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UEFA EUROPE LEAGUE: PERFORMANCE INDICATORS ANALYSIS AND SUCCESS

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1. ABSTRACT

The objective of the present investigation is to identify and analyze which are the performance indicators which lead teams to the success in top European football. We based our investigation on the 56 teams who joined the 2012-2013 season of the UEFA Europe League.

The game related variables taken into account are the following; shots/received, crosses/received, foul received/committed. Off sides committed/favor, possession minutes, lost/recoveries. All of them compared with a numerical variable called Ranking which gives numerical values to each team based on their performance.

Data were analyzed using ANOVA Analysis, Correlations and Regression Analysis. The results show that the successful teams have significant values in goals scored and shots made although, the possession minutes are not a significant factor in the success of this competition. The defensive variables have a huge impact in the final result as well in terms of goals received, fouls committed and red cards.

Despite football is an unpredictable sport, results show that managers should base on the defensive strength forgetting about ball possession to win this competition. Not always the more possession lead to a fully success.

Key words: *football, performance variables, correlation analysis, regression analysis*

2. INTRODUCTION

The European football has always been focused and determined by the Champions League. It is probably the biggest and most important competition in the entire world. Its importance goes far away from the sport result, lot of factors are included in this competition.

However, it does exist a competition which has a huge impact in European football as well: UEFA Europe League. We could agree that this competition is forgotten by the follower. But it is necessary to argue about its impact.

It is obvious that is a lower tournament if we compare it with Champions League in so many senses; both economic and sporty, as well as its global repercussion.

Nevertheless, this has been a competition which was witness of the rise of historic football teams; such as Napoli of Maradona and Liverpool FC and great sporting feats. So we should have it under huge consideration.

In this study, I will focus on carry out an analysis about which are the performance variables that determine the success in this competition. You will find statistical analysis section as well as descriptive analysis about the general football and the competition.

Finally, for carrying out I inspire my labor on study made by Carlos Lago-Peñas, an acknowledge professor from Vigo University, about the Champions League. In my case, I am going to give a different vision, focusing on trying to find out the empirical relationship between the results and common facts of the football success.

The set of data used for this investigation was provided by the company OPTASPORTS due to a collaboration agreement with the Public University of Navarra. I would kindly like to thank the collaboration. Sincerely, thank you.

3. OBJECTIVES

Does someone know the magic formulation for success in football? More and more mangers and people related to football try to justify their personal theory.

However, one of the first aims of this investigation tries to answer all the questions and end up with the common football myths. Does the ball possession guarantee the final victory? Are the offensive actions more important than the defensive actions?

This study allows me to watch out the football success and performance, from other point of view. I personally consider myself as a huge football follower who has not presented this sport in such interesting and empirical way.

In fact, this investigation gives the opportunity to bring this sport to other sectors such as statistics, mathematics and empirical sciences, which apparently do not show any relationship with football.

Furthermore, this investigation could be really useful for every single professional who is involved in the football universe, such as managers, coaches, analysts or sport journalist as well. As Carlos Lago-Peñas mentioned in his investigation ``this practical intervention can be oriented in a positive way (things or number of things to try to achieve) or in a negative way (things or number of things to avoid)´´ Carlos Lago-Peñas (2010/144)

In this point, we would like to propose the following hypothesis. In the results obtained in the analysis carried out we will figure out some reasons.

Our hypothesis establishes that the sport performance and success of the football teams in the European competitions, such as UEFA Europe League are firmly and directly determined by a set of variables such as goals scored, goals received or team possession during the competition.

I kindly invite you to discover and know a little bit more about my investigation.

4. COMPETITION

4.1 History

Related with the information provided by UEFA in its website we can know deeply about this competition. The UEFA Europe League is a competition disputed by European teams in the whole Europe. It is considered as the second most important team tournament in Europe.

It is necessary to mention that the UEFA Cup was born as a derivation of the Ferias Cup. The tournament was founded in 1955. The idea was to organize a football tournament near the traditional cities parties. However, this competition had no direct affiliation with the UEFA Confederation as it occurs currently.

That is why; the first official tournament was carried out in 1971, when UEFA took part in the cup organization. Historically, this competition had been controlled by English teams. The Kevin Keegan Liverpool´s performances will be remembered as well as Pat Jennings´ Totten ham.

It was the moment when the German, Dutch and Flaming's teams started to face the English predominance. In the 80s, after two wins in a row of Real Madrid CF, the Italian teams set up a domain winning 8 of the 11 finals organized. The Napoli of Maradona is remembered by every single football fan as well as Juventus or Internazionale Milano which achieved the success in this competition 3 times in this time range.

In 1999 there happened a significant fact when the tournament knew as Recup was eliminated from the European football scene. As consequence, the national Cup winners of every European country will be able to join the competition as well.

Since the 2009/2010 season, the UEFA Europe League has been established as the new tournament format, replacing the UEFA system. Club Atletico of Madrid is the most laureate team of the competition with two victories with the new competition face.

4.2 Competition System

In the very beginning the competition is disputed by a total of 193 teams: those classified by its domestic league final position, as well as the national cup winners of every European country. But just 56 reached the possibility to play the final phase.

Among them some teams proceed from the UEFA Champions League which has been eliminated join the competition in the first round. Since its creation the competition has suffered several changes on its organogram and system.

The tournament is placed in 4 playoff classification, until some teams reach the final round competition.

The group phase of the competition is disputed by a total of 56 teams which are divided in 12 groups. Every team will face their three group opponents twice.

During the group phase, every victory is rewarded with 3 points, draws with 1 point and losing teams receive no points. They will lead to the next round the two best teams of each group.

Then it starts the final round, with the best 24 best clubs. It is necessary to add, that in this moment the UEFA Champions League teams are included in the competition. The system is based on direct eliminatory with double match until the final.

In the final system the losing team is the one which have scored less goals than the other in the 180 minutes. If there is a draw, an extra time of 30 minutes will be necessary to know the winner. If the draw remains the winning team will be decided by the penalty kick system.

Since 1977, the final match is placed in a neutral stadium previously decided by UEFA at the beginning of the competition.

4.3 Economic data

The set of economic data that you can observe in this section has been provided by the official UEFA web site as well as other specialized pages. The UEFA Europe League as a global UEFA European tournament dumps several benefits for those teams who reach the chance to join the competition.

It is obvious, that these kinds of profits vary depending on their final tournament performance and classification. In addition, the home league competition is an important factor to take into account as well as the television rights which have an enormous impact on economic team benefits.

As you can see here, we can figure out several simply economic data about the benefits obtained by the teams due to its participation in the UEFA Europe League:

Based on official data obtained from the official UEFA Web Site for this season UEFA is able to share an amount of 208, 75 million of euros between the current team participants.

This quantity breaks down in a 75% from the communication rights, which will be given to the classified teams. The 25% remaining is property of UEFA which uses this amount to covers the administrative and organizative costs of the competition.

The amount perceived by the teams is divided in a 60% of fixed payment and a 40% in variables. This will be distributed by the proportional market value among the participant teams. We should consider the huge difference in market value terms between teams in the competition. VM

The teams earn an amount of 1, 3 million euros just for participate in the group phase. 200,000 are added to this amount for each victory; as well as 100.000 euros per match drawn.

