a successful season fans would be more willing to attending games however there is no statistical evidence to support that claim.

Both the $RatioOfSpending$ and the $European$ can be interpreted as parameters for measuring previous season's success however they are not influential on attendance. Football consumers are either absent minded or they do not value the past season's success or failure since there is no influence of the previous season's success on attendance measured in terms of transfer spending and European cup participation. A rational expectation would be that if a team was successful the previous year their fans would attend more games the following year or vice versa however there is no statistical evidence to justify this expectation.

Goals are the second best thing after a win for the fans and since goals are scarce in football, teams who play more openly, who score and concede a lot of goals would be more fun to watch which might result in higher attendance. As logical as this claim seems, there is no statistically evidence to back this. The independent variable $GoalsHG$ measure the average number of total goals scored in home games however it's not statistically significant, hence no influence on attendance can be observed.

Some of the tested dependent variables in the model are statistically insignificant even though the rational behind them were promising in the sense that they would be influential on attendance.

3.2.To be or not to be in the stands – What makes fans attend the games?

The miraculous success Iceland team has achieved in Euro2016 has been admired by everyone even though Cristiano Ronaldo accused them of playing defensively and claimed that they could not achieve anything with this mentality. According to Big Count, Iceland has just more than 32.000 football players (FIFA 2007) which is about 10% of their population which is higher than in Germany, the highest among the top five leagues at 7%. German Bundesliga has the 2nd highest attendance average after the English Premier League among the five countries and perhaps the most successful in football in national level, when both men's and women's teams are taken into consideration.

The wide spread regular practice of sports among the individuals in a society is an indicator regarding the interest to sports. It would be logical to expect that the demand for sports would be higher if there are more people who are interested in sports. The number of players in a country is a good proxy for measuring the number of people interested in football, even though playing football is not a necessity for attending games. $ShareOfLicensedPlayers$ is statistically significant and it has the highest positive coefficient in the model hence it can be said that it is the most influential independent variable in the model. It can be said that as the number of people playing football as a share of the population increases the attendance rate increases. Developing a nationwide interest to football is important to increase stadium attendance levels however there is always an economic dimension to it.

In Model 2A P and $ShareOfP$ are both statistically significant hence they are influential on the attendance rate, however their coefficients have different signs. P has a positive coefficient which states that attendance increases as the price of the season tickets increases which is quite unusual. In this sense season tickets for football in Europe act as "Veblen goods" or "conspicuous goods", there are few possible explanations for the failure the law of demand. First, the increasing demand by the outsiders and foreigners causes the tickets to be overpriced especially for the clubs which has worldwide supporters. As mentioned earlier there might be people willing to pay more than the locals who live in the neighborhood, hence clubs charge more for the tickets because they can simply do so. The second explanation would be that since buying tickets is a way of helping the finances of one's favorite club, fans don't care about the prices as much as they should. Owning a season ticket is something to brag about to show how devoted a person is to his/her favorite club and for many fans its worth to pay high prices. Finally another explanation would be that since there are 5 different leagues which belong to 5 different countries with different economic conditions, the effect of prices is biased. The cost of living differs from country to country hence the relative worth of season tickets differs from country to country.

Model 2B uses $logP$ instead of P and the rest of the model is the same with Model 2A. The results of Model 2B and 2A are very similar, other than the little variation in the coefficients of the significant variables. The only main difference between the models is that the independent variable $logP$ which was substituted with P is insignificant in Model 2B. The questionable result of Model 2A was that the coefficient of P was positive indicating that price is positively correlated with demand which is against the law of demand. When $logP$ is used instead of P the results of the model coincide with the theory of demand.

To offset the bias caused by the difference in cost of living from country to country, the independent variable $ShareOfP$ is added to the model. $ShareOfP$ has a negative coefficient and it has the highest coefficient in absolute terms. The most influential variable in the model is $ShareOfP$ since it has the highest coefficient. The demand for attending the games is adversely affected as the price of the season ticket in terms of its share in GDP per capita.

