Scoring Margin and Variation in the Effect on Demand Across Winning, Losing and Neutral Markets

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Professional sport organizations including the NFL have implemented numerous policies facilitating the anticipated uncertainty of outcome of their contests, yet fewer policies specifically targeting game closeness exist. At least one league policy clearly demonstrates it is a priority to show the most competitive games to consumers. In NFL markets, the most desirable games may always be the local game, and thus this is always shown to completion regardless of score. By contrast, policy dictates that the telecast of uncompetitive out-of-market games can be abandoned for a closer, presumably more desirable game contested at the same time. Previous research has considered the optimal selection of games in a handful of markets without NFL teams (Tainsky, McEvoy, & Jasielec, 2011). The authors used average game ratings and predictive models to evaluate network choices in out-of-market game selection. In this research we examine actual score margin as a predictor of ratings. Moreover, we test the how scoring changes result in divergent outcomes according to the relationship between the market and scoring margin. To preview the results, in aggregate and at a number of intervals, the home market of the losing team and neutral markets lose a similar proportion of viewers over the life of a broadcast. While the trend of lost viewership in relation to scoring margin true in the winning team’s market, the magnitude of lost viewership is not nearly as great.

Literture Review – UOH, Television Consumption and Within-Game Effects

The research utilizing television ratings, as opposed to attendance, as a proxy of demand has evolved from a static average across the broadcast to include examination of what causes interest to vary during broadcasts. Paul and Weinbach (2007) studied national viewership of Monday Night Football games and found support for increased demand in close games. Following Paul and Weinbach (2007), who examined national game ratings, Tainsky (2010) examined television ratings for NFL games at the franchise market level. Models were constructed for home and road markets, finding similar determinants of viewership including support for the UOH. This idea was extended to examine viewer demand outside of NFL markets (Tainsky & McEvoy, 2012) as well as the influence of local games on adjacent out-of-market NFL games (Tainsky & Jasielec, in press). None of the city market level cited studies measure within-game changes in ratings, relying exclusively on average demand across the games as the predicted value. Outside of the NFL context Alavy, Gaskell, Leach, and Szymanski (2010) first examined intra-match uncertainty on a minute-by-minute basis in the context of English football.

Data and Method

The viewership data utilized in this study represent two years of NFL regular season games. Data for all games not featuring local teams were collected in all Nielsen Local People Meter (LPM) markets at each 15-minute interval during the contest. Thus for the average three-hour broadcast, 12 ratings are collected. RatingsPeak denotes the game’s highest rating for any 15-minute interval over the course of the broadcast. RatingsLast is the quantity of viewers during the last 15-minute interval for the game. RatingsDrop is calculated according the following formula: RatingsDrop=(RatingsPeak-RatingsLast)/RatingsPeak. What this variable captures is the ratings loss between the maximum number of viewers who were tuned in for any interval and the number of viewers watching during the game’s final interval. In other words, a high ratings drop indicates a bigger loss of viewership during the game. We distinguish between three types of market in this research. These are Winning Market, Losing Market, and Neutral Market. Winning Market denotes that of the team that wins the game, while Losing Market denotes the market of the losing squad. All other markets where the game was broadcast are pooled in the Neutral Market category. Score difference intervals were coded based on the final margin of each game. Because the most common minimum score in football is three points, we separated the dataset into three-point intervals (e.g., 0-2, 3-5, 6-8, … 27-29) culminating with the final interval of all margins 30 or greater.
Whether the RatingsDrop is similar across market types and for each interval is tested by:
RatingsDropN=RatingsDropL=RatingsDropW, and, for each interval,
RatingsDropNi=RatingsDropLi=RatingsDropWi, where i represents the Interval, and N, L and W represent Neutral Market, Losing Market, and Winning Market respectively. We ran additional tests specifically to address the number of points deemed by the NFL to constitute an uncompetitive match. The league has adopted a policy that margins of eighteen and greater are uncompetitive such that the network can switch to a more competitive out-of-market game outside of primary markets. We therefore tested the effect of games with such a point disparity against other margins to gauge whether the short-term ratings effect was statistically different than other ratings drops. That is, , where i-represents intervals less than 18. One-way ANOVA with Tukey's studentized range test was used to examine whether the mean differences were significant.

Results

Comparisons Between Neutral, Losing and Winning Markets. The general trend is clear from Figures and Summary Statistics to be presented—there is a consistently similar pattern between Losing Markets and Neutral Markets, one that is different to that of Winning Markets. As predicted by the UOH, game interest decreases as contests become less competitive. This is true for all three market types, but the scale of the ratings drop is relatively small in Winning Markets compared to Neutral and Losing markets. The trend is confirmed by statistical testing that there is a significant difference in RatingsDrop between Neutral Markets and Winning Markets (p<0.0001). The same is true for Losing and Winning markets (p<0.0001). However, although the Neutral Market ratings drop was slightly larger than the Losing Market ratings drop, there was no evidence the difference is significant (p=0.3681). The same pattern emerges in the comparative analysis of each of the eleven subsequent interval tests except for the 0-2 and 3-5 intervals. In other words, Winning Markets are significantly different from the Neutral Markets and Losing Markets at every interval from 6+, and there is no evidence of difference between the Neutral Markets and Losing Markets in those same intervals. Comparison within the Neutral Market Data. Is the lost viewership in games decidedly different at either side of the predetermined margin of eighteen points? Although part one of this study established that Neutral and Losing markets are similar in terms of RatingsDrop, we nonetheless partitioned the sample to include only Neutral Markets—those to which the NFL’s broadcast policy on uncompetitive games applies. To test this, we compared the RatingsDrop of games decided by 18 or more points with the same three-point intervals from 0 to 17 used in Part One. It is clear from Tables and Figures to be presented that the general pattern of reduced viewership in games with higher scoring margin generally holds through our interval selection. Consequently, the ratings drop in games decided by 18+ points is indeed significantly larger than those at all three intervals up to eight points. However, although the general trend holds that more viewership is lost in blowouts, the reduction in viewership is not statistically different in the games deemed uncompetitive by league policy than games decided by 9-11 points or 15-17 points. Notably, the 18+ interval includes games decided by 27-29 and 30+ points, broadcasts that predictably showed the sharpest viewership decline. Thus, perhaps the ratings drop between the 18+ interval and 9-11 and 15-17 (and even 12-14 that was statistically different) was strongly influenced by games that were extremely uncompetitive. The lack of significant differences between 18-20 and smaller intervals presents challenge to the idea that fan perception of game competitiveness changes in games as the scoring margin eclipses 18 points.

Conclusion

The pattern of RatingsDrop in Neutral Markets and Losing Markets is essentially similar, while different than that of Winning Markets. Although significant differences do not emerge between market types in close games, contests that are decided by a large margin are less desirable to fans in Neutral and Losing markets than fans in the Winning team’s market. This trend begins at a margin of six points, much smaller than that considered by the league policy on uncompetitive games. Further testing revealed no statistical differences in lost viewership between the 18-20 point contest and other intervals smaller than 18. Among the possible explanations for why 18 is not in fact a magic number for seemingly uncompetitive games is the variation in offensive output among teams and pre-game expectation of which team would win. Any possible explanations call into question the uniform policy of 18 points as a cutoff.