Those teams classified as group leaders will receive 400.000 euros and 200.000 for those in second position.

In the playoff rounds, the amount prizes are considerably higher than the previous rounds:

- 200.000 euros; first round
- 350.000; second round
- 450.000; quarter final round
- 1 million Euros in semifinal.

The competition winning tea is rewarded with 5 million euros, while the second team receives the 2, 5 million euros.

Therefore, each team can earn a maximum of 9, 9 million euros in this competition, without having into account the television right.

From a personal point of view, we can figure out several conclusions and thoughts about the information provided.

Every single team in the football elite dreams about playing a European competition. Not only gives a huge prestigious to the entity at European level, but the economic profits could give a huge push to the entity in so many senses.

However, we must ask ourselves if that is the case of the UEFA Europe League. Commonly known as the second biggest competition in Europe, it does not show its real face. This competition has a second image in terms of economic disappointment for the clubs.

If we make a comparison between UEFA Champions League and UEFA Europe League, the differences are highly notables. It reaches a point where in an accounting point of view it is more lucrative reaching the Champions League classification than winning the UEFA Europe League.

Just the for playing the phase group of Champions League dumps a net earnings of 8 million euros for the entity. Besides, we should add the remaining income due to the television rights. The final amount is notably higher.

We should try to figure out which are the main reasons for this economic inequality. There are so many different factors and a great big variety of them.

Firstly, the publicity contracts signed between UEFA and other interested companies are higher in the UEFA Champions League. It is true that this fact is justified by the audience differences and followers between both competitions. The best visible example is the Russian company GAZPROM, which few years ago reached a lucrative agreement with the European confederation.

Secondly, in previous points we talked about the huge importance of the communication rights for the economic profits of the clubs. The UEFA carries out centralized sales of the television rights, what is more depending on the market fee of the different European leagues.

That is why UEFA Champions League is played by the most powerful teams in Europe. All of them belong to Spanish league, Premier League, Calcio or Bundesliga, which ensures an exponential increase of the television rights value.

Meanwhile in UEFA Europe League participate 48 teams; there is a great diversity of countries represented by teams. In some countries the market fee is more reduce in comparison with other countries. For instance, it is unthinkable to match the Italian television rights with Bulgarian teams rights, the difference is huge and the interest involved in the economic issue are pretty big as well.

On the other hand, modest teams could obtain a great benefit from its European adventure. They could see completely covered their Budget due to this competitions. It is true, that other teams that are used to join UEFA Champions league such as; Porto or Juventus rethink about their competition objectives. In their opinion, the economic profitability of this competition is an important factor to take into account.

All these reasons make the differences between competitions more remarkable year by year. In fact, the fans and followers are even more conscious about the situation. The economic differences between a group of teams and the others are huge; not only in the European competitions but also in their domestic tourneys.

At least, the economic factor is a differential factor which sets up a great competitive advantage between entities and competitions. That is all about.

5. GAME STYLE EVOLUTION

As we know the game style and tactics have varied deeply in the last years. This is a fundamental factor to understand the results in the statistical results obtained in the carried out analysis. Teams and managers try to get used or select the style that fits better with their characteristics.

The kind of players that the team disposes marks the game style of the team. That is a fundamental factor for the sport success, independently of other factors. We should adapt both our offensive and defensive tactics for the team needs. We will always look for focusing on our virtues and hiding our defaults considering several factors as well.

The type of field and its characteristics influence in the game style choice as well. Irremediably, every single football field is different, considering the length, the width, and type of grass firmly determines the game style used by the team.

Let us check out how the game styles have change along the history. The evolution has been remarkable and it has arrived to a common point for every single team.

5.1 Early Years

In the early years, in England the predominant tactic was offensive. The teams looked for the individual actions, focusing on roaming the biggest possible distance with the ball. The main aim was to score as more goals as possible, omitting their defensive labors constantly. The physical factor was determinant and the associative style and combinations was hardly seen.

The clubs started to develop rudimentary technical and tactical analysis of the game. This gave the chance to develop more optimized tactics. The *Pyramidal System* was established in Europe for more than 50 years. It was born the middle fielder position as well as the combinative style. The forward and wing forward was fixed as an revolutionary and new position in the field

They were unbalanced systems and not flexible at all. There was not movement freedom. In fact, every player was focused on the offensive actions forgetting about their defensive labors.

5.2 The WM System

In the 30´s it started the consolidation of the system that expresses the superiority of the collective football over the individual. This was a big step forward and a revolutionary point in the football development.

The 3-4-3 who Hebert Chapman (Arsenal) established was considered as one of the most important tactical revolution. It was settled as the predominant system in the European football. However, it is true that the unbalance and disequilibrium were constant, that is how the final scores were so large.

In subsequent years, 50s and 60s managers looked for strengthen of defense. They wanted to protect themselves from the opponent´s offensive actions and to solve up remaining problems. The common name of Catenaccio in Italy, was made famous by Internazionale Milano which gave an answer to the decrease of the goals scored per game until the 60´s.

5.3 The total football

This is an inflection point in the football evolution. Nowadays the game style and tactics are highly influenced by this kind of football view.

They wanted to find the dynamism and equilibrium inside their own team. They looked for a set of players where every one of them attack and defend at the same time. The fights for the control in the middle turned to be an important regulatory factor of the game.

Rinus Michel, Ajax manager, gave a higher freedom to every player. All of them were in a constant movement both for attacking and recovering the ball possession.

There were position changes, where the wing defenders participated on the attacking movements. The game rhythm increased considerably and the pressing remained during the whole match.

We see several common points between this style and the current one. It is true, that nowadays everything is more controlled and analyzed. However, we consider Rinus Mitchel as the father of the modern football.

As we can see, there were several changes in the modern football until today. Currently, teams look for a higher control on the middle field and in the defense as well.

5.4 Conclusion

Finally, we can figure out that along the years there has been a common point of view trying to fortify the defense. The best attack is a good defense as we mentioned, and we can demonstrate that the success has always been characterized by this fact.

Trying to obtain a higher control over the collective possession and superiority in the middle field is a key factor to reach the team objectives. That leads to a better attack disposition as well as the chance to make more shots and more effectiveness.

Nowadays, there is an important debate about which game style is more effective in terms of final success. On the one hand, some followers argue that the ball possession and control of the middle are the essential factor which leads to success. On the other hand, others do not think in the same way. They support the counter back and tactical defense stringency as the keys for the success.

In this work we are going to try to give an answer in this debate. Let us check based on the samples used if the history and game style evolution support clearly the empirical results obtained.

6 CONCEPTUAL FRAMEWORK

In this point, we are going to focus on trying to figure out a conceptual framework of all the variety of research and investigation that has been carried out all these years.

We should establish a difference between football and other kind of sports. Some researchers tried to set up individual performance profiles in other grouped sports such as rugby and American football (Boulier and Stekler, 2003; Csataljay, et al., 2009; Ibánez, et al., 2008; Jones et al.,2004; Ortega et al, 2009; Sampaio et al, 2010).

