

THREE POINTS FOR A WIN IN RECREATIVE TEAM TABLE TENNIS CHAMPIONSHIPS

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Abstract

Three points for a win is a standard used in many sports leagues and team tournaments, in which three points are awarded to the team winning a match, with no points to the defeated team. In this research, the first aim was to determine the correlations between advances, relegations from leagues in recreative table tennis (SOKAZ leagues in Zagreb) and number of points that teams had in championships, when different point systems were applied ("two points for a win" or "three points for a win"). The second aim was to determine the differences in number of matches that finished with draw, in two SOKAZ championships, where different point systems were really applied. The data was collected by examination of placements of the teams in SOKAZ leagues championships from official records from the website www.sokaz.hr. Results showed that the differences between ranks on the final league table, advances and relegations are much smaller than expected. All the correlations between variables in research, towards their directions and size, were statistically significant and in expected directions. «Three points for a win» system has some benefits in football, in sense of raising attractiveness and the number of goals, while in table tennis those benefits are not obvious.

Key words: advances, draw, football, point system, relegations

Introduction

Three points for a win is a standard used in many sports leagues and team tournaments, especially in soccer (football), in which three (rather than two) points are awarded to the team winning a match, with no points to the defeated team. If the game is equalized (drawn), each team receives one point. The system places additional value on wins with respect to draws such that teams with lower overall winning percentages may rank higher in tables than teams with higher overall winning percentages but more draws (Klotz & Gerhard, 2000). For the purpose of increasing the degree of uncertainty of outcome and hence the demand (for football, mainly) in order to maximize the total revenue of the industry, a major change in the point system of professional football leagues took place in the 1980s, which replaced the system of the two points for a win with the system of the three points for a win. The rationale for the new point system was presumably that more reward for winning games would encourage more positive attitudes from teams and that the consequent more attractive and attacking football would bring in bigger crowds (Newson, 1984). An another study analyzed the impact of the new point system of the three points for a win on the degree of competition over seven consecutive seasons through a small sample (at nine European top football divisions) and revealed mixed evidences for the introduction of the three points system for a win (Halicioglu, 1998). Many leagues and competitions originally awarded 2 points for a win and 1 point for a draw, before switching to the three points for a win system. The change is significant in league tables, where teams typically play 30-40 games per season. Teams that win roughly 50% of their games are the most affected by the point system.

However, some league championships have been decided on the difference in draws among teams. In the National Hockey League in North America, a system described as "the three-point win" was proposed in 2004, with three points for a win in regulation time, two for a win in overtime, and one for a tie. In 2009, the National Hockey League adopted a system of three points for a regulation or overtime win, two for a shootout win, one for a shootout loss, and zero for a regulation or overtime loss. Halicioglu (2000) has analyzed a statistical rationale for the introduction of a „three points for win“ point system in professional football leagues with the intention of increasing outcome of uncertainty and hence the demand for football.

The "outcome of uncertainty" means an effort that competition as a whole, doesn't have a predetermined winner at the outset of competition (Halicioglu, 2006). This study revealed that a new version of the three points system for a win provides statistically a higher degree of competition, comparing with „two points for win“ system, when we consider coefficients of variation (CV) values (Halicioglu, 2000). However, these conclusions should be treated cautiously since a number of factors affecting the degree of competition (income levels, management skills, point and match strategies of individual teams, quality of players, league structure, crowd). The main limitation is the fact that attitudes of teams for competitive matches could be independent of any point systems. All in all, the „three points for a win“ is supposed to encourage more attacking play than "two points for a win", where the conventional wisdom for teams and their coaches was to draw away matches and win home games.

The „logic“ of the system „three points for a win“ is that, if the score is level near the end of a game, teams will not settle for a draw if the prospect of gaining two extra points (by playing for a late winning goal) outweighs the prospect of losing one point (by conceding a late goal to lose the match). A second rationale is that it may prevent collusion amongst teams needing only a draw to advance in a tournament or avoid relegation. Some commentators agree that it has resulted in more "positive" attacking play. However, critics suggest teams with a one-goal lead late in a match become more negative to defend the lead.

