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COMPETITIVE BALANCE IN THE AUSTRIAN, CZECH, HUNGARIAN AND UKRAINIAN SOCCER LEAGUES

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ABSTRACT

This study deals with measuring and evaluating the static competitive balance in four chosen national soccer/football leagues. These are (in alphabetical order) the premier leagues in the Austrian, Czech, Hungarian, and Ukrainian soccer/football divisions.

Static balance shows how teams in the league tables of each year differ from each another. It is determined by a calculation of determinant divergences in the percentages of winnings.

The results of this work provide graphic illustrations of the development of the competitive balance in the aforementioned contests over the latest forty-two years. They identify the development trend of this phenomenon. Of the contests studied, it is the Czech premier league which used to show the highest static balance. However, nowadays, the Austrian and Hungarian leagues are more balanced in the short term. On the contrary, it is the Ukrainian league which is the least balanced. There is an apparent long-term decline of competition balance within all of the analyzed competitions. However, this decline varies a lot within the group.

Keywords: competitive balance, static competitive balance, football league, soccer league, Austrian league, Czech league, Hungarian league, Ukrainian league

INTRODUCTION

Without any doubts, football/soccer is one of the most favorite sports nowadays. It results interesting for the active players, stadium spectators and mainly TV viewers. It is the most frequently transmitted sport by the commercial sports TV channels (Jeanrenaud & Kesenne, 2006). From the statistics of these companies, we can deduce that these programs are between the most viewed ones (Buraimo & Simmons, 2009).

The public is not interested only in "their" soccer league, but also in those of other countries. For instance, the English Premier League, German Bundesliga and Spanish La Liga are broadcasted in several European countries. Both European Cup and World cup

take part in the most viewed sport events in the respective years. Champions League and also UEFA Cup/Europa League have been attracting viewers and thus also broadcasters for years. All these events generate large incomes, which are further redistributed also to the participants. Financial rewards for participating in the Champions League are between the most important income parts of the clubs that manage to participate (Kesenne, 2000). The assets of these clubs increase, they can afford better players to defend their participation in the Champions League in the following season. Already rich clubs become more rich, compared to the other poorer ones. Also the quality level differences increase. One of the results is the fact that national soccer leagues become even less balanced. As a consequence, usually the same teams finish in the positions ensuring participation in the Champions League. This is illustrated in Tab. 1, which indicates the most successful teams and the number of their championships in chosen European national leagues between the years 1970 and 2013.

Table 1. The most frequent champions of national leagues between the seasons 1970/71–2012/13

Spain	Real Madrid **18**, FC Barcelona **14**
England	Manchester United **13**, Liverpool **11**, Arsenal **6**
Scotland	Glasgow Rangers **20**, Celtic Glasgow **19**
Germany	Bayern München **21**
Italy	Juventus **18**, AC Milano **9**, Inter Milano **8**
The Netherlands	Ajax **18**, PSV Eindhoven **17**, Feyenoord **5**
Portugal	Porto **22**, Benfica **15**, Sporting **5**
Greece	Olympiakos **23**, Panathinaikos **10**, AEK **7**
Belgium	RSC Anderlecht **18**, Club Brugge **12**, Standard Liege **5**
Norway	Rosenborg Trondheim **20**

Source: Authors with data from www.rsssf.com

From the table, we can see that for instance the Scottish league was dominated by two clubs – Rangers and Celtic. Another team has won the championship for the latest time in the season 1984/85 (Aberdeen). The Portuguese football/soccer league is dominated by three teams – Porto, Benfica, and Sporting. In the shown period, these clubs had won 41 titles from 42 possible ones. This hegemony was disturbed only by one team – the Primeira Liga was won by Boavista FC in the season 2000/01. In the Netherlands, 39 from the possible 42 titles were won by the trio Ajax, PSV Eindhoven, and Feyenoord. Only three times, another team managed to win the title (AZ Alkmaar in the seasons 1980/81, 2008/09 and FC Twente in the season 2009/10). Greece is similar; 39 titles were there won by three teams – Olympiacos, Panathinaikos, and AEK. The other three titles were divided between PAOK (in the seasons 1975/76 and 1984/85) and Larissa (in the season 1987/88). Another interesting fact about the Greek league is that since 1927, when the teams began to compete in this country, the title was won only by six teams originated from four cities. These numbers show that the highest Greek league is not very balanced in the long term.

