COMPETITIVE INTENSITY IN EUROPEAN FOOTBALL

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Context

Competitive balance refers to the degree of equality in the sporting quality of teams in a league/tournament. Kringstad and Gerrard (2004) suggested the concept of *competitive intensity* to allow for the impact of the prize structure on the degree of competition in a league. It is affected by institutional changes in league structures such as changes in the promotion and relegation mechanisms, in soccer also qualification to UEFA's European club tournaments (i.e. the UEFA Champions League and the UEFA Cup).

Competitive balance and competitive intensity are related, but need not necessarily move together in the same direction over time. For example, a league may have experienced reduced competitive balance because of increased differences in quality among the teams but, at the same time, increased competitive intensity because of changes in the prize structure. If the increase in competitive intensity is sufficiently large, gate attendance and TV viewing demand by fans may rise overall. The concept of competitive intensity identifies the effects of changes in the league's prize structure separately from the effects of changes in competitive balance. Both will influence consumer demand for the league. This abstract reports work in progress.

Methods

One of the aims of introducing the theoretical concept of competitive intensity is to identify appropriate measure(s) that can be used empirically. In this paper I develop a three-step methodology to calculate the competitive intensity of a league. The first step is to identify the prize structure in a league. Sporting prizes are non-financial prizes that are awarded on the basis of sporting performance and consist of: (i) the championship; (ii) qualification for a post-season tournament; (iii) promotion; and (iv) relegation.

The second step is to construct the *prize interval* for each prize, defined as the group of teams in contention for that prize. The term "being in contention" is derived from Jennett (1984) who allowed for the role of prizes in a gate attendance demand study for Scottish soccer by including two variables, 'championship significance' and 'relegation significance' In general, each prize in a league has its own prize interval. The third step is to measure within-season and end-of-season competitive intensity. End-of-season measures are based on the final standings of teams. Within-season data on individual match results can be used to follow trends in competitive intensity during single seasons. Measures of within-season competitive intensity chart the relative standing of teams in pursuit of the different prizes (prize intervals) at different stages of the season.

In this study we concentrate on developing a simple measure of within-season competitive intensity. The proposed formula for within-season competitive intensity is $x_t \sum_{i=0}^{i=n} w_{it} P_{it}$. P_{it} is defined as the intensity of prize interval i at stage t of the season, w_{it} is the weight of prize i at stage t of the season, n is the total number of relevant prizes, and x_t is the time weighting of stage t of the season.

For the purposes of this study, the prize interval is in general set at 10 points (less at the start and end of the season). The intensity of the prize interval, P_i is measured as the sum of the proportional gap between the points of the prize-leading team and of each team in the prize interval during the season. The arbitrary prize weightings used are 1 for the championship, $1/1.5^2$ for the entry to the UEFA Champions League qualifying rounds, $1/2^2$ for the entry to the UEFA Cup or Royal League, and $1/3^2$ for relegation. x_t is defined as 1/(number of games left). w_{it} is treated as a binary variable to allow for varying significance of different prizes throughout the season. The championship prize is assumed to be significant during the whole season, whereas UEFA's Champions League qualification is assumed

to be significant only in the second half of the season, and entry to the UEFA Cup/Royal League only in the last quarter. Relegation significance is divided into three parts - the last place is significant from the second quarter onwards, the second-last place for the second half and the third-last place in the last quarter of the season.

Results

To illustrate the usefulness of the concept of competitive intensity, we calculate and compare competitive intensity (CI) and competitive balance (CB) in the top division of the Norwegian football league over the ten seasons, 1995 – 2004. This league has been characterised over the last decade as one of only two leagues in European football to have been totally dominated by the same team winning the championship every season. CB is measured using the Quirk and Fort (1992) ratio of actual and idealised standard deviations of win-loss ratios (win = 1, draw = 0,5, loss = 0).

Season	*1995*	*1996*	*1997*	*1998*	*1999*	*2000*	*2001*	*2002*	*2003*	*2004*
CB	1.42	1.35	1.67	1.70	1.51	1.37	1.73	1.55	1.28	0.99
CI	5.77	7,43	5.90	6.56	7.21	8.79	10.54	8.65	5.60	16.41
Attendance	4,624	4,622	4,242	5,270	5,404	5,639	5,567	6,170	6,513	8,012

Low CB implies high competitive balance. High CI implies high competitive intensity. The correlation coefficient, r, between CB and CI, was -0,53 using all ten seasons but this result is highly sensitive to including the 2004season. If that is excluded, the correlation coefficient switches sign (r =0.32). These results indicate that competitive intensity has some relationship with competitive balance, but that there are also other factors that affect competitive intensity.