Despite the small and scarce investigations carried out about performance indicators and success analysis in football. We should look back and try to explain the main investigations done during all these years.

Firstly, we must highlight an important character in this sector; emeritus professor Mike Hughes, from the Cardiff metropolitan University. He took part in numerous and different kind of works about football and its performance analysis. Not only had he investigated about football, but also about other sports such as rugby or squash. He made a step forward in terms of performance analysis, establishing different and important concepts.

``Performance indicators can be independent of any other variables used´´ and defined the concept as ``selection and combination of variables that define some aspect of performance and help achieve athletic success´´ (Hughes and Barlett, 2002).

Most of the investigations carried out were focused on trying to provide performance indicators as well. However, all these research were done in a different way than mines. They establish a comparison between winning and losing teams in every single match of the competition. In addition, the big majority of the analysis made are all about national teams and their performance in different continental cups, such as European Cup or World Cup.

For instance, Hughes and Franks (2005) compared how the successful and unsuccessful teams performed in the 1990 World Cup in United States. Hughes and Churchill (2005) evaluated the Copa America (2001) tournament in the same way as well as Hook and Hughes (2001) who came up with an investigation about Euro 2000.

In this point, we must add that all these investigations provided non huge and fundamental differences between winning and losing teams. Maybe Hook and Hughes discovered a little influence of ball possession in the total goals scored and final competition result. Nevertheless, the final results were inconclusive.

Finally, there are few studies about the European football in this way. We can make a reference to Carlos Lago-Peñas (2010) or James et al, 2002; Papahristodolou, 2008 or Szwarc, 2007) who analyze the most prestigious European competition, the UEFA Champions League.

That is why the UEFA Europe League is relatively new competition and there is no studies referred to this tournament. That is a brand new point that distinguishes my study from other already done.

Lago-Peñas (2010) divided the variables used in four groups. Those related to goals scored included total shots, shots on goal and effectiveness. Variables related to offense such as Passes; successful passes (%); Crosses; Offside committed; Fouls received; Corners; Ball possession.

From the variables related to defense Lago-Peñas (2010) used the following ones: Crosses against; Offside received; Fouls committed; Corners against; Yellow cards; Red cards. In addition, the author took into consideration some contextual variables which made a huge influence in his final result such as the venue and the quality of the team opposition.

The author argued that depending on the sample used of the study as well as the short of analysis will give different kind of results for the present investigation. The results for the study released than generally winning teams made more shots on goal than drawing or losing teams. Besides, their effectiveness was much higher.

Regarding to the ball possession Carlos Lago-Peñas (2010) suggested that winning teams had a longer ball possession than unsuccessful teams. However, as other investigations carried out in the past his results were not conclusive at all. The author recommended taking into account contextual variables to obtain more accurate results.

As I mentioned before and in Carlos Lago-Peñas own words, `` These results indicate that the type of statistical analysis will determine some results. It should be the goals of the study that determine the type of analysis that is more adequate.´´ Carlos Lago-Peñas, 2010, page 143. This is something essential for every single kind of investigation.

Another interesting and quite new study is about the possession game carried out by Collet in 2012. He tried to establish a relationship between ball retention and team success in the European and International football 2007-2010. This investigation is a little bit closer to my work than the other studies mentioned.

Collet used a data base from the 2007-2008 to 2009-2010 season , composed by teams from the English Premier League, the Italian league Serie A, the French league Ligue 1, German Bundesliga and Spanish la Liga. Data from UEFA Champions League (2007-2008 to 2009-2010) and the UEFA Europe League 2009-2010 were used as well. Collet used a separate data base referred to the National teams.

Referring to the variables used, both databases were analyzed under the same kind of variables: type of competition, home team, away team, home goals, away goals, home shots/ on goal; away shots were some of the variables used.

Collet also took into account the team ranking provided by UEFA as a measure of the quality teams, a factor that obviously could influence in the final analysis result.

Being an investigation about football possession, variables referred to possession could not be missed. Collet calculated the completed passes and total passes using the home/away passes and home/away passes completed.

In terms of the results obtained, he found that there was a close relationship between these two variables in the top level of the European football. However, in lower levels the effects dismished. It is obvious that it is necessary to take into consideration the quality of the teams, like in Europe or South America were the results were conclusive. The findings of this study were really interesting and I strongly recommend making an analysis of it.

This kind of empirical research trying to investigate match analysis in soccer has been commonly focused on the total goals scored by a team and the way the use to build up offensive actions. However, from my point of view that is the reason why this kind of analysis leads to inconclusive results.

The performance indicators in that differentiate successful teams and unsuccessful teams depends on so many various variables. Not just offensive variables must be considered. All the variables referred to defensive actions are extremely important as well.

My investigation is carried out in a different way. While the big majority of investigations focused on the difference between winning and losing teams in each competition match, my analysis focused on the whole tournament performance of the teams.

In my opinion, this is another critical point that should be taken into consideration. Every single match is really different from others; you cannot predict what is going to happen as well as obtaining conclusions about the performance of a team. This is what makes football beautiful and it will be.

The results of the studies must be taken with extremely care. This kind of analysis has been done and reduced to a limited number of teams, in this case all the teams that joined the UEFA Europe League in the two last seasons. So from my point of view, the results must not be applied to every single team of football, there are so many circumstances to be taken into account as well.

7 DATA AND VARIABLES

7.1 Data

The aim of the following section is to identify the performance indicators. These are the main responsible of setting up the success in the competition, in this case UEFA Europe League.

The data that I used to carry out this set of analysis have been issued by OptaSports. In this point, I would like to appreciate their effort and their information.

In this case the data analyzed is the group of teams which participated in UEFA Europa League in season 2012-2013. There is a huge variety of countries represented in this competition with 27 European countries. In the following table we can see 56 teams which reached the final phase of the competition.

In this point we can see the list of teams that participated in the last UEFA Europe League season; 2012-2013:

SEASON 2012-2013
ACADEMICA (POR)
AOL LIMASSOL (CHP)
AIK SONLA (SWD)
AJAX * (NED)
ANZHI (RUS)
ATHLETIC (ESP)
ATLETICO (ESP)
BASILEA (SUI)
BATE BORISOV * (BUL)
BAYERN LEVERKUSEN (GER)
BENFICA * (POR)
BORUSSIA MONDEGLADBACH (GER)
BRUJAS (BEL)
YOUNG BOYS (SUI)
CLUJ * (ROM)
CHELSEA * (ENG)

COPENHAGUE (DEN)
DINAMO KIEV * (UKR)
DNIPRO (UKR)
FENERBAHCE (TUR)
FK PARTIZAN (SER)
GIRONDINS BOURDEAUX (FRA)
HANNOVER 96 (GER)
HAPOEL IRONI (ISR)
HAPOEL TV (ISR)
HELSINGBORGS (DEN)
INTER (ITA)
LAZIO (ITA)
LEVANTE (ESP)
LIVERPOOL (ENG)
MARIBOR (SLO)
MARITIMO (POR)
METALIST KHARKIV (UKR)
MOLDE (NOR)
NAPOLI (ITA)
NEWCASTLE (ENG)
OLYMPIAKOS * (GRE)
OLYMPIQUE LYON (FRA)
OLYMPIQUE MARSEILLE (FRA)
PANATHINAIKOS (GRE)
PFC NEFTCHI (AZR)
PSV EINDHOVEN (NED)
RACING GENK (BEL)
RAPID WIEN (AUT)
ROSENBORG (NOR)
RUBIN KAZAN (RUS)
SPARTA PRAGUE (CZH)
SPORTING LISBON (POR)
STEAUA BUCHAREST (ROM)
STUTTGART (GER)

TOTTENHAM (ENG)
TWENTE (NED)
UDINESE (ITA)
VIDEOTON (HUN)
VIKTORIA PLZEN (CZH)
ZENIT ST.PET * (RUS)

We should point out that those teams marked with a * sign, joined the competition in the eliminatory phase. These groups of teams were eliminated from the UEFA Champions League in the group phase in third position, which allowed them to play the UEFA Europe League.