In the same time, it is the result uncertainty and the interest of the participants to reach the best possible result that keeps higher interest in the given sport and match, that stimulates tension and emotions, enriches both the sportsmen and the public, and brings the expected economic effect (Sanderson & Siegfried, 2003; Michie & Oughton, 2004).

The need of some balance on the field is getting more discussed not only for soccer leagues (Grier & Tollison, 1994; Zimbalist, 2002; Fort & Maxcy, 2003; Fort & Quirk, 2004; Michie & Oughton, 2004; Goossens, 2005; Groot 2007; Lee, 2010), but also for other team sports (Kesenne, 2000; Richardson, 2000; Schmidt & Berri, 2001; Humphreys, 2002; Utt & Fort, 2002; DuBois & Heyndels, 2007; Lenten, 2013). A few teams should not be too strong. Uncertainty and tension during the match are the main reasons for both active participation and for spectators to watch with emotions. Soccer, being by far the most popular sport in the world between tens of millions of players and hundreds of millions of spectators, is losing its natural attractiveness. Mostly the unbiased spectators prefer when a match finishes 4:3 rather than 7:0. The uncertainty of the winner should – in the best case – last till the last minute. For a few matches, such imbalance can be without consequences, but if it becomes a rule, we can expect the fans to lose interest. The idea of keeping more balanced leagues is discussed also by the league and team owners, by sport scientists and by the public.

A lot of research and diverse methods measurements have been done about the balance of soccer leagues. Usually, the researchers study the balance of big and rich soccer competitions. This study is intended to participate in the discussion by bringing information about the balance of less economically developed soccer leagues.

The Concept of Competitive Balance

Competitive balance can be defined as a balance between sport qualities of individuals or teams. It is thus a uniform physical and psychical outfit, similar quality and chances for success, and also uncertainty of result. Szymanski (2001) considers as main criteria of the competitive balance the following: match (result) uncertainty, seasonal (outcome) uncertainty or championship uncertainty, i.e. the state of dominance of several teams through a few seasons. Sloane (2003) stresses the multidimensionality of the competitive balance and differentiates between the long-term and short-term result uncertainty. From the long-term, dominance of one or two clubs is serious. Cairns, Jennett a Sloane (1986) have other interpretations of competitive balance – match result uncertainty, seasonal uncertainty, and absence of long-term dominance. Others focus on the results continuity between seasons or the absence of big team dominance on the market.

Since the 1980s, the research for team sports is already so large that it is impossible to cite all the contributing authors. American sources are dominant; the European research came later, mainly with the focus on the English football. This evolution was helped also by the appearance of important sport institutions (and journals), such as the North American Society for Sport Management – 1987, the European Association for Sport Management – 1994, and the International Association of Sports Economists in 1999.

Competitive Balance Types

A football league can be perfectly balanced or perfectly imbalanced. However, these are two extremes that are very unlikely. A perfectly imbalanced league means that the champion is known in advance or that a team wins all of their matches. On the contrary, a perfectly balanced competition gives a complete uncertainty of result. Diverse dimensions of competitive balance exist in the sports literature. The uncertainty of winning is related to a concrete match result. The higher the level of uncertainty, the more balanced is the match. Similarly, seasonal uncertainty shows the balance of a league in a certain period. Uncertainty has a huge influence on the play of a given team, if it is not clear which teams will fight for relegation and which will be promoted into the European leagues.

There are more types of competitive balance. We shall take into account only those that refer to a certain match, season, or result. It can happen that the order of the teams does not vary much during a season, but the uncertainty of the championship holder between seasons can be still very high. That is why, similarly to Groot (2007), we differentiate between static and dynamic competitive balance. Static competitive balance indicates the level of balance within one competition season. The level of dynamic competitive balance tells us about the variation of the order of respective teams in different seasons. A league is perfectly dynamically balanced if the order of the teams in one season is independent of the order in adjacent seasons. On the contrary, the league is perfectly imbalanced if the order of teams is constant in time. However, in this article, we focus only on the static competitive balance.

