The Effect of Game Uncertainty on Demand for Postseason Games

Scott Tainsky, University of Illinois
Jie Xu, University of Illinois
Yilun Zhou, University of Illinois

Economics Thursday, May 24, 2012 20-minute oral presentation (including questions)
Abstract 2012-157 4:30 PM (West)

Originally conceived by Rottenberg (1956), outcome uncertainty is widely regarded as a fundamental element in the economic analysis of team sports (Bird, 1982). For clarity the uncertainty effect was separated into three separate strands defined as game uncertainty (GU), playoff uncertainty (PU) and consecutive season uncertainty (CSU) (Cairns, 1987). One shortfall of the extensive body of research on uncertainty is the lack of simultaneous examination of multiple strands (Lee & Fort, 2008). In the limited game-by-game (as opposed to the more common seasonal average demand on a team- or league-level) analysis of the relative effects of GU, PU and CSU during the second half of the Major League Baseball regular season, research did not find GU was significant in estimating game demand; however, marginal playoff uncertainty (MPU)—defined as a game result's impact on the local team's likelihood of playoff qualification—and local team quality were highly significant considerations in increased fan attendance (Tainsky & Winfree, 2010).

In this research we consider the relative effect of GU in the axiomatic “win or go home” setting of the National Football League (NFL) postseason, where the MPU effect is absolute and therefore unmistakable for sports consumers. We thus are able to advance this line of research by questioning whether the GU effect exists in the postseason, when a team's championship chances can be reduced to zero based on the outcome of each game. Further, as a field our examination of GU and PU has been too narrow—either investigating local markets alone or leagues as a whole. A second important contribution of this study is that we do not assume the uncertainty effect to be uniform without regard to local team affiliation. We therefore considered that the GU effect may vary according to the rooting interest of the market; that is, fans of the participating teams less responsive to changes in the relative quality of the competing teams than fans in markets without a team in the game? Relating back to the recent literature, in contrast to findings regarding local fans, perhaps GU remains a consideration to NFL fans outside the local market even in games with heightened championship implications.

The data utilized represent postseason games aired in all Nielsen Local People Meter (LPM) markets. Household average ratings across the telecast were the dependent variable of interest for all playoff games in five recent NFL seasons. All games were available on over-the-air networks. Covariates included a number of control variables along with team quality, round indicators, local indicator and GU metrics.

Regression was used to estimate ratings for each playoff game. The data were analyzed twice, once for games in local markets only and again for all games in all LPM markets. The analysis of local markets only parallels the attendance-based uncertainty studies that comprise the previous literature. In this estimation the variable of interest was GU. If GU was significant, then we could reject the null that local fan demand is unrelated to the relative quality of teams in postseason games. The absence of a significant effect would imply that local fans do not consider GU in the consumption of postseason games. The second regression estimated game ratings in local markets as well as numerous markets without a team in the game. In this equation the variables of interest were GU and the interaction of GU with the local game indicator, thereby partitioning the effect across local lines. The significance of GU would suggest the importance of relative quality to NFL fans, while the significance of the interaction of GU and local game would suggest the importance of relative quality in postseason games among local fans.

This research is ongoing; preliminary results reported in this Abstract reflect just one measure of GU although the findings were consistent using alternative GU metrics. Results of the first model did not support local interest in GU, p=.20. Team quality, however, was significant for both local team and opponent (p<.10). Round indicators were significant predictors of demand (p<.01). Compared to the Super Bowl, ratings declined by 11.4 points for Wild Card round games, 10.0 for Divisional round games and 5.8 points for conference championship round games.

In our second model GU across all markets significantly predicted ratings, p<.01, with a preference for evenly-
matched teams, however GU in local markets was not associated with a change in ratings, \( p = .39 \), and the coefficient was in the opposite direction. The model explained a significant proportion of variance in ratings (87\%) and a change in the relative quality of teams could affect ratings by up to 1.6 points across all markets. Team quality was again a significant predictor of ratings (\( p < .01 \)) as were round dummy variables (\( p < .01 \)). The coefficients on the round indicators suggest there is a larger drop off in viewership across all markets than in the previous model featuring just local games, 23.6 ratings points lower in the Wild Card round than the Super Bowl. The results of both models taken together support the hypothesis that GU is a predictor of demand for playoff games in markets without a competing team, but is not associated with local interest.

The lack of support for a local GU effect is consistent with the prior research cited while the GU effect across the remainder of markets had not been explored previously. Given the singular focus of the extant uncertainty research on local markets, much remains to be examined on how uncertainty, one of the principal elements of competitive sports, impacts interest in games among fans without a strong rooting interest. This research indicates that the effect may be larger among less partisan fans. Further significance and implications are discussed. In particular the disparity of findings between local fan base and other football fans invites a discussion of how this dynamic may impact other components of uncertainty as well as other key issues in sports economics.