In the 2011-2012 Season it was Club Atlético de Madrid who finally won the UEFA Europe League, beating Athletic Club in the Spanish final which took place in Bucharest. On the other hand, Chelsea Football Club reached the victory in the 2012-2013 season getting over Benfica Lisabon 2-1 in the Amsterdam Arena final. This final will be remembered by the Branislav Ivanovic´s goal in the added time.

7.2 Variables

We find out several variables that are distributed in several groups depending on the ``game vocation´´. However, in this point I decided to make a selection of the most important and useful for the point of the analysis. Based on that, I used different performance variables, which I strongly consider as the most important ones.

GROUP OF VARIABLES:

- RANKING (Rank i): Dependent Variable

Related with goals scored:

- Goals scored (Golmar i)

Related with goals received:

- Goals received (Golrecib i)

Related with offensive actions:

- Total shots
- Crosses
- Fouls received
- Offsides committed
- Total possession minutes
- Lost balls

Related with defensive actions:

- Total shots received
- Crosses against
- Fouls committed
- Yellow cards
- Red cards
- Offsides received
- Recoveries

7.2.1 Ranking variable

However, the most important variable in the whole investigation is the **RANKING variable**, showed as rank i, in the econometrical and regression model. I base all the study trying to figure out relationships with this particular variable, which shows the success of the teams and its final result in the competition.

We consider this variable as the DEPENDENT variable as you will see in the next sections of the study. How bigger are the correlations and relationships between the different performance variables and the ranking variable. That is what I want to show, and what will give me different results.

It is really complicated to make a proper classification of the set of teams who joined the UEFA Europe League in 2012-2013 season. There is an official statistical table provided by UEFA, which based on several variables such as goals scored, goals received, off sides, fouls committed and so on, establishes a ranking of the teams.

I consider the ranking as a **numerical** and **quantitative** variable due to that; I give several values, based on the team result and performance in the competition for computing several analyses with the ranking variable as independent. This factor allows us to use the Linear regression model or the multiple regression model on our analysis.

I give the value 56 (points) to the first classified. Apparently, Chelsea FC is the first classified. But in the UEFA Classification the second classified Benfica appears at the top of the table. You can check out this table at the end of the study.

I give 55 points to the second one, and so on. The last classified with a score of just 1 point. From, my point of view this is the most accurate method to make a proper distribution of the different teams in the competition based on their performance.

7.2.2 Offensive variables

In the variables related with the offensive actions we can see those typically related with the attempts of the team to score goal, such as total shots, crosses and total possession minutes. In this point, I consider the fouls received during the offensive actions and the lost balls as well, as significant variables in this point.

From my point of view, the **minute of possession** variable is an essential one in our investigation. I personally consider this variable as the key to describe the collective offensive tactics. It refers the ability to build up the offensive actions. ``

Collaboration, movement and opposition are the three key words to analyze the collective tactic, both offensive and defensive´´ (Riera, 1995, pag 55). Indeed, are the three essential factors of the possession building up process.

The common and shared opinion is that the more ball possession, the higher success or victory probability. FC Barcelona or Manchester United FC was the two best representatives of this idea. However, as we mentioned before one of our first aim in this investigation is trying to end up with this myths.

It is obvious that other offensive variables such as **total shots** or **crosses** are indicative of attacking situations for every single team. It is not necessary to explain that the more shots or the more attempts to score a goal, the more chances has the team to achieve its objective.

In this set of variables the **lost balls** and **fouls received** are included as well. This two variables are quite similar. They arise both due to the defensive actions of the opposite team and own turnovers of the players. But all this actions happened when the team is carrying out offensive movements and it is on ball possession.

7.2.3 Defensive variables

On the other hand, I include in the **defensive variables** those related to the defensive actions of the team and offensive actions received, such as the recoveries and the shots and crosses received. The defensive actions allows the team to start a new offensive action being able to focus on scoring.

However, the yellow and red cards are significantly important. At first sight, they could be not essential as other variables. But they show the capability of the team of to abort the opposite offensive actions with or without committing fouls.

7.3 A personal study

In this part we tried to follow the steps of Carlos Lago-Peñas in his analysis about the differences in performing indicators between winning and losing teams in the UEFA Champions League.

However, Carlos Lago-Peñas made an analysis in a different way to mine. He tried to identify the performance variables that lead to success basing on a set of matches between 2007 and 2010.

In this point, my point of view is going to be different. My data basis is composed by the set of teams that take part in the UEFA Europa League in 2012-2013 season.

7.4 Methodology

This analysis would allow us to make a comparison based on what we mentioned about the different game styles. Recording to its influence and which one of them has an impact on the success currently.

Firstly, we carry out a process of DISCRIMINATORY ANALYSIS considering which are the important ones as well as discriminating among those who are not.

As Carlos Lago -Peñas said in his investigation, ``discriminant analysis allows researcher to study the differences between two or more groups of objects with respect to several variables simultaneously´´ Carlos Lago-Peñas (2010) Pag.139. That is why we have distributed the variables in several groups.

However, we would like to figure out whether there is a direct relation and influence between variables. That is why we use the REGRESSION and CORRELATION ANALYSIS to check out the possible relationship between two variables.

The REGRESSION ANALYSIS is a statistical process that studies the functional relationship between variables, the grade of dependence. On the other hand the CORRELATION ANALYSIS is a group of techniques which measure how intense the variables relationship is. This is the association grade (interdependence) between two variables.

In terms of REGRESSION we can differentiate two groups:

- SIMPLE REGRESSION, in which just one independent variable intervenes.
- MULTIPLE REGRESSION, in which two or more independent variable intervene in the analysis.

Depending on the linearity of the relationship we can split up the concept in two groups as well:

- LINEAL, when the variables combination is completely lineal
- NON LINEAL, when the variable relation is not lineal.

In this case, most of the times we used the simple lineal regression model to identify the direct relationship between an independent variable and another dependent one. For

instance, we can calculate a relationship between the final ranking of a team in the competition and the total goals scored by this team.