METHODS

As a subject of our research, we chose the highest football/soccer leagues in Austria, Hungary, Ukraine, and the Czech Republic. Forty-two seasons were studied in the period beginning by the seasons 1970/1971 and ending with the season 2012/2013. Of course, many changes occurred during this time. These changes include changes of the names of the leagues, of the rules, and also geopolitical changes (independence of Ukraine and division of Czechoslovakia). All the changes of rules influenced the competitive balance, but we take account only of the change from two points for a win to three points for a win.

Static competitive balance

To calculate the static balance of the leagues in a season, we used the standard deviation of the proportional wins in the league at the end of the season. Such a method was used also by other authors (Huphrey, 2002; Zimbalist, 2002; Fort & Maxcy, 2003; Mitchie & Oughton, 2004). The lower is the standard deviation, the higher balance the league has. On the basis of this data, we can state if there was one (or a few) team(s) that was (were) much stronger than the rest of the league.

To calculate the standard deviation of the proportional success of the teams, we needed data on the sum of wins, draws, and losses and on the number of matches of the individual teams in the given season. The proportional success of each team in the league, together

with the number of teams in the competition, helped us to estimate the standard deviation level for each season.

We also calculated the maximal possible standard deviation in each season. This one would hypothetically happen in the case of perfect imbalance, which corresponds to one team winning all his matches, the second team winning all his matches except with the champion, and so on till the last team being without any point. This maximal (hundred per cent) standard deviation has been used as the basis for the final proportional imbalance in each season. That means that the calculated standard deviation for each year has been divided by the respective maximal possible standard deviation for the respective years. Of course, we had to take into account the sometimes varying number of the teams and the changes in grading two or three points for a win. The long-term imbalance evolution is shown in the respective graph of the proportional imbalance level of each league.

RESULTS

Austria

The Austrian Bundesliga is the smallest from the studied leagues, at least in the terms of number of participating teams. These are only ten, but they used to be sixteen of fifteen till 1973 and from 1982 till 1985 and twelve for some years afterwards till 1993. Nowadays, each two teams meet four times, instead of the usual two times. Altogether, there are 36 rounds.

As we can see from the Graph 1, the static balance of the Austrian league has slightly worsened in the long term. However, the trend is not very strong. We could even say that the static balance remains stable in the long term.

We can find a few periods in the evolution. The first one is ending in the season 1981/1982 when the static imbalance is the lowest one n the whole studied period of time. In the following season, on the contrary, it more than doubled and a new period begins.
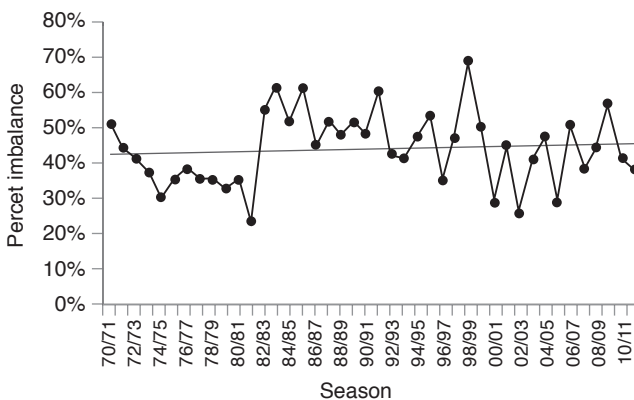

Figure 1. Austrian Bundesliga 1970–2012

This one is the least stable one, with the balance varying between different seasons. However, we can say in general that the competitive balance is improving in the long term. In the season of 2002/03, the second lowest static imbalance level is reached. This year can be considered as the limit between the second and the third period which goes till now. Then, the static balance worsened again in a trend, with some cyclicity.

As we can see from the overall trend, the competitive balance is worsening in the long term, but still staying in average levels below 50% of imbalance. It goes exceptionally above 60% and even not so often above 50%.