Coefficient variation has been introduced to the literature by Sloane (1971) as a parameter related to level of competition and it has been widely used ever since. Numerous studies have been conducted regarding the importance of competition in a championship. Uneven contest is a threat for the interest of the fans (Neale, 1964) meaning that if the same teams wins every single week it might adversely affect the attendance levels. The debate regarding the influence of uncertainty in the result of a game on attendance levels has been going on, but there is lack of empirical evidence to state that uncertainty is influential on attendance. Some argue that fans will not attend games if they expect their team to win by five goals every time hence competition is important, whereas some argue there is no evidence to state that (Késenne 2007). The model provides empirical results to suggest that competition is indeed strongly influential on attendance rates. CV is statistically significant, it has the second highest coefficient after $ShareOfLicensedPlayers$ and it is the third most influential variable in the model so as the competition in the league increases more people attend to games.

$PointsHG$ is the number of points collected at home games as mentioned earlier and as can be seen from Figure 3 and Figure 4 it has positive influence on attendance. The statistical significance of the variable suggests that fans are more likely to attend games if they expect their team to win the

game or at least not to lose. Even though goals are not influential on fans' decision to attend games, the points collected by their team at home games is. The fact that *PointsHG* is positively correlated with attendance rate creates a perception that successful teams have more fans which is true in almost all cases. The giants in every league have higher attendance levels when compared to the less successful teams in the league.

Promotion is one of the two dummy variables in the model and it is statistically significant. Teams who have just promoted to the top league might have fans who are more eager to attending games hence the dummy has positive influence on attendance. Its quite logical to expect that playing in the top division is thrill for the fans which motivates them to attending games. Even though the dummy is statistically significant and it has a positive coefficient, there are two exceptions amongst 14 teams examined to test the influence created by the promotion.

Figure 5 provides the attendance percentages for the promoted teams in the 2014/2015 season.

Figure 5. Attendance Percentage

Team	2013/2014	2014/2015	Change
Leicester City	77,36%	98,08%	20,73%
Burnley	64,10%	89,39%	25,29%
Queens Park Rangers	90,09%	98,94%	8,85%
Deportivo La Coruña	63,78%	61,48%	-2,30%
Eibar	50,28%	79,67%	29,38%
Cordoba	47,49%	73,90%	26,40%
SM Caen	51,34%	79,85%	28,51%
Metz	52,12%	68,37%	16,25%
RC Lens	81,14%	45,01%	-36,13%
Sassuolo	46,00%	65,16%	19,15%
Empoli	23,27%	54,93%	31,66%
Cesena	44,70%	67,80%	23,10%
1. FC Köln	92,47%	96,66%	4,19%
SC Padderborn 07	71,88%	99,06%	27,18%

Out of the 14 promoted teams in the beginning of the 2014/2015 season 12 of them have higher attendance compared to previous season when these teams have competed in the second divisions of their countries. Deportivo La Coruña and RC Lens are the only two teams which have lower attendance compared to the previous season. The decrease in Deportivo La Coruña's attendance is about 2% which might be explained by factors which are not related to football such as the general economic conditions in Spain or issues regarding the La Coruña. However the decrease in RC Lens's attendance is extremely high, 36% decrease is the highest change among the 14 teams. Although it's a concerning issue for the RC Lens team, there were some special outside factors which caused this result. Unfortunate for the team and fans, due to the renovations in their home ground which was being prepared for Euro 2016, RC Lens fans had to travel 124km to see their team playing. Instead of their local ground Stade Bollaert-Delelis they played their games in Stade de la Licorne during the 2014/2015 season (Football Radar 2015).