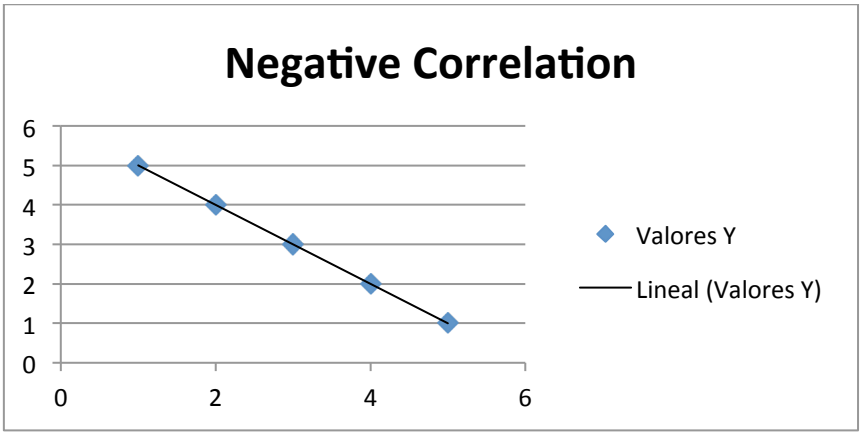
There is a common procedure to make an estimation of the LINEAL REGRESSION SIMPLE:

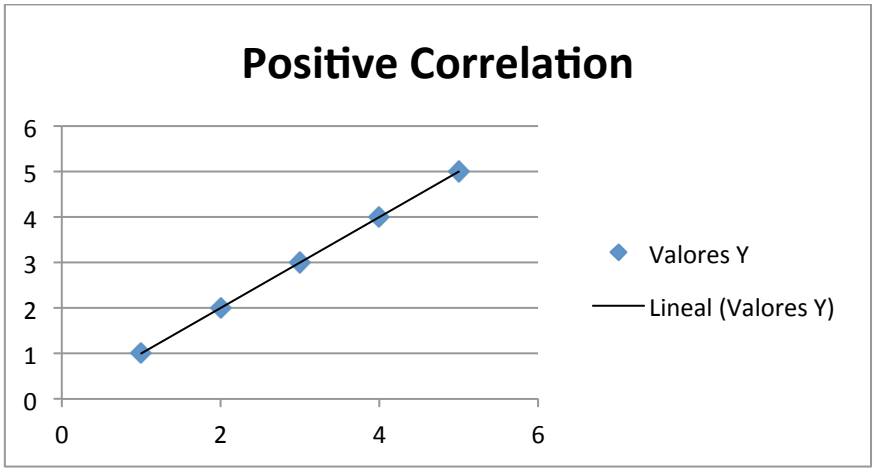
1. You set up the regression model that we have mentioned before in the Econometrical analysis section.
   Y= Bo+B1x+e
   Regression ecuation:
   E(x)=Bo+B1x
2. After that we collect the simple date of both variables. Numerical and descriptive data provided by Optasports that you can check it out on the annex.
3. We draw an estimative equation of the regression model:
   `y=b0+b1x
4. Estimation of parameters.

In terms of the CORRELATION ANALYSIS we can obtain several numerical results which show different grades of relationship between variables. In this investigation I will focus on the Pearson Correlation coefficient, which is a measure of the lineal association between two variables.

Values vary between 1 and -1. The sign of the coefficient shows the way of the relation while the absolute value measures the strength. The higher the value the closer is the relationship.

- Values -1 or 1, show perfect correlation.
- Values of 0 or close to 0 show no correlation between variables.
- Negative values show a lineal inverse relationship and positive values point out lineal relationship





On the other hand, it is essential to carry out another interesting statistical analysis. In this case, we are going to discuss about the VARIANCE ANALYSIS or known as well as the ANOVA Analysis.

It is a method used to make a comparison between two or more averages of different poblations or samples. That is why in this point; we carried out the average values of the selected variables.

Finally, we must add that all this analysis was carried out using several statistical tools such as ISSPS and Grtl. That is why we launch the main question; ¿ have the variables mentioned a relationship? Do these performance variables influence the final football success? Let see the results that will give an answer to the question.

That is why I would like to present an preliminary statistical analysis of the data, based on the results obtained via SPSS tool. This allows us to obtain different frequencies, graphic representations of the distributions as well as the most statistical descriptive used.

In this point we are going to figure out, how to carry out an econometrical model about the question that we are dealing with.

There are several and really different definitions of the concept of Econometrics enounced by specialist on the field:

- Intrilligator (1978) ``Economic branch which gives an empirical estimation to the economic relationships´´.
- Valavanis (1959) described the econometrics as `` a science whose aim is to express the economic theories under a mathematical form in order to check them for statistical methods and to measure the impact of a variable on other one, as well as to predict future events and to give advices of economic politics before desirable results´´

We are looking for designing a function that would explain how different variables influence the success or the performance in this case in the UEFA Europe League.

Let us remind which the main elements of the econometric function are:

Y=Bo+B1x1+B2x2+…….+Bkxk+U1

Y= Dependent variable

Bo/Bk= deterministic parameters

X1/xk= independent variables

U1= error.

In every econometric model it is essential to formulate a hypothesis to proof. In this case:

- Ho: Bj=0 ;
- Ho: Bj not 0, in which if we accept means that the analysis does not give significative information.

``Our hypothesis establishes that the sport performance and success of the football teams in the European competitions, such as UEFA Europe League are firmly and directly determined by a set of variables such as goals scored, goals received or team possession during the competition.´´

As we mentioned in previous points we have selected some variables that we considered highly influential for the team performance during the competition.

In this case our MODEL is the following one:

Rank i = b1golesmarc + b2golesencaj + b3partidosjugados + b4rematesrealiz + b5rematesrecib + b6balonesrecup + b7balonesperdid + b8tarjetasama + b9tarjetaroj + b10minposesion + b11faltasrecib + b12faltascomet + b13offsidesrec + b14offsidescomitt + b15centrosrealiz + b16centrosrecib + ui

7.4.1 The ols method

I would like to introduce here a concept that will have a strong impact on the performance analysis. The OLS method or Ordinary Least Squares is one of the most used method in the linear regression model. It allows to find de best unbiased lineal estimators, it is really easy to compute as well as its ability to adapt itself no matter which econometrical postulation.

As we mentioned in the Statistical tool point, the OLS Method is directly related with the Regression and Correlation concept, which allow us to figure out relationships between different variables.

However, we should distinguish between Linear regression model and multiple regression model.

In the simple Linear Regression Model the X just have 2 variables and one of them is constant. So we can figure out a relationship between the Y or dependent variable and only one independent variable X.

$Yi = \square + Bx1 + ei$

While the **Multiple Regression model** refers to more than two X variables in the equation. Let us check the equation:

Yi= B1+B2xi + B3xi2 + Bxi3 + …… + u

In my investigation we use the multiple and simple linear regression model because of the dependent variable nature. As we said in the ranking variable section, we consider it as a quantitative and numerical variable which allows us to use this model.

In terms of the PROPERTIES of the OLS method we can make a reference to 4 essential characteristics.

- Linearity, lineal relationship between the real value and the estimation.
- Unbiased, refers to the similarity between the real value and the estimated valued.
- Efficiency, the deviation between the real value and of the estimated parameter and the estimated value will be the least possible.
- Consistency, if the sample is infinite the difference between the real value and the estimation is nulled.