By comparing the correlations (both bivariate and partial) of CI and CB with attendance, it was found that competitive intensity had a slightly higher correlation with attendance than competitive balance, both with and without the 2004 season. Similar results were also found using multiple regression analysis with attendance as the dependent variable and CI and CB as independent variables. When the 2004 was included, CI had a significant positive effect on attendance, whereas CB had an insignificant negative effect. These results suggest that competitive intensity may be a better explanation of spectator interest in a sports league than competitive balance.

Discussion/Implications

Comparing seasons 1997, 1998, and 2001 is particularly noteworthy since all three showed similar degrees of competitive balance but the competitive intensity was much higher in 2001 than for the two other seasons.

- In 2001 the championship was decided on the final round. In addition a larger number of teams than usual were in contention for a longer time than for the two other seasons
- In 1998 two teams contested the championship until the last matches of the league. Compared to 2001 fewer teams were in contention and the intensity for the championship declined towards the end of the season
- In 1997 the championship winner led the league by a substantial margin in the second half of the season, implying significantly lower competitive intensity for the championship, and
- The championship runner-up qualified for the UEFA Champions League in seasons 1998 and 2001 but only qualified for the UEFA Cup in 1997.

The competitiveness of the league in these three seasons is related more to the competitive intensity measure than on the traditional competitive balance measure. Future research will concentrate on the developing the competitive intensity measure, particularly the definition of the prize interval and an appropriate weighting system

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LEGAL LIABILITY OF PROFESSIONAL SPORT ORGANISATIONS & PROMOTIONAL ACTIVITIES AT EVENTS: IMPROVING SPECTATOR SAFETY

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Context

Professional sports event organisers seek to heighten their spectator's experience and enjoyment by using promotional activities, but often overlook the risks involved. The use of mascots, projecting promotional items into crowds, mini-blimps, video scoreboards, sound effects, and seat upgrades have evolved dramatically over the past 20 years, but in some cases, result in injury to spectators and may produce organisational negligence and liability. At most professional sports events, the duty of spectator care rests with the occupier or organisation managing the event (Appenzeller, 1998; Maloy, 2001). Whether a duty or limited duty is owed is usually determined by the courts. This presentation will discuss legal spectator injury cases as to whether a duty for care was owed.

Project/Partners

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Results

Analysis of US legal cases suggested the scope of duties rests in four categories. Examples of inherent risks include a foul ball in baseball (usually when a person is not distracted by other promotions), a stray puck, or debris from a race track. A non-inherent risk case involved a spectator who was trampled and injured while other spectators pursued a souvenir thrown into the stands. The courts held the organization liable for negligence (*Telega vs. Security Bureau, Inc., 1998*). Another such case found a spectator was injured when play in hockey was stopped, but the puck was later shot into the stands; the injured plaintiff was awarded damages (*Liebert vs. San Jose Sharks, 2003*).

For general promotions, one of the most uncontrolled cases in US history occurred in 1974 during a Cleveland, OH baseball game where a 10-cent beer night resulted in beer, bottles, and hotdogs being thrown at players and fans. The beer consumption also resulted in thousands of unruly fans, some running onto the field resulting in injuries to fans, players, and coaches. Again, a 'Disco Demolition Night' promotion in Chicago ended after an hour's delay to the game when records were thrown, injuring fans and players (Scanlan, 2004). A Florida case involved an eight-year old boy being struck on the head by a batting practice ball, causing permanent brain damage. He had been invited to participate in a promotion prior to the baseball game in front, adjacent to the field. The boy and his family were awarded just over US$1 million in damages (*South Florida Stadium Corporation vs. Klein, 2000*). Courts have shown that spectators viewing promotional videos on scoreboards are "distracted" when objects are thrown or projected into the stands, resulting in injury. Mascots are frequently used to entertain the spectators prior or during sports events. In *Gil de Rebollo vs. Miami Heat Ltd Partners* (1996), a mascot injured a spectator by pulling her across the basketball floor. The plaintiff was awarded US$50,000 for physical injuries and public humiliation.

Also, on-field or participatory promotions hold risks: climbing walls or bungee jumps outside the grounds, and mid-game participatory activities are growing in popularity to attract spectators. A 22-year old woman fell from a portable wall set up in the stadium parking lot during a professional baseball game in Missouri, USA. The safety cable broke, and she later died from injuries sustained in the fall. The suit alleged that the climbing wall owner was negligent. The owner of the climbing wall was indicted for first degree manslaughter. The wall owner and sports organization were named in the wrongful death suit. The wall owner settled for US$700,000, but the sport organisation continues to fight the action. Later, state legislation passed wall safety guidelines (Knox, 2004).
Two US states have sport-specific spectator safety statutes, while the Safety of Sports Grounds Act of 1975 included guidelines related to violence, facilities, and other general event safety concerns. While most of the cases to be discussed stem from US court cases, the US cases will be comparatively