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THE ECONOMIC GEOGRAPHY OF FOOTBALL SUCCESS: EMPIRICAL EVIDENCE FROM EUROPEAN CITIES

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Introduction

In the last decades, professional football has developed into a multimillionaire industry. To some extent, professional football has become just another branch of corporate world, and, for this reason, it has lost much of its local charm and many of its inherently geographical characteristics. Nevertheless, location still seems to play a relevant part in modern football. Indeed, the geographic basis of this sport is widely apparent at a variety of geographic scales: global, national and local, as it is demonstrated by international competition among countries, the locational patterns of professional football teams, fans' attachment to teams in specific locations, etc.

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Usually, there is a very strong link between a football team and its host city. However, professional football teams in Europe are not formally local monopolies with a permanent major league status, because poor performance on the field brings on relegation while good performance allows teams to compete in international championships. Taking into account these considerations, a city can host none, one or several successful football teams. Obviously, competitiveness and international football success differ markedly across individual European cities. From this perspective, an interesting research topic is the analysis of the spatial distribution of successful football teams (cities) throughout Europe.

There is a wide literature dealing with the issue of whether professional sports help local economies to develop, but in our case we address the conditions that determine locations in which there are opportunities to strengthen the success of a team.[1] The literature that specifically deals with the determinants of success in international football is based on models of national teams' success. Most of these studies consider countries as relevant units of analysis and in general they are primarily interested in testing the influence of social, demographic, economic, cultural and geographic factors on national teams' performance.

In contrast to previous research, this paper analyses the determinants of success taking cities instead of countries as units of analysis.[2] Consequently, the idea is slightly different and our main interest is to verify in what extent economic and demographic factors have an impact on cities club teams success. We are concerned about verifying if a community ability to support a successful football team is a function of the size and wealth of its population. In this way, we will be able to study not only the spatial distribution of football success across countries but also the outcomes of individual cities. In other words, we are interested in knowing to what extent successful professional teams can get sufficient support if they are located in cities with big potential markets, that is, in profitable places. This kind of studies can be relevant since they attempt to shed some light on the role of some variables (market size proxies) that may create a revenue-generating advantage. In this respect, taking into account that geographic ties generate fan loyalty, bigger cities ought to yield higher revenue to owners than smaller ones. This is not a trivial aspect because it will probably affect the choices of investors when deciding on buying a club.[3]

Our approach is markedly empirical and the analysis was designed to uncover the connection between cities economic features and their football teams' success. In particular, we focus our analysis on verifying the extent in which

[1] Although most of European clubs do not have the real ability to move, it can be assumed that success is mobile.

[2] To our knowledge, this is the first attempt to consider the main cities of Europe as the relevant units of analysis.

[3] For example, an important Italian Hollywood movie-producer bought the Naples Team. At the same time, few years ago a British financial company bought a stake in a small northern team (Vicenza). The evidence shows that the latter has been unsuccessful whilst the first it is supposed to stay in the top-level teams in the next years.

variables proxying market size and economic development determine the location of successful football teams. To take into account the first factor, we use the total population, while the second factor is represented by the *per capita* gross domestic product (GDPpc). Therefore, we incorporate through a reduced form specification some elements which are almost omnipresent in literature, leaving the question of our interest to empirical research. Although most of the models in this field include population and GDP (or *per capita* GDP) as independent variables, if we study these determinants taking the city as unit of analysis, the impact of variables such as population or income can be essentially different.

The rest of the paper is organized as follows. The next section offers a review of literature dealing with socioeconomic determinants of international sport performance. The second section presents a discussion about the underlying theoretical framework on which our analysis is based. In the third section we develop the empirical analysis. The final section summarizes the key findings and provides a discussion on the implications of our research.

1. The geography of successful football teams: an analytical framework

Recently, a growing economic literature has examined what factors lead national teams to succeed in international football competitions. In general, the literature that analyses the sources of international football performance is based on previous research on the determinants of success in Olympic Games.[4] It would seem reasonable to suspect that variables explaining performance over a range of sports (in Olympic Games) should partially explain countries success in international football competitions.

The more recent studies in this field identify determinants of success of a very diverse nature: demographic, economic, cultural, political and climatic. To sum up, this kind of studies on Olympic success have found that it is partially explained by factors such as population size, *per capita* GDP, as well as certain climatic,[5] political,[6] and cultural variables.[7] Other relevant factors would be sport

[4] Seminal papers dealing with the determinants of Olympic success include D. W. Ball, *Olympic Games competition: structural correlates of national success,* in *Int. J. of Comp. Soc.*, vol. 15, 1972, 186-200. A. R. Grimes, W. J. Kelly, P. H. Rubin, *A socioeconomic model of national Olympic performance*, in *Soc. Sc. Quart.*, vol. 55, 1974, 777-782. N. Levine, *Why do countries win Olympic medals? Some structural correlates of Olympic Games success,* in *Soc. and Soc. Res.*, vol. 58, 1974, 353-360.

[5] R. Hoffmann, C. G. Lee, B. Ramasamy, *Public policy and Olympic success*, in *Ap. Ec. Let.*, vol. 9, 2002, 545-548. D. K. N. Johnson, A. Ali, *A tale of two seasons: participation and medal counts at the summer and winter Olympic Games*, Wellesley College Department of Economics working paper n. 2002-02, 2002. G. Roberts, *Accounting for achievement in Athens: a count data analysis of national Olympic performance*, University of Victoria Department of Economics Econometrics working paper n. EWP-0602, 2006. B. Torgler, *Historical excellence in Football World Cup tournaments: empirical evidence with data from 1930 to 2002*, in *Riv. Dir. Ec. Sp.*, vol. 2, n. 1, 2006, 101-117.

[6] R. Hoffmann, C. G. Lee, B. Ramasamy, *Public policy and Olympic success*, cit. D. K. N. Johnson,

specialization[8] and health variables.[9] Other factors used in the economic literature about the determinants of Olympic success are former colonial power and neighbouring nation of the current host country.[10]

With respect to the selection of the explanatory variables to be included in the model, one could think in taking as an analytical starting point the theories of spatial distribution of economic activity. These theories can be roughly classified into the following areas: international business literature, international trade theory, economic geography and location theories. However, in our opinion, no single theory provides a coherent and adequate framework to study the topic posed in this research. Furthermore, in the case of professional football industry some of the specific characteristics of both the markets of products and factors, as well as the nature of the productive process (teams production function), invalidate the use of location theories patterns for standard industrial firms. The non-applicability of the standard models of spatial distribution of economic activity justifies our choice of a sharply empirical approach.