In this point we just want to explain the concept in a superficial way that is why we are not going to make a deep explanation of the econometrical derivations of the OLS method.

6. ANALYSIS

In this point we try to come up with some ideas or answers to the questions before. In this point I will show the analysis process. While in the next section we will figure out some conclusions obtained from the results. We focus on analyzing the Season 2012-2013 of the UEFA Europe League, based on the data provided by OPTASPORT.

However, in this point I must add that all the teams data have been calculated match per match. All the numerical data have been divided by the total matches disputed by the team. That is a measure used to make proper conditions calculation among teams.

In this section, I compute the most interesting analysis which could give us the better conclusions for this investigation as well as reaching the objectives set in the introduction part.

6.1 Ranking vs Minutes of possession

The myth of the possession as one of the main keys for reaching the success is commonly accepted by lot of people. However, based on the Pearson Correlation index the results do not share the same opinion.

Considering the ranking as dependent variable and minutes of possession as independent variable, we obtain the following interesting results provided by ISPSS:

Correlations

		Rank	Minutosposes
Rank	Pearson Correlation	1	-,248
	Sig. (bilateral)		,065
	N	56	56
Minutosposes	Pearson Correlation	-,248	1
	Sig. (bilateral)	,065	
	N	56	56

The correlation index shows no relationship between the variables ranking and minutes of possession. If we compute the Ordinary Least Squares method using Gretl, we obtain similar conclusions.

Modelo 2: MCO, using observations 1-56
Dependent variable: Rank

	Coeficient	*Desv. Típica*	*Estadístico t*	*P value*	
const	51,3508	12,3378	4,1621	0,00011	***
Minutosposes	-0,960971	0,511057	-1,8804	**0,06546**	*

Variance Analysis:

Squares sum	gl	Squares average
Regresion	899,058	1	899,058
Residual	13730,9	54	254,277
Total	14630	55	266

R^2 = 899,058 / 14630 = 0,061453
F(1, 54) = 899,058 / 254,277 = 3,53575 [Valor p **0,0655]**

The p-value is higher than the significance point established p<0,05 or p<0,01, as well as the coefficient of the model, with a negative value which shows no relationship between the variables.

6.2 Ranking vs Goals Received

We observe a high level of significance between these two variables. However, we should make the results interpretation in a different and opposite way. The more goals received the higher probability of losing games. The more goals received, apparently the worse ranking.

Considering ranking as the independent variable and goals received as dependent variable we obtain the following results applying the OLS method by Gretl.

Model 7: OLS, using observations 1-56
Dependient Variable: Rank

	Coeficient	*Desv. Typical*	*T statistics*	*P value*	
const	53,5698	4,5837	11,6870	<0,00001	***
Golesenc	-19,8274	3,36177	-5,8979	<0,00001	***

The results obtained are clear. The more goals received, the worse ranking position the team obtained. We see the column called coefficient which shows this relationship.

Rank i= 53.5698 – 19.827 golesenc i

6.3 Ranking vs Goals scored

It is obvious that there must be a relationship between goals scored and the ranking obtained. The more goals a team scored during the championship, the better ranking. In this investigation, if we compute the Correlation analysis carried out by SPSS, we obtain a positive relationship but not conclusive at all.

Correlations

		Rank	Golesma
Rank	Pearson Correlation	1	,082
	Sig. (bilateral)		,548
	N	56	56
Golesma	Pearson Correlation	,082	1
	Sig. (bilateral)	,548	
	N	56	56

In the appendix we can notice several statistical tables, with data of the clubs who played the UEFA Europe League in the last season.

6.4 Ranking vs Defensive Variables

On the other hand, we can focus this analysis in a different way, taking into account what is the effect of the defensive actions by a team during the competition, on its final result. In this analysis we include the defensive variables mentioned in later points.

Carrying out ANOVA Analysis for the variables considered in the defensive group we obtained some of them whose levels of significance are below or similar to 0, 05 which shows an influence on the dependent variable.

For instance, **goals received** and the **shots received** have a huge significance on the final result of the team in the competition. This is supported by the ANOVA Analysis obtained with a level of significance of 0,013.

On the other hand, the **fouls committed** are another variable which shows interesting values in the ANOVA Analysis with a value of 0.051 really close to the significance levels.

One Factor ANOVA

Rank

	Suma de cuadrados	gl	Media cuadrática	F	Sig.
Inter-grupos	13622,815	46	296,148	2,796	,051
Intra-grupos	953,167	9	105,907		
Total	14575,982	55			

At last but not least, the **red cards** show significance levels as well in the analysis carried out. 0,001 is the significance value, lower than 0,05 or 0,01.

All the analysis computations for the defensive variables in relation with their influence with the final ranking are shown in the Appendix and explained in the next section.

7. CONCLUSIONS AND DISCUSSIONS

This section is reserved to show the results and conclusions obtained from the analysis carried out for the data of 2012-2013 Season of the UEFA Europe League. From my point of view, it has been quite difficult to obtain interesting and useful results. That UEFA Europe League season was different than others.

Remind that Chelsea Football Club achieved the final victory in the competition, a team who firstly played the UEFA Champions League. It disputed the final against Benfica, a team of the same condition. This is a factor that we will take into account because the statistics of these two teams compared with others which started the competition from the beginning are really different. That is why I computed all the data based on the number of games played by each team.

Something to notice and which influences the results interpretation is Chelsea´s own style. Their game style and football point of view of Rafael Benitez, Chelsea´s former coach, have a huge impact on the results.

It is obvious that there is a relationship between the **games played** during the competition and the final ranking. The more games played the higher ranking which means that the club reached a better position in the final result. Computing an ANOVA analysis we see a significance level of 0.00

However, this Season was a little different because it was an ex-Champions League team who joined the competition in the eliminatory phase and who finally reached the victory.

On the other hand, we start analyzing the relationship of the **offensive variables** with the final ranking. How the attack performance variables influence on the final result. Obviously, there exists a huge significant relationship between the **goals scored** and the final result.

The higher amount of goals scored the better final ranking. The statistics table showed that the four best teams (Chelsea, Benfica, Fenerbaçe and Basel) are in the top ten of scorers. Lago (2010) with his study of 380 matches of the Spanish League in 2009-2010, showed that successful teams have higher values in this point.

However, an interesting issue should be noticed. The total minutes of **ball possession** is not significative, which means that is not important for the final team result.

We can explain this due to the Chelsea´s game style, which is not characterized by long time possession actions. The counter back and the fast defensive-offensive transactions were the main characteristics of the English team last year.

In other investigations we find not interesting results about the relationship between ball possession and success (Bate, 1988; Grant et al. 1999; Hook and Hughes, 2001; Hughes and Franks, 2002; Stanhope, 2001).

Maybe there is a close relationship between my results and the studies from Bate, 1988; Stanhope, 2001 who showed that there was not existing relationship between success and ball possession. On the other hand, Carlos Lago-Peñas truly confirmed a positive relationship between these two variables. However, the sample and the method used influence the final results as we know.