Watching a football game on TV and attending the game in a stadium may be considered as substitutes for each other for a fan who wants to see his/her team playing. If the substitute for a good is available, it would be rational to expect a negative influence on the demand. *TelevisedHG* is the number of home games which had live broadcast, in the 2014/2015 season, for each team. Due to the increasing value of broadcasting rights, broadcasters provide the live broadcasts for every game. The

only expectation is the English Premier League where only a number of games are televised every week. Outside of UK, one can watch any Premier League game he/she desires, however in UK all games are not available live on TV. $TelevisedHG$ is statistically significant and it has a negative coefficient, as the number of televised games increase less people attend the games. Forrest, Simmons and Szymanski (2004), Forrest & Simmons (2006) and Allen & Roy (2008) have all provided empirical evidence regarding the adverse effects of TV broadcasts in the English and Scottish Premier Leagues however when compared to the other major European leagues the adverse effects are less. The fact that not all games are televised in the English Premier League is beneficial for the attendance levels. Perhaps this is one of the underlying reasons for the Premier League to be the league with highest attendance levels, even though English clubs have the 2nd most expensive tickets among the five leagues.

It should be mentioned that the influence of $ShareOfP$, $ShareOfLicensedPlayers$ and CV is much higher than the other significant variables. These three independent variables has, at least ten times, higher coefficients than the others. Even though $PointsH, Promotion$ and $TelevisedHG$ are influential on the demand for football in the major European leagues their effects are relatively smaller.

4. Conclusion

Even though the German and English leagues have high levels of attendance, the fans have been protesting the clubs due to the high ticket prices, on the other hand when it comes to French, Spanish and Italian leagues, clubs are struggling to fill the stadiums. Attendance is an important issue for the policy makers and fans are irreplaceable for football. Football without fans will lose its popularity in no time, this is why the governing bodies of football try to increase the interest on tournaments by changing its formats or increasing the number of competing teams.

The models used in this study provides the possible influence of different factors on ticket demand for the top five leagues in Europe. These five leagues are the locomotive of European and perhaps world football, the failure or the success in these league in attracting crowds to the stands will affect the leagues all around the world. The determination of influential factors would enable the policy makers to take action for increasing attendance.

As a result of this study influence level of several factors were determined which might be expected to have an influence on the demand for football. Factors such as number of licensed football players in the country, points gained on home games, cost of tickets, home game broadcasting, promotion to a higher league ($ShareOfLicensedPlayers$, $PointsHG$, CV , P , $ShareOfP$, $Promotion$ and $TelevisedHG$) are identified as statistically significant factors that are influential on the demand and the degree of their influence are quantified. It is concluded that football demand is affected by both economic factors and factors related to the game itself. On the other hand, several variables which would be expected to have influence on demand are found to be insignificant, such as: home town population, transfer spending, goal scored in home games and participation in European tournaments ($CityPopulation$, $RatioOfSpending$, $GoalsHG$ and $European$) even though they are considered to rest on some conceptual grounds. As logical as the conceptual grounds seem, apparently they are not sufficient to explain the consumer behavior in case of football. In the order of descending importance, the ticket prices as a share of average annual personal income, ratio of licensed football players in a country to its population, the level of competition in the league, the number of points gathered at home games, being promoted to the top division and the number of televised games every week are influential factors on the demand for football.

This study used the data for 2014/2015 season, a total of 98 observations, which might not be a sufficient period of time to observe the influence of some variables. The underlying reason behind the fact that some variables were insignificant might be due to limitations regarding short duration of the observational data. Regressing the same model using panel data for several seasons might yield different results, which might be an inspiration for future studies. What this study aimed was to develop a model to demand for football in European major leagues and it was accomplished.

For most of the fans, attending a football game is not just a leisure activity but it's a responsibility to be fulfilled against your most beloved. Football is more than just a game, football is life itself where sometimes miracles happens and teams like Leicester City or Iceland and Wales national teams make people believe that good things can still happen in life. People change the cities they live in, they change the houses they stay at, they even change their wives and husbands but one can never simply change his/her team.

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