In general, the theories about location determinants are based on the hypothesis that firms maximize profits. Therefore, the assumption made about the objectives of their owners is a first important question when it comes to studying the location patterns of football teams. In this field, it is generally asserted that North American clubs attempt to maximize profits, while in Europe it seems that at least some club owners do not maximize profits. In fact, many teams consistently lose money. The extreme version of the utility maximization hypothesis is the assumption that the owner's objective is to maximize the number of games won, regardless of financial constraints. A more plausible assumption is the maximization of games won subject to a minimum profits (or maximum loss) constraint.

In an open market for players, the best players will gravitate toward the teams with the highest salary offers. This means trouble for clubs located in smaller

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A. Ali, *Coming to play or coming to win: participation and success at the Olympic Games*, Wellesley College Department of Economics working paper n. 2000-10, 2000. D. K. N. Johnson and A. Ali, *A tale of two seasons: participation and medal counts at the summer and winter Olympic Games*, cit. A. B. Bernard, M. R. Busse, *Who wins the Olympic Games: economic resources and medal totals*, in *Rev. Ec. Stat.*, vol. 86, 2004, 413-417. A. Rathke, U. Woitek, *Economics and Olympics: an efficiency analysis*, University of Zurich, Institute for Empirical Research in Economics working paper n. 313, 2006.

[7] R. Hoffmann, C. G. Lee, B. Ramasamy, *The socio-economic determinants of international soccer performance*, in *J. Ap. Ec.*, vol. 5, 2002, 253-272.

[8] M. Tcha, V. Pershin, *Reconsidering performance at the Summer Olympics and revealed comparative advantage*, in *J. Sp. Ec.*, vol. 4, 2003, 216-239. G. Roberts, *Accounting for achievement in Athens: a count data analysis of national Olympic performance*, cit.

[9] I. A. Moosa, L. Smith, *Economic development indicators as determinants of medal winning at the Sydney Olympics: an extreme bounds analysis*, Blackwell Publishing, Australian Economic Papers n. 43, 288-301, 2004. G. Roberts, *Accounting for achievement in Athens: a count data analysis of national Olympic performance*, cit.

[10] D. K. N. Johnson, A. Ali, *Coming to play or coming to win: participation and success at the Olympic Games*, cit.

markets because they are unable to generate sufficient revenues to support the level of payroll necessary to be competitive on the field. Then, it can be assumed that a football team sport success depends mainly on hiring the best players. The wages of both players and coaches are the core of the cost structure of professional teams.[11] To be successful, club teams must now look beyond national boundaries for hiring their players. Taking into account the nature of players' market (especially for superstars) and their consequences in terms of high wages and transfer fees, we can suppose that winning possibilities are strongly linked to the team capacity to arise income and it is in this field where demand plays a significant role. In this sense, Rosen and Sanderson offer an explanation of escalating expenditure on players by competing teams.[12] Clubs under intense competitive pressure to improve performance by spending as much on players as their revenues will allow, will tend to do just that, even though most of the benefits from the extra expenditure are cancelled out by other clubs behaving in exactly the same manner.[13]

Most studies on football demand consider population and *per capita* income in the cities where games are played as two very significant long-term determinant factors of demand. Some authors corroborate the hypothesis that income is an important explanatory variable of football consumption and that richer supporters can offer higher audiences and, consequently, higher revenues.[14] Existing studies use different measures to proxy market size, but the most frequent variables are population and *per capita* GDP. Given the disparate size of the populations served by European clubs, it makes sense to analyse the role played by market size and local economic environment as determinant factors of a city football team success.

In accordance with the above-mentioned studies, we focus on demand side determinants because, in contrast to what happens with national football teams, those factors are more relevant in the case of football club teams. In our empirical model, the independent variables are proxies of market demand variables and they were chosen to capture economic and demographical influences on football performance across Europe.

The first independent variable in our research is population. There is a wide consensus in the literature identifying demographic (population size) and economic variables (*per capita* income/GDP) as the most relevant factors that explain international football success. These studies find that football success increases with population and income; more specifically, the football performance

[11] P. Downward, A. Dawson, *The Economics of professional team sports*, Routledge, New York, 2000. S. Dobson, J. Goddard, *The Economics of football*, Cambridge University Press, Cambridge, 2001.

[12] S. Rosen, A. Sanderson, *Labour markets in professional sports*, NBER working paper n. 7573, 2000.

[13] See S. Dobson, J. Goddard, *The Economics of football*, cit., p. 430.

[14] S. Dobson, J. Goddard, The demand for professional league football in England and Wales, in Reg. St., vol. 30, 1996, 443-453. R. Simmons, The demand for English league football: a club-level analysis, in *Ap. Ec.*, vol. 28, 1996, 139-155.

of a country and its *per capita* income obey to a quadratic relationship.[15] In the context of the present study, since its interest is focused on the influence of market size conditions, the variable population is interpreted somewhat differently from most of studies that take countries as unit of analysis. In our case, population is used to proxy the market potential demand. From a theoretical perspective, we can expect that the most populous cities offer a greater internal potential market for their football teams.[16]

The GDP is a second variable that could be included in the model as a proxy for potential internal market demand. However, it could be said that GDP is not adequate, since it may be biased by a scale effect. That is, geographical areas characterized by a large population are likely to have higher GDP simply because of their size. In order to correct this problem, *per capita* GDP was incorporated to our empirical model as a proxy of the living standard.

Taking into account the nature of the product offered by a team, the effect of external market potential appears also to be relevant, because it could be an important location determinant in our specific context. Indeed, the changes in income structure (decrease of the relative weight of gate receipts and rise of TV rights and merchandising) can alter the relative importance of internal and external markets. Until recently, gate revenues represented by far the largest source of revenue for most football clubs. Since early 1990s clubs' revenue became much more diversified. Television, sponsorship, merchandising make much bigger contributions now than before. However, over the longer term, gate revenues (mainly conditioned by internal market size) data provide an accurate representation of trends in football's overall revenue-raising capability (including external market revenues). In fact, the teams with a bigger internal market also have a larger potential external market.[17]

Apart from demand side determinants, spatial distribution of economic activity is also motivated by production costs reflected in labour market conditions: wages and unemployment. Theoretically, in an integrated economic area firms do not necessarily locate near the highest potential market demand. They can take advantage of decreasing transport costs and establish in low production cost areas and, therefore, be compensated for a loss in potential market. For the majority of football teams this rationale is not valid, because football markets are clearly segmented due to strong preferences of fans. Therefore, turning to small geographical units of analysis, market-seeking motives may be at work as well. Besides that, the literature on spatial distribution of economic activity also mentions that the importance of agglomeration economies can be relevant for manufacturing firms.