Chelsea´s success last year was based on a huge and strong defense. Making some mathematical calculations and based on the games played, they were one of the teams who received a lower quantity of goals.

According to these results we can make a contradiction to all groups of people who still believe that in every single match ball possession is a performance indicator that lead to success.

Another inconclusive result is the level of significance of the **shots made** based on the ANOVA analysis, the results are not significant. Something strange taking into account that teams such as Basel, Internazionale Milano, Lazio are in the top scorers and shots made. Maybe the team who breaks the rule is Stuttgart who had the highest value in terms of shots made, but just reached the top-16 of the competition.

Referring to the **defensive variables**, we discovered several levels of significance.

In another of our analysis we can figure out a negative relationship between ranking and **goals received**. This is pretty obvious, and we just have to check out the final statistics table in the Appendix. For instance, Napoli SC was the team who received more goals per game, with 2.12. The Italian team just reached the top 32 of the competition.

In addition, other defensive variables such as **red cards** had significance differences between successful and not successful teams. The level of significance for red cards is show that has a huge influence on the team performance. Lago (2010) reached quite similar

results in terms of red cards for winning teams. The difference between have eleven players on the pitch than have one or two less is quite huge. This could unbalance the normal game circumstances, giving the opposite team a huge chance to take advantage of this factor.

The **fouls committed** variable have an influence in the performance as well. Nowadays, the defensive tactical movements and the pressing have a huge importance in the modern football. What is more; Basel, Lazio and Fenerbahçe are in the top 3 of more faults committed. They are characterized by a huge defensive intensity. In my opinion, one of the main reasons here are contextual factors in Turkish football which is surrounded by a passion atmosphere are commonly recognized by this factor, as well as Benfica of Jorge Jesus, Portuguese Manager with a huge dominance of the defensive order.

To conclude, as I already commented in other points this kind of investigation could be really useful in many ways. In my opinion, this investigation provides interesting information from a statistical point of view which could be really useful for all the professionals inside the football universe.

Based on the results obtained managers should take into account that for winning this competition not always only the offensive tactic is the essentially. As we can see, coaches must build up a great defensive system based on pressing and intensity. The lower amount of goals received guarantees a better position in the final classification.

Since its new competition system, the UEFA Europe League has been conquered by teams that do not have special predilection by the game possession. We just have to see Club Atletico de Madrid and Chelsea FC style which share several characteristics, based on defense and counter back.

I strongly recommend managers to follow the ideas and approaches of Jose Mourinho, Diego Pablo Simeone or Rafael Benitez. Their game style visions fit perfectly with what is really needed to win this competition.

Based on the results obtained, would possession dominant teams have success in this kind of competition? In this point, we can mention FC Bayern from Josep Guardiola or FC Barcelona which based their style on the possession control. The outcome obtained in the analysis argues that they would not have success in the competition.

Despite the results I personally think that this kind of teams always have a strong presence on the competition. Their individual player quality is a differential factor above every tactic

idea approached. However, something is changing in the modern football. We can see a tendency change respecting this past years. Possession is not everything in football, there are other aspects equally or even more important than the control of the ball.

Nevertheless, I still honestly believe that football is a sport completely unpredictable. You cannot predict the main indicators which lead to a complete success in a competition or in a single match.

This competition is specially complicated reaching a special success. There are so many different circumstances involved that no other competition has. For instance, the big variety of European nations and teams makes it even harder to predict which would be the circumstances involved in the competition. The bigger variety, the higher football style differences between teams. This is something that empirical results and statistical analysis cannot figure out.

From my point of view, another factor needed to take into account is the support fan commitment and the economic factor. As we mentioned in the investigation the economic prize is very much lower than the UEFA Champions League. This is a fact that some teams reasoned to avoid disputing the competition.

It is true, that variables such as goals scored, effective passes or goals received are really important in the end. But, as I said in my introduction nobody has the magic formulation to reach the success for sure. There are so many factors, so many circumstances that we cannot control like injuries, weather or human errors which can always completely change our predictions.

That is what makes this sport beautiful and in general all the teams or grouped sports.

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9. COMPETENCES

Instrumental generic competences

COMPETENCES	TFG SECTION
CG01 Analysis and sintesys capability	All sections
CG02 Organization and planification	All sections
CG04 Foreign language Oral and writting comunication	All sections
CG05 Informatic knowledge about the study	Analysis and results interpretation
CG06 Analyze and information search from different sources	All sections
CG07 Hability solving problems	Analysis and results interpretation
CG08 Decision taking capability	All sections

Personal generic competences

COMPETENCES	TFG SECTION
CG14 Critical capabilty	All sections
CG15 Ethical work commitment	All sections
CG16 Working under pressure capability	All sections

Systematic generic competences

COMPETENCES	TFG SECTION
CG17 Own learning capability	All sections
CG22 Quality motivation	All sections

10. APPENDIX

TABLE 1: General Ranking

Reference:
http://www.uefa.com/uefaeuropaleague/season=2013/statistics/round=2000356/clubs/index.html

Team	Goals Score	Goals rec	Yellow card	Red cards	Shots	Offsides	Corners	Fouls Com.
SL Benfica	15	9	23	0	52	14	39	122
Chelsea FC	17	10	15	0	58	19	52	88
FC Basel 1893	18	15	37	3	73	49	69	207
Fenerbahçe SK	18	12	31	1	62	44	66	171
SS Lazio	20	9	31	2	65	23	60	178
Newcastle United FC	11	9	27	0	45	41	43	155
FC Rubin Kazan	18	9	25	3	57	23	34	139
Tottenham Hotspur FC	19	14	22	1	63	34	75	141
FC Zenit	4	5	8	1	18	3	21	56
FC Anji Makhachkala	11	8	22	2	37	20	48	139
FC Girondins de Bordeaux	14	10	16	0	51	31	39	123
FC Internazionale Milano	20	13	20	0	52	42	37	141
Levante UD	14	7	20	1	47	29	55	147
FC Viktoria Plzeň	17	6	19	0	37	30	61	147
FC Steaua Bucureşti	13	14	21	2	44	21	54	140
VfB Stuttgart	13	12	20	0	71	20	54	111
AFC Ajax	2	2	4	0	6	6	12	21
FC BATE Borisov	0	1	7	1	7	4	7	30
CFR 1907 Cluj	0	5	5	1	4	2	4	35
FC Dynamo Kyiv	1	2	5	0	9	6	13	28
Olympiacos FC	0	4	11	1	6	3	7	30
Club Atlético de Madrid	8	6	15	1	47	21	54	98
FC Dnipro Dnipropetrovsk	17	11	20	2	42	18	46	124
KRC Genk	10	7	12	0	36	17	30	94
Hannover 96	13	12	22	1	35	11	38	92
Bayer 04 Leverkusen	10	5	14	0	54	21	46	80
Liverpool FC	14	12	11	0	45	24	56	89
Olympique Lyonnais	16	11	15	0	47	17	40	97
FC Metalist Kharkiv	9	4	9	0	42	23	40	102
VfL Borussia Mönchengladbach	14	11	13	0	35	19	34	110
SSC Napoli	12	17	24	2	36	16	36	144
AC Sparta Praha	10	8	17	0	30	18	28	130
A. Académica de Coimbra	6	9	16	0	29	7	21	93
AEL Limassol FC	4	10	16	2	20	13	33	89
AIK Solna	5	14	14	0	15	14	21	89
Athletic Club	7	9	13	0	39	22	50	69
Club Brugge KV	6	11	13	0	29	15	30	79
Hapoel Kiryat Shmona FC	6	13	17	0	18	19	17	66
Hapoel Tel-Aviv FC	4	11	13	2	13	16	23	83
Helsingborgs IF	9	12	7	2	27	23	28	76
FC København	5	6	6	0	25	13	22	70
NK Maribor	6	10	10	2	25	17	24	66
CS Marítimo	4	6	10	0	19	13	34	77
Olympique de Marseille	9	11	15	0	24	15	29	86
Molde FK	6	8	7	0	26	11	26	57
Neftçi PFK	4	8	14	0	17	14	25	70
Panathinaikos FC	4	11	9	1	20	17	18	68
FK Partizan	3	8	17	1	22	10	20	61
PSV Eindhoven	8	7	12	0	33	23	38	84
SK Rapid Wien	4	14	6	2	25	7	31	81
Rosenborg BK	7	10	10	0	26	18	21	81
Sporting Clube de Portugal	4	10	18	3	35	14	43	79
FC Twente	5	10	9	1	23	23	44	69
Udinese Calcio	7	12	20	2	27	23	31	90
Videoton FC	6	8	11	2	23	10	13	64
BSC Young Boys	14	13	14	0	29	13	22	104

