

## Factors influencing stadium attendance in Norwegian football

**Author:** Morten Kringstad & Harry Arne Solberg

**Institution:** Trondheim Business School, Norwa

**E-mail:** harry.solberg@hist.no

**Keywords:** Demand; Attendance; Football; Television; Scheduling

### Introduction

This paper aims to analyse factors that influence the stadium attendance in the Norwegian elite football league in the period 2005 - 2011.

Analysis of demand for professional team sports has a long tradition in sports economics. In their overview, Borland and Macdonald (2003) divide variables investigated from previous studies into the categories consumer preferences, economic factors, quality of viewing, factors related to the sporting contest, and supply capacity. Several studies have investigated to what degree football fans prefer watching the match on TV instead of attending the stadium. Baimbridge, Cameron, and Dawson (1996) document some reduction in attendance in cases when matches are shown on TV. This applies particularly to midweek matches. Garcia and Rodrigues (2002) find a significant reduction in spectator attendance in televised matches in Spain, with a more pronounced effect for matches shown on free-to-air. Additionally, Forest and Simmons (2006) show that televised matches from UEFA's Champions League had a negative effect on concurrent matches in division level three and four in English Football. Further, Allan and Roy (2008) document a reduction by 30% among pay-at-the-gate home team supporters in the Scottish Premier League when matches were broadcasted live.

The analysis is based on three OLS-regressions on the attendance for the Norwegian elite football league (currently called the Tippeliga after its main sponsor) for the period 2005 to 2011. In addition to investigating all teams, we also conducted a specific regression for the historically dominating team Rosenborg because of their special situation, and a regression only involving teams with less than four seasons in the elite league. The dependent variable is the number of tickets sold at the matches.

Stadium attendance involves potential substitution effects in case the match was shown on free-to-air TV. Because Norwegian football fans have traditionally been very interested in English football, a substitution effect might also appear from TV matches from the English Premier League (these matches were only shown on pay TV). Additionally, we investigate variables such as *quality* (in this context the ranking of the two teams prior to the match), the *geographical distance* between the teams and matches between *historical rivals*. Furthermore, preferences for

*specific days and/or periods of the year* are also analysed. This involve May 16 (the day before the Constitution Day), which in Norway has been "the day of football" comparable to Boxing Day in England. Finally, we analyse whether Rosenborg attracts more spectators as an away team compared to other teams. Rosenborg has been the most successful team over the last 25 years, including a period with regular participation in UEFA's Champions League.

### Results

The higher the teams were ranked on the league table before the game, the more attendance the match attracted, a correlation that both applied to the home team and away team. These results support the significant attractiveness of sporting success. If the geographical distance between the two teams was less than 120 km, this had a positive effect. Matches between historical rivals also attracted more attendance.

Surprisingly, matches shown on free-to-air TV had higher attendance than those on pay TV or those that were not on TV. This pattern particularly applied to the home matches of teams with less than four seasons in the elite league. The only team losing spectators when their home matches were shown on free-to-air TV was Rosenborg. No such effects (either ways) were registered for the majority of teams that had been in the elite league for four seasons or more. Live matches on TV from the English Premier League did not affect attendance in Norwegian elite football.

All teams experienced significantly higher attendance on matches that were played on May 16. Sunday is the regular day for elite football matches in Norway. The majority of teams experienced lower attendance on Monday matches. As for other days, some clubs attracted more spectators on Saturdays, while other had the opposite experience. Some clubs experienced lower attendance in March/November than in other months, but this was not a general pattern. The regressions confirmed Rosenborg's special popularity as the away team.

### References

- Allan, G. & Roy, G. (2008). Does Television Crowd out spectators? New Evidence from the Scottish Premier League. *Journal of Sports Economics*, 9, 592-605.
- Baimbridge, M., Cameron, S. & Dawson, P. (1996). Satellite Television and the Demand for Football: A Whole New Ball Game? *Scottish Journal of Political Economy*, 43, 317-333.
- Borland, J. & Macdonald, R. (2003). Demand for Sport. *Oxford Review of Economic Policy*, 19, 478-502.
- Cairns, J., Jennett, N. and Sloane, P.J. (1986): The Economics of Professional Team Sports: a Survey of Theory and Evidence. *Journal of Economic Studies*, 13, 3-80.
- García, J. and Rodríguez (2002): The Determinants of Football Match Attendance Revisited. Empirical Evidence From the Spanish Football League. *Journal of Sports Economics*, 3, 18-38.