[15] R. Hoffmann, C. G. Lee, B. Ramasamy, *The socio-economic determinants of international soccer performance,* cit.

[16] However, in previous studies the population of a nation constitutes the pool from which Olympic talent is drawn, so population should play a role in determining the number of medals won by a country. Provided that larger countries have a deeper pool of athletes, *ceteris paribus*, countries with larger populations are expected to have a higher probability of having an Olympic medal winner.

[17] See S. Dobson, J. Goddard, *The Economics of football,* cit.

However, in our specific case, both labour market conditions and agglomeration economies apparently would not be significant.

Other non-economic factors influencing football teams' location need to be considered. For example, there is a strong relationship between football and culture in such a way that cultural influences can contribute to promote the international football success of a team/city. To give an example, the popularity of football as a spectator sport depends on specific underlying cultural factors of a city. Other variables, omitted in our model, but that potentially can affect cities relative performance, could be their geographical setting (weather conditions), preferences for other sports, institutional factors and so on. In our case, and despite the potential impact of this kind of factors, we have opted for incorporating in the model only the variables proxying the market size and economic development, mainly because of data availability problems at local levels. Selecting population and *per capita* GDP allow us to cover a more representative sample of European cities.

2. Empirical analysis

2.1. Data, model estimation and results

Most researches focused on the socio-economic determinants of international football performance use three alternative dependent variables: All-Time World Cup ranking,[18] FIFA ranking[19] or other international football rankings.[20]

In order to quantify the international football success of European cities, we take into account the performance of its (their) club team(s) in the UEFA Champions League during the period 1992/93-2006/07. In this preliminary version we have divided the teams/cities into two groups: *elite* and *non-elite*. We consider that a team belongs to the elite group if it has participated in the UEFA Champions League group stage (excluding preliminary rounds and qualifying rounds) since the format and name of this tournament were changed in the 1992/93 season. Hence, competitiveness is identified with playing in the most important European competition at clubs level. According to this approach, the dependent variable in our model is the probability that a city hosts a top-seed team.[21]

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[18] B. Torgler, *Historical excellence in Football World Cup tournaments: empirical evidence with data from 1930 to 2002,* cit.

[19] R. Hoffmann, C. G. Lee, B. Ramasamy, *The socio-economic determinants of international soccer performance*, cit. R. G. Houston, D. P. Wilson, *Income, leisure and proficiency: an economic study of football performance*, in *Ap. Ec. Let.*, vol. 9, 2002, 939-943. E. Marikova, M. A. Leeds, *International soccer success and national institutions*, IASE working paper n. 07-02, 2007.

[20] P. Macmillan, I. Smith, *Explaining international soccer rankings*, in *J. Sp. Ec.*, vol. 8, 2007, 202-213.

[21] Note that we are not using time series data for the dependent variable, but we are proxying teams' success from their historical performance (competing or not in the UEFA Champions League group stage) during the period of reference. Therefore, it must be taken into account that

The data of the explanatory variables were taken out from the official statistics of *Urban Audit*, a data base coordinated by EUROSTAT which collects information on the living conditions in 258 large and medium-sized European cities. Our data set includes the most updated information of *Urban Audit* in March 2007, that is, data corresponding to 2001. Some data were not available for some cities (the most relevant ones at this respect are Paris, Amsterdam and Athens) so they had to be excluded. Our sample covers a total of 186 cities, which were segmented in two groups: 41 elite cities and 145 non-elite cities.[22]

As a city only can belong or not to the elite group, its classification (elite/non-elite) following the UEFA scores can therefore be expressed in probabilistic binary terms and, in consequence, it is possible to use dichotomous variables to state the city status (elite/non-elite) in terms of the economic factors that are considered to be determinant.

When estimating the relationship between that binary variable and the explanatory variables considered in econometric terms, we opted for a logit probabilistic model.

Within the present scope, the logit specification is expressed as shown below:

$$P\,(\text{Elite}) = P\,(Y = 1) = \frac{\exp(X \cdot \beta)}{1 + \exp(X \cdot \beta)} \qquad (1)$$

where $P\,(\cdot)$ stands for 'probability', X is the regressors matrix and $ß$ is the regression coefficient vector. In the logit model the relationship between P and X is not linear: the probability approaches to 0 (1) to increasingly slow rates as X diminishes (increases). In economic terms, if we treat the probability as the output and the regressors as the inputs, this means a behaviour following a law of decreasing returns.

For the purpose of our research we have estimated a model where the dependent variable (Y) is dichotomous and takes the value 1 if the city is elitist (in football terms) and 0 otherwise; therefore, it tries to explain the probability of being in the elite group. For example, for Milan the dependent variable takes the value 1, whereas for Belfast it takes the value 0. In the first case, the city host two teams – Football Club Internazionale Milano (Inter) and Associazione Calcio Milan– that usually participate in the UEFA Champions League. On the other hand, Belfast has never had any team playing in UEFA Champions League.

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our empirical work is based on cross-section data.

[22] In this respect, it is worth noting that the sample does not include some large cities as Amsterdam, Athens, Istambul, Moscow or Paris. All these cities would be classified into the elite group because some of their major teams regularly appear in UEFA Champions League stage group (i.e. AFC Ajax, AEK Athens FC, Olympiacos CFP, Panathinaikos, Galatasaray SK, Betsikas JK, Fenerbahçe SK, FC Lokomotiv Moscow, FC Spartak Moscow, CSKA Moscow and Paris Saint Germain FC). Nevertheless, our sample includes 23 of the first 25 cities included in the Forbes

The explanatory variables included in the model are population (a *proxy* of market size) and *per capita* GDP (an indicator of economic development), both expressed in logarithms (see Table 1). This way, in our case, the logit model would be expressed as follows:

$$P\ (\text{Elite}) = \frac{\exp\left(\beta_0 + \beta_1 . \ln Population + \beta_2 \cdot \ln GDPpc\right)}{1 + \exp\left(\beta_0 + \beta_1 \cdot \ln Population + \beta_2 \cdot \ln GDPpc\right)} \qquad (2)$$

where *GDPpc* stands for the *per capita* GDP of city *i* and *Population* is the total population of city *i*.