For example, Dilger & Greyer (2009) are tested empirically and compared games from the German cup competition, according to the effects of the three-point rule in the first league German soccer. The number of draws in cup games decreased, but an increase in the number of close wins was found. The strategy of a leading team becomes more defensive, resulting in fewer goal shootings by that team, as well as fewer shooting opportunities for the opponent (Guedes & Machado, 2002). However, except in football and ice hockey, the system „three points for a win“ is applied at recreative team table tennis championships in Croatia, since 1998. The Association of Recreational Table-Tennis Players in Zagreb (SOKAZ) includes many table-tennis fans in Zagreb and its periphery.

In SOKAZ leagues play more than 1200 male and female athletes, that play in 21 male leagues (12 teams in average) and one women's league with 12 teams (Sindik & Vidak, 2009). In spite of the nominal goal of competition in table-tennis leagues is identical to those of sports recreation, there are a series of indicators to believe that SOKAZ attracts not only recreational players, but also players with top-sport orientation, motivated to keep the high level of achievements in sports, to advance in their table-tennis performance. Consequently, higher uncertainty of the competition in single or team matches could hypothetically motivate the players and the teams to find more pleasure in their performance, preserving the level of motivation oriented towards performance progress or to keeping the achieved performance level in table-tennis championships.

The organizers of SOKAZ championships decided to apply „three points for a win“, mainly to prevent collusion amongst teams needing only a draw to advance in a tournament or avoid relegation.

At the table tennis team games in SOKAZ, other advantages of this system are in fact impossible, because both teams in one team game have to play 10 individual matches, with varying level of uncertainty of these matches. Otherwise, the final result (in the case of draw) is always the same (5-5). In this research, the first aim was to determine the correlations between advances, relegations and number of points that teams had in championships, when different point systems were applied ("two points for a win" or "three points for a win").

The second aim was to determine the differences in number of matches that finished with draw, in two SOKAZ championships, where different point systems were really applied.

Methods

The data was collected by examination of results of the teams in SOKAZ leagues competition from official records from the website www.sokaz.hr. All data from all team matches played in championships in all SOKAZ leagues were analyzed. Each team played approximately 11 matches per championship. In each championship approximately 11 rounds were played following the "round robin" principle, each team played 11 matches per championship in the average.

Samples

First sample (1st and 2nd aim): Entities in the research were teams from all SOKAZ leagues, in four consecutive championships in 2010 and 2011. Analyzed number of leagues was: 23 leagues in championships in spring 2010 (266 teams), 22 leagues in championships in autumn 2010 (258 teams), 22 leagues in championships in spring 2011 (260 teams) and 23 leagues in championships in autumn 2011 (268 teams). Each team played from 10 to 11 team matches per championship (see Table 1). Second sample (3rd aim): In the second part of the research the entities were all teams in SOKAZ leagues from 2nd to 12th. Analyzed numbers of leagues were: 11 in the championship spring 1997 (132 teams) and 11 in the championship autumn 2006 (132 teams). Each team played exactly 11 team matches per championship.

Variables

We had been analyzed the number of wins, loses and draws in all matches played in all analyzed championships. However, we have analyzed the number of advances (one or two leagues), relegations (one or two leagues) and changing in ranks on the league tables for certain teams, along with number of team points on the league tables. We have to mention that analysis made for the system "two points for a win" was in fact simulated (virtual), while in the second sample we compared really applied "two points for a win" in 1997 with "three points for a win" in 2006.

Statistical Analyses

All the methods of analysis and result presentation used were found within the SPSS 11 package. Basic descriptive statistic measures are calculated, frequencies, average results and standard deviations. Spearman correlation coefficients were calculated between advances, relegations and number of points that teams had in championships, when different point systems were applied. Chi-square tests type 2 x 2 were calculated to find differences in number of matches that finished with draw / non-draw, when two points for a win / two points for a win systems were applied, for all teams in SOKAZ in four championships.

Results and discussion

Table 1 – Descriptive statistics for main variables in the research (per championship) for all teams in SOKAZ in four championships

Variable	Mean	Std. Dev.
Number of team matches played	10,90	0,58
Number of wins in team matches	4,62	2,79
Number of draws in team matches	1,66	1,21
Number of defeats in team matches	4,62	2,76
Number of points – three points for a win system	15,46	8,26
Number of demerit points (penalty)	5,75	4,17
Number of points – two points for a win system	10,91	5,42
Position according to a number of points (three points for a win system)	6,45	3,44
Position according to a number of points (two points for a win system)	6,45	3,44

As we can see in Table 1, almost all teams played all possible matches. Average number of wins is approximately the same as number of defeats. In Table 2, we can see the differences between number of different levels of advances (advance for one or two leagues forward) and relegations (relegation for one or two leagues backward), as well as for differences in the position on the league table for all teams in SOKAZ in four championships, when two points for a win / two points for a win systems were applied. It's obvious that differences between two point systems are minor.