Team	Average	Total
Internazionale	2	20
Lazio	1.67	20
Tottenham	1.58	19
Basel	1.29	18
Fenerbahçe	1.29	18
Rubin	1.5	18
Chelsea	1.89	17
Dnipro	2.12	17
Plzeň	1.7	17
Lyon	2	16
Benfica	1.67	15
Bordeaux	1.4	14
Levante	1.4	14
Liverpool	1.75	14
Mönchengladbach	1.75	14
Young Boys	2.33	14
Hannover	1.62	13
Steaua	1.3	13
Stuttgart	1.3	13
Napoli	1.5	12
Anji	1.1	11
Newcastle	0.92	11
Genk	1.25	10
Leverkusen	1.25	10
Sparta Praha	1.25	10
Helsingborg	1.5	9
Marseille	1.5	9
Metalist	1.12	9
Atlético	1	8
PSV	1.33	8
Athletic	1.17	7
Rosenborg	1.17	7
Udinese	1.17	7
Académica	1	6
Club Brugge	1	6
H. Kiryat Shmona	1	6
Maribor	1	6
Molde	1	6
Videoton	1	6
AIK	0.83	5
København	0.83	5
Twente	0.83	5
AEL	0.67	4
H. Tel-Aviv	0.67	4
Marítimo	0.67	4
Neftçi	0.67	4
Panathinaikos	0.67	4
Rapid Wien	0.67	4
Sporting	0.67	4
Zenit	1	4
Partizan	0.5	3
Ajax	1	2
Dynamo Kyiv	0.5	1
BATE	0	0
CFR Cluj	0	0
Olympiacos	0	0

TABLE 2: Goals Scored Ranking

Reference: http://www.uefa.com/uefaeuropaleague/season=2013/statistics/round=2000356/clubs/type=goalsscored/index.html

Team	Average	Total
Napoli	2.12	17
Basel	1.07	15
AIK	2.33	14
Rapid Wien	2.33	14
Steaua	1.4	14
Tottenham	1.17	14
H. Kiryat Shmona	2.17	13
Internazionale	1.3	13
Young Boys	2.17	13
Fenerbahçe	0.86	12
Hannover	1.5	12
Helsingborg	2	12
Liverpool	1.5	12
Stuttgart	1.2	12
Udinese	2	12
Club Brugge	1.83	11
Dnipro	1.38	11
H. Tel-Aviv	1.83	11
Lyon	1.38	11
Marseille	1.83	11
Mönchengladbach	1.38	11
Panathinaikos	1.83	11
AEL	1.67	10
Bordeaux	1	10
Chelsea	1.11	10
Maribor	1.67	10
Rosenborg	1.67	10
Sporting	1.67	10
Twente	1.67	10
Académica	1.5	9
Athletic	1.5	9
Benfica	1	9
Lazio	0.75	9
Newcastle	0.75	9
Rubin	0.75	9
Anji	0.8	8
Molde	1.33	8
Neftçi	1.33	8
Partizan	1.33	8
Sparta Praha	1	8
Videoton	1.33	8
Genk	0.88	7
Levante	0.7	7
PSV	1.17	7
Atlético	0.75	6
København	1	6
Marítimo	1	6
Plzeň	0.6	6
CFR Cluj	2.5	5
Leverkusen	0.62	5
Zenit	1.25	5
Metalist	0.5	4
Olympiacos	2	4
Ajax	1	2
Dynamo Kyiv	1	2
BATE	0.5	1

TABLE 3: Goals Received Ranking

Reference: http://www.uefa.com/uefaeuropaleague/season=2013/statistics/round=2000356/clubs/type=goalconceded/index.html

Defensive Variables ANOVA

Significance level 0,05

Ranking and yellow cards

One factor ANOVA

Rank

	Suma de cuadrados	gl	Media cuadrática	F	Sig.
Inter-grupos	9343,940	30	311,465	1,488	,157
Intra-grupos	5232,042	25	209,282		
Total	14575,982	55			

Ranking and red cards

One factor ANOVA

Rank

	Suma de cuadrados	gl	Media cuadrática	F	Sig.
Inter-grupos	6189,932	9	687,770	3,773	,001
Intra-grupos	8386,050	46	182,305		
Total	14575,982	55			

Ranking and recoveries

One factor ANOVA

Rank

	Suma de cuadrados	gl	Media cuadrática	F	Sig.
Inter-grupos	13618,482	49	277,928	1,742	,251
Intra-grupos	957,500	6	159,583		
Total	14575,982	55			

Ranking and fouls committed

One factor ANOVA

Rank

	Suma de cuadrados	gl	Media cuadrática	F	Sig.
Inter-grupos	13622,815	46	296,148	2,796	,051
Intra-grupos	953,167	9	105,907		
Total	14575,982	55			

Ranking y shots received

One factor ANOVA

Rank

	Suma de cuadrados	gl	Media cuadrática	F	Sig.
Inter-grupos	13927,982	46	302,782	4,205	,013
Intra-grupos	648,000	9	72,000		
Total	14575,982	55			

Ranking and offsides in favor

One factor ANOVA

Rank

	Suma de cuadrados	gl	Media cuadrática	F	Sig.
Inter-grupos	11659,949	34	342,940	2,470	,016
Intra-grupos	2916,033	21	138,859		
Total	14575,982	55			

Ranking and crosses against

One factor ANOVA

Rank

	Suma de cuadrados	gl	Media cuadrática	F	Sig.

Inter-grupos	14082,982	50	281,660	2,857	,120
Intra-grupos	493,000	5	98,600		
Total	14575,982	55			