According to the discussion about location theory carried out above, the signs expected for these regressors are both positive, that is, a bigger population and/or a bigger *per capita* GDP help a city to reach a high status in relation to football performance, and vice versa (additionally, the logit modelling implies that the relationship follows decreasing returns).

From Table 1, it results that elite cities show a greater population and GDPpc. The dispersion in population is greater, but this is not the case with GDPpc. The distribution of population is positively skewed in both groups of cities, while the GDPpc is positively skewed in elite cities and negatively in the other ones.

The estimation of the model [expression (1)] was carried out by means of the ML (maximum likelihood) method (Newton-Raphson algorithm).[23] The principal results are summarized in Table 2.

Soccer Team valuations ranking 2007 and 20 of the first 25 cities included in the UEFA Team Ranking 2007.

[23] Prior to the estimation we analysed the correlation between the different variables. It rejected the presence of multicollinearity problems.

TABLE 1: VARIABLES AND DESCRIPTIVE STATISTICS

All cities (N = 186)

	Minimum	Maximum	Mean	Median	Stand. Dev.	Skewness	Skewness	Kurtosis
Y (City belongs to elite group)	0.0000	1.0000	0.2097	0.0000	0.4082	14,380	1.4380	0.0684
Population	63,519.36	7,172,035	295,551.98	74,223.84	0.8803	0.5555	0.5555	0.3652
GDPpc	4,974.10	388,248.16	32,526.16	33,634.24	0.7085	0.0557	0.0557	0.9262

Elite cities (N = 41)

	Minimum	Maximum	Mean	Median	Stand. Dev.	Skewness	Skewness	Kurtosis
Population	116,832.90	7,172,035	815,290.69	715,402.07	0.8223	0.2059	0.2059	0.5047
GDPpc	4,974.10	87,868.79	33,312.90	36,860.66	0.6009	-0.8928	-0.8928	1.2183

Non-elite cities (N = 145)

	Minimum	Maximum	Mean	Median	Stand. Dev.	Skewness	Skewness	Kurtosis
Population	63,519.36	1,004,499.50	225,798.89	214,443.16	0.6767	0.0698	0.0698	-0.7429
GDPpc	5,500.53	388,248.16	32,321.89	32,872.77	0.7361	0.1937	0.1937	0.8594

TABLE 2: MAIN RESULTS OF LOGIT REGRESSION.

VARIABLES	COEFFICIENTS	STANDARD ERRORS
ln Population	2.8762*	0.4729
ln GDPpc	1.1005*	0.4014
Constant	(-50.0046)*	8.7413
MEASURES OF GOODNESS OF FIT / PREDICTIVE CAPACITY		
(-2)·Log likelihood of extended model	106.7677	
(-2)·Log likelihood of constant-only model	191.0328	
Mc Fadden R^2	0.4411	
Cox and Snell R^2	0.3643	
Nagelkerke R^2	0.5675	
p-value of likelihood ratio test	0.0000	
p-value of Hosmer-Lemeshow test	0.2912	
Overall % success of extended model	86.56	
Overall % success of constant-only model	79.03	
Akaike criterion (AIC)	0.6063	
Number of outliers	5 (2.69%)	

(*) Significant at 1%

It can be concluded from Table 2 that all the regressors are significant at 1% level and the signs of the coefficients estimated correspond clearly to those deduced from our initial hypotheses. A city improves (reduces) its probability of being in the elite when it increases (diminishes) its population and/or its economic development. Since a logit model is non-linear, the interpretation of its coefficients is not as simple as in the case of the linear models. It can be shown that in a logit model, for the parameter β, $\exp(\beta) = \frac{Prob(Y=1)}{Prob(Y=0)}$, expression known as "odds ratio". To understand the meaning of this, take for instance the coefficient of the variable ln Population, i. e. 2.8762. Then, exp (2.8762) = 17.7467, which means that this variable makes almost 18 times higher the probability a city belongs to the elite group.

The model shows considerable robustness, and is therefore suitable in order to measure the differential impact that each economic indicator has on the probability of a city being in the football elite. In econometric terms, this requires the calculation of the so-called *marginal effects*.

TABLE 3: MARGINAL EFFECTS OF LOGIT MODEL

VARIABLES	MARGINAL EFFECTS AT MEANS (%)
ln Population	0.2304
ln GDPpc	0.0882

Table 3 displays the marginal effects on the probability of belonging to the elite group of market size and economic development variables. The meaning of these figures is straightforward: for instance, the marginal effect for the variable "ln Population" is 0.2304. It means that an increase of, for example, 10 units in the value of "ln Population" [i.e., an increase of exp(10) = 22,026 people] would involve an increase of 0.02 units in the probability a city has a top-seed team. That is, if City A has around 22,000 residents more than City B, then the first city would have a probability of belonging to the elite group 0.02 points higher than the second one.

An examination of the marginal values indicates that there is a substantial difference between the impact each economic indicator has on the probability of belonging to the elite group. In particular, the results obtained show mainly the considerable importance of the population (the market size proxy), with a value around 2.6 times the one of GDPpc (the economic development indicator) at means. Illustrative examples of cities corresponding to these averages are: Aarhus (Denmark), Cluj-Napoca and Craiova (both of Romania) for mean population; Roma (Italy), Freiburg im Breisgau (Germany) and Belfast (United Kingdom) for mean *per capita* GDP.

At this point, some comments are worth noting about the degree in which the classification of elite/non elite according with UEFA data differs from the one made from the results of logit regression. The Annex shows this logit-based classification. From it, we distinguish two types of cities. On the one hand, we find that a number of cities (10 in total) which in fact belong to the non-elite group according to UEFA data, ought to be in the elite of football: Cologne (Germany), Naples (Italy), Birmingham (United Kingdom), Frankfurt am Main (Germany), Düsseldorf (Germany), Toulouse (France), Antwerp (Belgium), Palermo (Italy), Essen (Germany) and Hanover (Germany). In these cases, it would be interesting to address the following issue: if bigger markets offer more potential fans to generate revenue for the teams in the area, why do these teams fail to further exploit this advantage?[24]

[24] This question has been analysed within the context of professional baseball in USA. In this respect, see J. C. BRADBURY, *The baseball economist: the real game exposed*, Dutton, New York, 2007.