Table 2 – Differences in advances, relegations and changing in ranks on the league table for all teams in SOKAZ in four championships (frequencies)

	Differences in advances	Differences in relegations	Differences in position on the table
In negative direction	0	2	10
Equally	736	731	716
In positive direction	0	3	10
Total	736	736	736

In Table 3, the correlations between number of advances, relegations, positions on the league table and number of team points at the end of championships are showed, for all teams in SOKAZ in four championships, when two points for a win / two points for a win system were applied. All the correlations were statistically significant and very similar size, regardless of the point system that is applied. Of course, correlations between advances and relegations were negative, as same as between advances with number of points at the end of the championships and advances with rank in championship, regardless of the point system that is applied. Trying to find the answer on the second aim of this research, we compared the total number of draw matches, which were played in all leagues in the spring SOKAZ championship in 1997 (when

the system 2 points for a win was applied) and in the spring championship in SOKAZ 2011 (when the system 3 points for a win was applied). We have found that number of draws in 1997 was: 18 (2nd league), 24 (3rd league), 30 (4th league), 32 (5th league), 42 (6th league), 32 (7th league), 26 (8th league), 24 (9th league), 12 (10th league), 14 (11th league), 16 (12th league). Number of draws in 2011 was: 20 (2nd league), 22 (3rd league), 14 (4th league), 18 (5th league), 24 (6th league), 22 (7th league), 24 (8th league), 26 (9th league), 14 (10th league), 18 (11th league), 34 (8th league). The results of the Chi-square test showed that the number of draws was slightly higher (270) when 2 points for a win system was applied, as compared with 236 draws when 3 points for a win system was applied, but this difference was not statistically significant ($\chi^2 = 2,606$; $p > .05$). The main finding of the research is the fact that differences between ranks on the league table, advances and relegations from leagues are much smaller than expected. All the correlations, towards their directions and size, were just as we have expected. In comparison of the total number of draw matches, we have found that there is no statistically significant difference between 2 points for a win system (season 1997) and 3 points for a win system (season 2006), in spite of the fact that number of draws is something lower, when the system «three points for a win» was applied. The differences between ranks on the league table, advances and relegations from leagues, which are much smaller than we can expect, can indicate changed direction of teams, more focused on winning ("win at all costs"). As we have mentioned in Method chapter, the comparison in the first sample (championships in 2010 and 2011) is virtual, so the teams can be adjusted to avoid draws when the system «three points for a win» was applied. The non-significant trend of lower number of draws that is found in the second sample can be an indication of avoiding draws. The explanations in table tennis team games can be more in collusion amongst teams, than in aggressive or more attractive play, what can be one real explanation of the same trend in football. (We couldn't compare more championships in SOKAZ with real applying of different point systems because of changing the whole system of competition. In championships before 1997, the system of A and B leagues of the same level was applied, while in later championships we had one unique league for one league level.) However, we can assume that, even in cases of very small differences in team positions on the league tables, relegation and advances (such as revealed in this research), some teams have to be unsatisfied with the system «three points for a win». Namely, if both teams in some team game fight very hard for a win, with all or the most of equalized results of individual matches, the whole team game can finish with a draw. So, if some team accidentally plays several matches with a draw (in an honest sport fight), that team could be relegated. For example, in SOKAZ championships, there is often very small chance that all matches played with a draw can

ensure avoiding relegation (11 points at the end). Considering the logic of application «three points for a win» system at table tennis team games, it is not justified from the aspect of stimulating «more attractive» or «less defensive» play, because individual matches are only the part of the team game, while individual table tennis players have their individual tactics. The main limitation is the same number of points needed for a win in individual games (for winning the set 11 points and for winning the match three or four sets). On the other hand (what can be also discussed in terms of football), the second rationale for including «three points for a win» system is that it may prevent collusion amongst teams, needing only a draw to advance in a tournament or avoid relegation.