Czech Republic

Historically, we can speak of two main periods, because of the existence of two different countries. Czechoslovakia divided in 1993, for then, we include only the Czech league. In the period of 1970 till 1993, the Czechoslovak league was played by 16 teams per year. Altogether, 31 teams played the Czechoslovak league, from which 17 were Czech and 14 Slovak ones. The share of the Slovak teams was slowly diminishing.

After the division of Czechoslovakia, the number of teams was completed by the lower league teams to 16. Now, the Czech Gambrinus liga is played still by 16 teams in 30 rounds. That makes that the maximum static imbalance would correspond to the standard deviation of 0.32 (case of 100% competitive imbalance). Thus, to calculate the percentage for the Czech league, we divided the calculated standard deviation by 0.32 for the whole period. For instance, for Austria, we had to change the number up to the number of the playing teams.

In general, we can say that the Czechoslovak and Czech leagues' competitive balance is quite high but with a worsening trend. It hardly goes above 50% of competitive imbalance. The worsening trend could be visible already in the Czechoslovakia times, when it hardly went even above 40% of competitive imbalance. The variations seem a bit cyclical.

In the 1990s, the competitive imbalance level was quite stable close to 50%, except the season 1998/99, when it was lower. In the following years, the cyclicality comes back, confirming the worsening trend towards 50% of competitive imbalance.
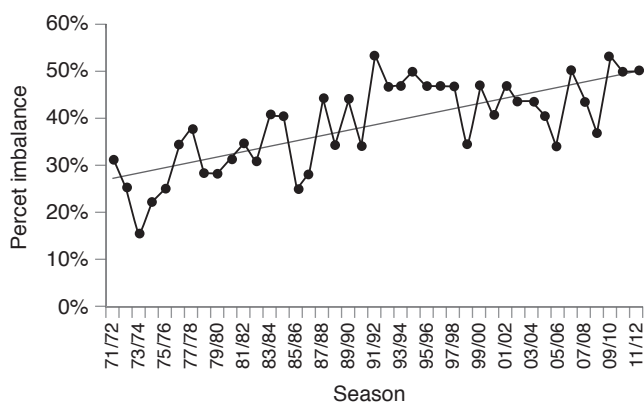

Figure 2. Czech Gambrinus liga 1970–2012

Hungary

Also the Hungarian OTP Liga has sixteen teams nowadays. However, even here, the number of participating teams varied. Between twelve and eighteen teams participated to the league in the 1970 till now period. Of course, that causes that the maximum standard deviation varies between 0.31 and 0.33. Therefore, we had to divide the calculated standard deviation by the respective numbers in order to get the percentage of competitive imbalance.

After the first five years of the studied period of time, the competitive balance was improving till the year 1991/92, down to the levels close to 30% of imbalance. In the last years of this period of time, we can see already some cyclical evolution that increases afterwards.
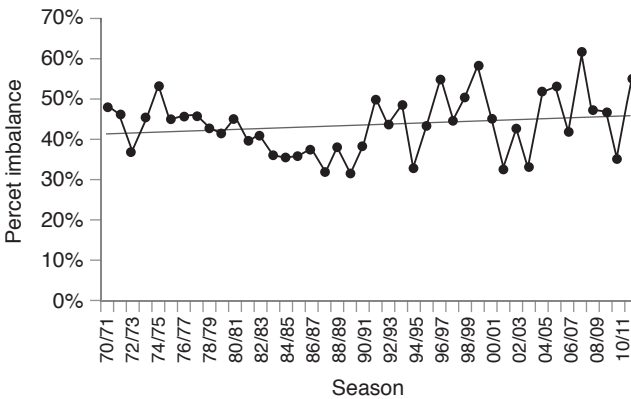