On the other hand, some cities (12 in total) that actually are in the football elite ought to be classified in the non-elite group: Glasgow (United Kingdom), Bremen (Germany), Seville (Spain), Dortmund (Germany), Göteborg (Sweden), Florence (Italy), Liverpool (United Kingdom), Newcastle upon Tyne (United Kingdom), Oporto (Portugal), Palma of Majorca (Spain), Eindhoven (Netherlands) and Bruges (Belgium). In contrast with the previous group, in this particular case, more in depth analysis could be focus on the managerial efficiency or skills displayed by the front offices of clubs based in these cities.

Finally, from the results shown in the Annex, one can find that Glasgow (United Kingdom) is the threshold between non-elite and elite cities. Therefore, according with this view, it could be said that, approximately, a city needs to have more than 577,868 inhabitants and a *per capita* GDP higher than 30,792 euros, to get a chance of belonging to the football elite.

2.2. Cities and teams: some remarks about market size and teams' performance

As there are several problems associated with measuring both concepts, team performance and market size, some further details about them are worth being offered in order to get a more precise interpretation of the previous results derived from our empirical model estimation.

First, among the elite cities that theoretically should not be in this group, we can distinguish two main categories: (i) Cities that according to the criterion adopted in this study are considered to belong to the elite group because of occasional appearances (one or two) of their teams in UEFA Champions League: Newcastle (UK), Seville and Palma (Spain) and Florence (Italy);[25] and (ii) Cities whose hosted teams appear more frequently in the UEFA Champions League stage group: Bremen, Liverpool, Eindhoven, Bruges, Gothenburg, Oporto and Glasgow.[26]

Newcastle is the 20th most populous city in England. The larger Tyneside conurbation, of which Newcastle forms part, is the 5th most populous one in England. The population of the conurbation was 879,996 according to the census of 2001. Newcastle United Football Club is the professional football team based in this city. The team plays in the Premier League and it is historically the seventh most successful club in English football and achieved qualification for the Champions League in two seasons.

In the case of the two Spanish cities, Seville and Palma are considered elite cities because two teams qualified for Champions League only once: Real Betis Balompié (2005/06 season) and RCD Mallorca (2001/02 season). Palma is the

[25] Similar considerations could be made for other cities not included in the data base [i.e. Vigo and San Sebastian (Spain), Udine (Italy) and Lens (France)].

[26] In this group one should include Rosenborg (Norway) and Corunna (Spain). Both of them are small cities whose local teams (Rosenborg B.K. and RCD de A Coruña) have participated quite often in the UEFA Champions League.

major city in the island of Majorca and the capital city of the autonomous community of the Balearic Islands. As of the 2005 census, the population of the city of Palma proper was 375,048, and the population of the entire urban area was estimated to be 517,285, ranking as the 12th largest urban area of Spain.

The population of the city of Seville was 704,154 in 2005. The population of the urban area was 1,043,000. The metropolitan area (urban area plus satellite towns) had 1,317,098 inhabitants in 2005, ranking as the fourth largest metropolitan area of Spain. Seville is the hometown of two rival football teams: Real Betis Balompié and Sevilla Fútbol Club. Sevilla FC won the 2006 UEFA Cup, its first European trophy and retained the UEFA Cup in 2007. In 2006 Sevilla FC was the Best Team of The Year according to International Federation of Football History and Statistics (IFFHS) ranking.

Florence (Firenze) has a population of around 400,000, although the greater Florence area has a population of 957,949 inhabitants. The ACF Fiorentina is the main professional club based in Florence. The classification of this city as belonging to the elite group is due to the appearance of ACF Fiorentina in UEFA Champions League in 1999-00. In 2006 the team lost their UEFA Champions League 2006-07 place due to their involvement in the 2006 Series A match fixing scandal. Despite starting the 2006-07 season with the 15 points penalty, Fiorentina managed to secure a place in the 2007-2008 edition of the UEFA Cup.

The population of Bremen municipality is 547,162. However, the metropolitan area (Bremen-Oldenburg) has a population of more than 2.37 million. This city is the home of SV Werder Bremen, which won the German Football Championship for the fourth and the German Football Cup for the fifth time in 2004. Bremen's reputation is that of a respected and financially healthy club and it is considered as one of the Bundesliga's "second-most-loved club" for fans who first follow their own local side.

Liverpool is one of England's core cities and its fifth most populous (447,500 in 2006) with 816,000 in Liverpool Urban Area. Liverpool is associated with a variety of sports, most notably football. This city has two Premier League football clubs: Everton FC and Liverpool FC Both of them have enjoyed a considerable amount of success, with Liverpool being the most successful team in English football, having won a record of 18 League titles and five European Cups. There has never been a season in which at least one of both teams was not in England top division. Liverpool also has a significant rivalry with Manchester United. This is mostly due to the success enjoyed by both clubs and the geographical proximity of the two cities and both, Liverpool and Manchester United, enjoy a large international support.

Dortmund is a German city located in the Ruhr urban area. Its population of 587,830 (in 2005) makes it the largest city in this area, which is considered part of the larger Rhine-Ruhr Metropolitan Area of more than 12 million people. This metropolitan area is in North Rhine-Westphalia, the largest Federal State of Germany in terms of population and economic output (over 18 million inhabitants and about

22% of Germany's GDP). Dortmund is home of BV Borussia Dortmund, a team with important domestic and international honours which won the UEFA Champions League and the Intercontinental Cup in 1997.

Eindhoven is located in the South of the Netherlands with a population of 209,179 people. However, its metropolitan area has nearly 750,000 inhabitants. Eindhoven is also part of Brabant stad, a metropolitan area with more than 2.3 million inhabitants. PSV Eindhoven is the major football club in the city and was the 1988 winner of the European Cup (Champions League).

Bruges is the largest city of the province of West Flanders in the Flemish Region of Belgium. Bruges is also a football town that benefits from Flemish community support and football demand. West Flanders is the Westernmost province of the Flemish Region with a population of 1,130,040. Bruges hosts two teams at the top level (Jupiler League): Club Brugge and Cercle Brugge KSV. Club Brugge was the only Belgian club which has played the European Cup (forerunner of the current UEFA Champions League) final, so far as in 1978. The club's European record is of 14 appearances in UEFA Champions League.

Oporto is the second most important city in Portugal, with an estimated population in 2005 of 238,465 in the Oporto municipality, 1.6 million in the 14 Greater Metropolitan Area of Oporto and 2.99 million people in the broader agglomeration of Northern Littoral Urban-Metropolitan Region. Due to its economic output and market size, Greater Porto Area is one of the major financial and economic centers of the northwestern quarter of the Iberian Peninsula. Oporto's municipality is the core of a large northern Atlantic conurbation, and Oporto is one of the most industrialized districts of Portugal. As in most Portuguese cities, football is the most important sport in the city. Top division champions FC Porto and Boavista FC are both from Oporto. FC Porto won the UEFA Champions League twice: in 1987 and 2004.