Our opinion is that such rationale can't be proved: no team will confess that his members "arranged" the final result of some game. Moreover, if some two teams want to make a collusion, these two teams can make plans for this collusion in advance, arranging win for the opponent team (this time with larger income), can be much more detrimental to the regularity of table tennis or football competitions at all. The main benefit of this research is the fact that it is the first research (as we know) with a purpose of determining consequences of applying «three points for a win» system in table tennis. On the other hand, the main shortcoming is relatively small number of

championships that were analyzed, as well as small number of championships that are really comparable (SOKAZ changed system of smaller number of paired A and B league of the same level, for example 1A and 1B to one league of the one level, for example 1st league). One of the future directions can be oriented to a practical application: among all that we considered, independently of the results obtained in this research, it seems that a system «three points for a win» can have very small support for its' application in team table tennis competitions.

Conclusion

The main finding of the research is the fact that differences between ranks on the league table, advances and relegations are much smaller than expected. All the correlations between variables in research, towards their directions and size, were statistically significant and in expected directions. However, in spite of the fact that «three points for a win» system have some benefits in football, in sense of raising attractiveness and the number of goals, in table tennis those benefits are not obvious. The argument that «three points for a win» system can prevent collusion amongst teams, can't be proved, while the "arrangements" with «three points for a win» system can be much more detrimental to the regularity of table tennis or football competitions.

Table 3 – Correlations between the main variables in research (advances, relegations and team ranks, number of team points) for all teams in SOKAZ in four championships

	Rank in championship (system 3 points for win)	Rank in championship (system 2 points for win)	Advance in leagues (system 3 points for win)	Advance in leagues (system 2 points for win)	Relegation from leagues (system 3 points for win)	Relegation from leagues (system 2 points for win)	Number of points (system 3 points for win)	Number of points (system 2 points for win)
Rank in championship (system 3 points for win)	1	,999**	-,737**	-,737**	,728**	,733**	-,944**	-,940**
Rank in championship (system 2 points for win)		1	-,737**	-,737**	,728**	,736**	-,943**	-,941**
Advance in leagues (system 3 points for win)			1	1	-,284**	-,288**	,796**	,788**
Advance in leagues (system 2 points for win)				1	-,284**	-,288**	,796**	,788**
Relegation from leagues (system 3 points for win)					1	,993**	-,656**	-,662**
Relegation from leagues (system 2 points for win)						1	-,662**	-,669**
Number of points (system 3 points for win)							1	,994**
Number of points (system 2 points for win)								1

** Correlation is significant at the 0.01 level (2-tailed).

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TRI BODA ZA POBJEDU U REKREACIJSKOM PRVENSTVU U STOLNOM TENISU

Sažetak

Tri boda za pobjedu je standard koji se koristi u mnogim sportskim ligama i ekipnim natjecanjima, u kojem se tri boda dodjeljuju timu koji pobjeđuje utakmicu, bez bodova za pobijeđenu momčad. U ovom istraživanju, prvi cilj bio je utvrditi korelaciju između napredovanja, ispadanja iz liga rekreativnog stolnog tenisa (SOKAZ-ove lige u Zagrebu) i broja bodova koje su timovi postigli u prvenstvu, kada su primijenjeni različiti sustavi bodovanja ("dva boda za pobjedu" ili "tri boda za pobjedu"). Drugi je cilj bio utvrditi razlike u broju utakmica koje su završili neodlučenim ishodom, u dva SOKAZ-ova prvenstva, gdje su različiti bodovni sustavi točke uistinu bili primijenjeni. Podaci su prikupljeni uvidom u ukupne plasmane momčadi u natjecanjima u SOKAZ-ovim ligama, iz službene evidencije na web-stranici www.sokaz.hr. Rezultati su pokazali da su razlike između rangova na finalnim tablicama lige, napredovanja i ispadanja iz lige puno manje nego što se očekivalo. Sve korelacije između varijabli u istraživanju, prema njihovim smjerovima i veličinama, bile su statistički značajne i očekivanog smjera. "Tri boda za pobjedu" sustav ima neke prednosti u nogometu, u smislu povećanja atraktivnosti i broja postignutih golova, dok u stolnom tenisu te prednosti nisu očite.

Ključne riječi: napredovanja, neodlučan ishod, nogomet, sustav bodovanja, ispadanja

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