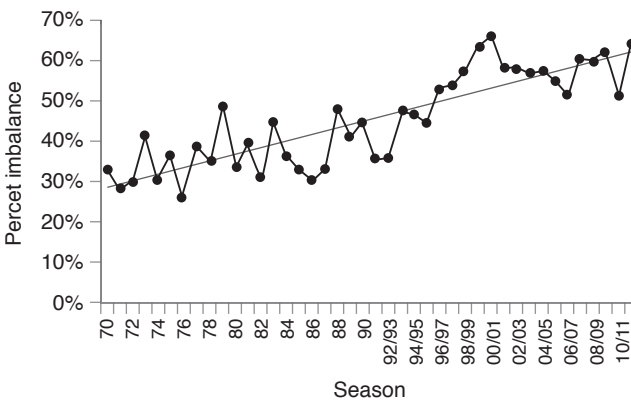**Figure 3.** Hungarian OTP Bankliga 1970–2012

Figure 4. Ukrainian Premier liga 1970–2012

Since then, the competitive imbalance level is varying a lot, with some cyclical evolution. The highest competitive imbalance is reached in the season 2007/08, when it culminates to 60.68%.

As we can see from the graph, the overall trend is increasing. That means that the level of competitive balance is worsening for the overall of the studied period of time.

Ukraine

Also for Ukraine, we have to observe two different countries/leagues. In 1991, the division of the Soviet Union makes that the Ukrainian teams stop their participation in the Soviet Vysshaya Liga. In 1992, a new Ukrainian Premier Liha is created, with teams originated from three divisions.

The league is played by 16 teams again. Apart of the first year of the new Ukrainian league, there are practically only two winners. Till 2013, Dynamo Kyiv was the champion thirteen times, while Shakhtar Donetsk seven times.

Till 1996, we can speak of relatively cyclical competitive balance of the Soviet end Ukrainian leagues, with a slow worsening. However, the competitive imbalance remains below 50%. On the contrary, since the season 1996/1997, the competitive imbalance remains above 50% and it gets even close to 70%. The highest level is just above 66% for the season 2000/2001. There is a visible upward trend of competitive imbalance percentage, which means worsening of the competitive balance level, as well as for the period 1996/97 till now and for the overall history of the Soviet and Ukrainian leagues.

DISCUSSION

Austria and Hungary are the most balanced in the long term of the studied four leagues, at a similar level. Austria is slightly more balanced. Both show also a very stable evolution.

The Czech league was very balanced in the times of the Czechoslovak one, mostly in the communist times. The overall evolution made that nowadays, it became from the most balanced the second most unbalanced league of the group.

The Ukrainian league was also very balanced in the time of the USSR. That means more that the USSR league was very balanced. Nowadays, the Ukrainian league is the least balanced of the whole studied group.

In general, we can conclude that the competitive balance is worsening in these smaller leagues. However, we can divide the group into two sub-groups: The Austrian and Hungarian leagues remain quite stable and more balanced, while the Czech and the Ukrainian ones belonged to more balanced leagues in the communist times and nowadays, they are less balanced.

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VYROVNANOST SOUTĚŽE V RAKOUSKÉ, ČESKÉ, MAĎARSKÉ A UKRAJINSKÉ FOTBALOVÉ LIZE

JAN ŠÍMA, JAN PROCHÁZKA

SOUHRN

Studie se zabývá měřením a vyhodnocením statické vyrovnanosti soutěže čtyř vybraných národních fotbalových lig. Těmito ligami (alfabeticky řazeno) jsou česká, maďarská, rakouská a ukrajinská liga. Statická vyrovnanost vypovídá o tom, jak se od sebe lišily týmy v ligových tabulkách každého ročníku. Je stanovena pomocí výpočtu směrodatných odchylek v procentech výher.

Výsledky této práce ukazují za pomoci grafů vývoj statické vyrovnanosti vybraných soutěží za posledních čtyřicet dva let. Určují vývojový trend tohoto fenoménu. Z vybraných soutěží vykazuje česká liga nejvyšší statickou vyrovnanost. Přesto jsou dnes rakouská a maďarská liga krátkodobě vyrovnanějšími. Naopak ukrajinská liga je nejméně vyrovnaná. U všech studovaných soutěží lze zaznamenat viditelný pokles vyrovnanosti soutěže. Tento trend se však ve skupině liší.

Klíčová slova: vyrovnanost soutěže, statická vyrovnanost soutěže, fotbalová liga, rakouská liga, česká liga, maďarská liga, ukrajinská liga

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