Glasgow has two international successful professional football clubs: Celtic FC and Rangers FC. In order to explain this relatively good performance we must to take into account that there are two distinct definitions for the population of this city: the Glasgow City Council Area (578,790) and the Greater Glasgow Urban Area which includes the urban conurbation around the city (1,168,270). Furthermore, in this case the role played by tradition becomes especially relevant. The world's first international football match between Scotland and England held in 1872 at the West of Scotland Cricket Club's Hamilton Crescent ground in the Partick area of the city.

Gothenburg (Göteborg) is located in the province of Västergötland on the West coast of Sweden. In 2006, the population amounted to 489,787 in the city and 879,000 in the metropolitan area, making it the second largest city in Sweden, after Stockholm. Due to its naturally advantageous location, Gothenburg houses the largest harbour installation in Scandinavia. IFK Göteborg is a Swedish professional football club based in Gothenburg. Besides of appearing frequently in UEFA Champions League stage group, IFK Göteborg, founded in 1904, has won

17 national championships, four national cup titles, and two UEFA Cups.

To the extent that pay-television audiences constitute an increasingly important component of present-day football's customer base, cities like Eindhoven, Bruges, Glasgow, Oporto and Göteborg deserve a special mention. The domestic leagues of countries like Holland, Belgium, Scotland, Portugal, Norway, Sweden and Denmark suffer from a 'minimum efficient scale' problem: national populations are too small to sustain 16 or 18 teams able to employ players of sufficient talent to create a league with standards comparable to those of the big five (England, France, Germany, Italy and Spain) and capable of attracting commensurate spectator and television audiences. As a result, television revenues are modest.

Within the group of cities that do not host top-seed teams in spite of their potential in terms of market size, two sets can be differentiated: a) Cities of big countries with important leagues and with a strong tradition in football: Birmingham (UK), Palermo and Napoli (Italy), Düsseldorf, Cologne, Frankfurt, Essen and Hanover (Germany); and b) Cities of countries with small or less relevant leagues and/or in which there are other sports more important than football: Antwerp (Belgium) and Toulouse (France).

Birmingham is often considered to be the second city of the United Kingdom. This city is the home of two of the country's oldest professional football teams: Birmingham City and Aston Villa. Aston Villa has won European and domestic league honours, though the last time it played in the European Cup was in 1982.

Naples (Napoli) and Palermo are Italian cities with a potentially high market size for football. From this point of view both cities could host top-seed teams. Palermo is the principal city and administrative seat of the autonomous region of Sicily. The Unione Sportiva Città di Palermo, that is based in this city and currently playing in Series A, has traditionally showed a poor performance at European level. SSC Napoli is the professional football club based in Naples. Founded in 1904, the club has spent most of its history in the top tier in Italian football. Historically, Naples is the ninth most successful club in Italian football and the most successful in Southern Italy. Currently, the club is playing in Series A after gaining promotion recently. On the European stage, Naples shows a record of two appearances in European Cup and it even won the UEFA Cup in 1990. Since then, it began its decline.

Cologne (Köln), Düsseldorf and Essen are some of the major cities in the Rhine-Ruhr Area. The largest city is Cologne, which hosts to 1. FC Köln, which competes in the 2nd Bundesliga. In recent years, the club's performance is far from being good. However, professional football is very much a regional affair. In this case, we find three successful cities in this region: Dortmund (it has been commented above), Gelsenkirchen and Leverkusen. Gelsenkirchen (with a population of 267,000 in 2006) is the home of the FC Schalke 04, a club that made its second appearance in the UEFA Champions League in the 2005/06 season. Bayer 04 Leverkusen is based in Leverkusen (161,342 inhabitants in 2006) and made six UEFA Champions League appearances.

Hannover, with a population of 522,944 in 2006, is a major center of northern Germany. Hannover 96 plays in the Bundesliga top division. In this particular case it must be taken into account that from a geographical point of view, this city is close to Hamburg and Bremen, both included among the elite cities. Besides of that, from the point of view of sports specialization it is worth noting that Hannover is one of Germany's centres for ice hockey and is also the leading town in the German Rugby scene.

Frankfurt am Main is the largest city in the German state of Hesse and the fifth largest city in Germany with a population of 661,877. The Frankfurt urban area, which extends beyond the city boundaries, had an estimated population of 1,468,140 in 2000. The city is at the center of the larger Frankfurt Rhine Main Area, which has a population of 5 million and is the Germany's second largest metropolitan area. Eintracht Frankfurt is the best known football team. Although Eintracht played the European Cup final in 1960, more recently, the club has not enjoyed considerable success in competition outside the Bundesliga.

Antwerp is a centre of commerce in Belgium with a population of 461,496. Antwerp province with nearly 1.7 million inhabitants is the most populous province in Flanders. Royal Antwerp FC became the first football club to register to the Belgian Football Association and is the last Belgian team that has played in a European cup final (namely the Cup Winners' Cup) in 1993. Taking into account that the demand of Flemish community is focused on Bruges, it seems that there is no room for another international top team in the area.

With 1.2 million inhabitants in 2007, the Toulouse metropolitan area is the fifth largest in France and the fastest growing in Europe. US Toulouse was founded in 1970. The predecessor side to this club was founded in 1937 as Toulouse Football Club, but it sold its players and its place in French Division 1 professional football in 1967. The football results can be defined as disappointing both at national and international level. However, Toulouse boasts of a highly respected rugby union team, Stade Toulousain, which has been a four-time finalist and three-time winner in Europe's top club competition in the sport, the Heineken Cup. In fact, Toulouse is considered as an epicenter for rugby union.

Conclusions

This paper has explored the economic geography of successful European football teams/cities. Sports geography in general and football geography in particular can be analyzed using concepts found in a wide variety of disciplines, including cultural, historical, economic, demographical, urban and political economy views. By means of those concepts, we can gain a better understanding of the geographic basis and nature of football.

In particular, this paper aims to test the relative influence of the main demographic and economic factors that determine the international football success of a representative sample of European cities. In order to assess the international

teams' performance we use data of UEFA Champions League, which has become the most prestigious football championship in Europe. We estimated a logit model that allowed us to quantify the individual effect of population and *per capita* GDP on the probability of that a European city hosts a top-seed team.

The nuclear hypothesis of this work is that the ability of a community (city) to support a successful football team is a function of the size and wealth of its population. Regarding estimation results at the city level, location of successful football teams is influenced positively by variables proxying the market potential. Econometric estimations report empirical evidence identifying the role of economic and demographic variables in relation to European football teams (cities) performance. In particular, the results support the hypothesis that an increase in cities population and wealth will enhance football performances.

Additionally, we find evidence supporting the idea that the relative impact of population is higher than the effect of *per capita* gross domestic product (GDPpc). These findings about the influence of economic and demographic factors are broadly consistent with earlier ones.

Our results have a number of important practical implications both for cities and teams. For instance, the spatial distribution of successful teams at the city level indicates that there are some *peripheral* cities hosting more teams than the ones that should host more according to their GDP. On the contrary, there are also cities which do not have a top-seed team that are similar to the ones with teams competing in European Champions League. In such a case, the question would be why these cities are not able to support a team? This evidence brings up the interesting issue of if some teams have optimized the opportunities offered by their host cities, benefiting from their location advantages, especially those derived from market size.

To sum up, the empirical evidence derived from the present research allows us to gain a greater understanding of the demographic, economic and geographic basis of European football. Nevertheless, one must be cautious when analyzing these preliminary results. Despite the theoretically assumed centrality of the market size as explanatory variable of teams' performance, it would be excessively simplistic to reduce the location determinants of major football clubs to economic factors. A more precise specification is necessary in future versions to include other variables of interest in order to control for the many elements that influence the location of successful football teams. Much more research is needed on these important subjects. Depending on data availability at local levels, future studies should address the importance of inherently non economic factors of the city (country), such as culture, geography, institutions or historical excellence (tradition) in the context of international football performance. Consequently, the insights generated by this research should be thought of as open to debate.

Annex

RANKING OF CITIES ACCORDING TO THE ESTIMATED LOGIT MODEL

RANK	CITY	COUNTRY	UEFA CLASSIFICATION	LOGIT PROBABILITY
1	London	United Kingdom	Elite	0.9982
2	Berlin	Germany	Elite	0.9860
3	Roma	Italy	Elite	0.9789
4	Madrid	Spain	Elite	0.9785
5	Hamburg	Germany	Elite	0.9529
6	Milano	Italy	Elite	0.9462
7	Wien	Austria	Elite	0.9285
8	München	Germany	Elite	0.9048
9	Barcelona	Spain	Elite	0.8978
10	Lyon	France	Elite	0.8700
11	Lille	France	Elite	0.8626
12	Budapest	Hungary	Elite	0.8401
13	Bruxelles / Brussel	Belgium	Elite	0.8282
14	Warlszawa	Poland	Elite	0.8234
15	Marseille	France	Elite	0.8176
16	Torino	Italy	Elite	0.7964
17	Köln	Germany	No Elite	0.7862
18	Napoli	Italy	No Elite	0.7788
19	Bucuresti	Romania	Elite	0.7311
20	Stockholm	Sweden	Elite	0.7032
21	Birmingham	United Kingdom	No Elite	0.6911
22	Praha	Czech Republic	Elite	0.6798
23	Frankfurt am Main	Germany	No Elite	0.6718
24	Bourdeaux	France	Elite	0.6119
25	Lisboa	Portugal	Elite	0.5872
26	Düsseldorf	Germany	No Elite	0.5743
27	Toulouse	France	No Elite	0.5269
28	Leeds	United Kingdom	Elite	0.5014
29	Nantes	France	Elite	0.4930
30	Rotterdam	Netherlands	Elite	0.4529
31	København	Denmark	Elite	0.4492
32	Valencia	Spain	Elite	0.4455
33	Manchester	United Kingdom	Elite	0.4389
34	Helsinki	Finland	Elite	0.4348
35	Antwerpen	Belgium	No Elite	0.4096
36	Palermo	Italy	No Elite	0.4006
37	Genova	Italy	Elite	0.3987
38	Essen	Germany	No Elite	0.3985
39	Hannover	Germany	No Elite	0.3984
40	Glasgow	United Kingdom	Elite	0.3841
41	Strasbourg	France	No Elite	0.3783
42	Bremen	Germany	Elite	0.3697
43	Rouen	France	No Elite	0.3520
44	Nürnberg	Germany	No Elite	0.3484
45	Seville	Spain	Elite	0.3473

RANKING OF CITIES ACCORDING TO THE ESTIMATED LOGIT MODEL

RANK	CITY	COUNTRY	UEFA CLASSIFICATION	LOGIT PROBABILITY
46	Dortmund	Germany	Elite	0.3464
47	Zaragoza	Spain	No Elite	0.3267
48	Göteborg	Sweden	Elite	0.2746
49	Bologna	Italy	No Elite	0.2744
50	Montpellier	France	No Elite	0.2694
51	Edinburgh	United Kingdom	No Elite	0.2616
52	Firenze	Italy	Elite	0.2493
53	Rennes	France	No Elite	0.2486
54	s' Gravenhage	Netherlands	No Elite	0.2245
55	Sheffield	United Kingdom	No Elite	0.2192
56	Krakow	Poland	No Elite	0.2173
57	Dresden	Germany	No Elite	0.2091
58	Leipzig	Germany	No Elite	0.2071
59	Riga	Latvia	No Elite	0.1994
60	Bari	Italy	No Elite	0.1954
61	Saint-Etienne	France	No Elite	0.1924
62	Lodz	Poland	No Elite	0.1853
63	Bradford	United Kingdom	No Elite	0.1686
64	Málaga	Spain	No Elite	0.1662
65	Bristol	United Kingdom	No Elite	0.1616
66	Liverpool	United Kingdom	Elite	0.1609
67	Bochum	Germany	No Elite	0.1603
68	Poznan	Poland	No Elite	0.1413
69	Venezia	Italy	No Elite	0.1352
70	Katowice	Poland	No Elite	0.1334
71	Wroclaw	Poland	No Elite	0.1333
72	Catania	Italy	No Elite	0.1247
73	Orléans	France	No Elite	0.1237
74	Wuppertal	Germany	No Elite	0.1230
75	Verona	Italy	No Elite	0.1214
76	Newcastle upon Tyne	United Kingdom	Elite	0.1187
77	Oporto	Portugal	Elite	0.1173
78	Vilnius	Lithuania	No Elite	0.1131
79	Nancy	France	No Elite	0.1114
80	Metz	France	No Elite	0.1099
81	Bonn	Germany	No Elite	0.1074
82	Cardiff	United Kingdom	No Elite	0.1061
83	Clermont-Ferrand	France	No Elite	0.1037
84	Karlsruhe	Germany	No Elite	0.1019
85	Bielefeld	Germany	No Elite	0.0972
86	Gdansk	Poland	No Elite	0.0928
87	Wiesbaden	Germany	No Elite	0.0866
88	Dijon	France	No Elite	0.0857
89	Sczecin	Poland	No Elite	0.0854
90	Aberdeen	United Kingdom	No Elite	0.0836
91	Gent	Belgium	No Elite	0.0800
92	Reims	France	No Elite	0.0794

RANKING OF CITIES ACCORDING TO THE ESTIMATED LOGIT MODEL

RANK	CITY	COUNTRY	UEFA CLASSIFICATION	LOGIT PROBABILITY
93	Aarhus	Denmark	No Elite	0.0793
94	Palma	Spain	Elite	0.0786
95	Las Palmas	Spain	No Elite	0.0762
96	Belfast	United Kingdom	No Elite	0.0754
97	Caen	France	No Elite	0.0750
98	Augsburg	Germany	No Elite	0.0708
99	Leicester	United Kingdom	No Elite	0.0621
100	Bydgoszcz	Poland	No Elite	0.0616
101	Malmö	Sweden	No Elite	0.0574
102	Valladolid	Spain	No Elite	0.0553
103	Lublin	Poland	No Elite	0.0509
104	Lefkosia	Cyprus	No Elite	0.0490
105	Liège	Belgium	No Elite	0.0484
106	Cluj-Napoca	Romania	No Elite	0.0482
107	Mönchengladbach	Germany	No Elite	0.0441
108	Amiens	France	No Elite	0.0429
109	Timisoara	Romania	No Elite	0.0411
110	Eindhoven	Netherlands	Elite	0.0392
111	Gravesham	United Kingdom	No Elite	0.0385
112	Craiova	Romania	No Elite	0.0369
113	Charleroi	Belgium	No Elite	0.0366
114	Kaunas	Lithuania	No Elite	0.0352
115	Freiburg im Breisgau	Germany	No Elite	0.0344
116	Taranto	Italy	No Elite	0.0344
117	Mainz	Germany	No Elite	0.0340
118	Cagliari	Italy	No Elite	0.0339
119	Halle an der Saale	Germany	No Elite	0.0330
120	Stevenage	United Kingdom	No Elite	0.0329
121	Limoges	France	No Elite	0.0321
122	Magdeburg	Germany	No Elite	0.0311
123	Braila	Romania	No Elite	0.0280
124	Ostrava	Czech Republic	No Elite	0.0268
125	Oradea	Romania	No Elite	0.0263
126	Bialystok	Poland	No Elite	0.0262
127	Trieste	Italy	No Elite	0.0257
128	Reggio di Calabria	Italy	No Elite	0.0248
129	Erfurt	Germany	No Elite	0.0245
130	Cambridge	United Kingdom	No Elite	0.0234
131	Kielce	Poland	No Elite	0.0227
132	Bacau	Romania	No Elite	0.0222
133	Exeter	United Kingdom	No Elite	0.0219
134	Odense	Denmark	No Elite	0.0218
135	Pamplona/Iruña	Spain	No Elite	0.0213
136	Luxembourg	Luxembourg	No Elite	0.0208
137	Portsmouth	United Kingdom	No Elite	0.0192
138	Torun	Poland	No Elite	0.0182
139	Poitiers	France	No Elite	0.0172

RANKING OF CITIES ACCORDING TO THE ESTIMATED LOGIT MODEL

RANK	CITY	COUNTRY	UEFA CLASSIFICATION	LOGIT PROBABILITY
140	Darmstadt	Germany	No Elite	0.0171
141	Regensburg	Germany	No Elite	0.0170
142	Sibiu	Romania	No Elite	0.0167
143	Targu Mures	Romania	No Elite	0.0159
144	Arad	Romania	No Elite	0.0151
145	Mülheim a.d. Ruhr	Germany	No Elite	0.0149
146	Worcester	United Kingdom	No Elite	0.0138
147	Oviedo	Spain	No Elite	0.0131
148	Wrexham	United Kingdom	No Elite	0.0131
149	Moers	Germany	No Elite	0.0127
150	Göttingen	Germany	No Elite	0.0126
151	Rzeszow	Poland	No Elite	0.0124
152	Setubal	Portugal	No Elite	0.0123
153	Arnhem	Netherlands	No Elite	0.0120
154	Brugge	Belgium	Elite	0.0113
155	Braga	Portugal	No Elite	0.0111
156	Coimbra	Portugal	No Elite	0.0098
157	Piatra Neamt	Romania	No Elite	0.0095
158	Opole	Poland	No Elite	0.0085
159	Olsztyn	Poland	No Elite	0.0080
160	Miskolc	Hungary	No Elite	0.0069
161	Derry	United Kingdom	No Elite	0.0060
162	Jelenia Gora	Poland	No Elite	0.0058
163	Jönköping	Sweden	No Elite	0.0054
164	Zory	Poland	No Elite	0.0052
165	Pecs	Hungary	No Elite	0.0049
166	Logroño	Spain	No Elite	0.0047
167	Funchal	Portugal	No Elite	0.0045
168	Calarasi	Romania	No Elite	0.0044
169	Zielona Gora	Poland	No Elite	0.0043
170	Trier	Germany	No Elite	0.0041
171	Giurgiu	Romania	No Elite	0.0041
172	Alba Iulia	Romania	No Elite	0.0038
173	Umeå	Sweden	No Elite	0.0036
174	Schwerin	Germany	No Elite	0.0034
175	Heerlen	Netherlands	No Elite	0.0033
176	Aveiro	Portugal	No Elite	0.0032
177	Nyiregyhaza	Hungary	No Elite	0.0032
178	Gorzow Wielkopolski	Poland	No Elite	0.0029
179	Nowy Sacz	Poland	No Elite	0.0027
180	Suwalki	Poland	No Elite	0.0021
181	Ponto Delgada	Portugal	No Elite	0.0013
182	Konin	Poland	No Elite	0.0013
183	Santiago de Compostela	Spain	No Elite	0.0013
184	Frankfurt (Oder)	Germany	No Elite	0.0011
185	Usti nad Labem	Czech Republic	No Elite	0.0008
186	Weimar	Germany	No Elite	0.0006