What Drives Television Viewership in NCAA College Football?

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Introduction & Review of Relevant Literature
Empirically estimating determinants of demand for live sport is a key topic in both the sport management and sports economics literature. Game-day attendance has traditionally been used as a proxy for demand. However, in recent years, researchers have increasingly used television viewership as an alternative proxy. Utilizing television viewership allows for the ability to capture preferences from a more representative sample of consumers as compared to attendance which largely reflects the decisions of local market consumers. While television demand has been investigated in major North American sports leagues (Mongeon & Winfree, 2012; Paul & Weinbach, 2006), the Ultimate Fighting Championship (Tainsky, Salaga, & Santos, 2013), European Football (Alavy, Gaskell, Leach, & Szymanski, 2010; Buraimo, 2008; Buraimo & Simmons, 2009; Forrest, Simmons, & Buraimo, 2005) and various other major sports, there is a lack of work investigating consumer preferences for television viewership in National Collegiate Athletic Association (NCAA) college sports. Despite this, understanding the determinants of television interest are no less important in this context as the sale of television broadcast rights are a growing and vital source of revenue for NCAA member conferences and programs. We add to the literature by estimating television viewership for NCAA college football using a unique data set of television viewership figures for all televised games from 2013-2015.

Borland and MacDonald (2003) stated that understanding “the nature and determinants of demand is arguably the most important empirical analysis” in sports. Given the importance of television broadcast revenue in the overall revenue function of premier NCAA athletic programs, it is imperative to understand what drives consumer television choices. A fundamental component of all quality studies which estimate demand is a measure testing for the uncertainty of outcome hypothesis (UOH; Rottenberg, 1956). The UOH states that consumer interest in a game is positively associated with outcome uncertainty. However, work which empirically tests for support of the UOH is mixed. For example, Forrest et al. (2005) found support for the UOH in European football viewership. Alternatively, among others, Salaga & Tainsky (2015) uncovered that television ratings for post-season college football games were higher when perceived contest outcomes were more certain. This research extends the literature by examining how both pre-game perceived outcome uncertainty and outcome uncertainty with respect to actual contest outcomes influence viewership.

Data and Method
The data utilized include all nationally televised NCAA Football Bowl Subdivision (FBS) regular season and postseason games (excluding BCS and College Football Playoff games) during the 2013-2015 seasons. All viewership data was collected from SportsMediaWatch.com and includes 1,164 televised contests. We use the Nielsen Company's estimate of total television viewership as the dependent variable. Due to overdispersion and our data being truncated at zero, we use a zero-truncated negative binomial regression, according to the following equation where i refers to the game and t refers to the season:

\[ V(i,t) = \beta_0 + \beta_1 ClosingSpread(i,t) + \beta_2 ClosingTotal(i,t) + \beta_3 AvgWeekPayne(i,t) + \beta_4 AvgPowerCorr(i,t) + \beta_5-23 Conference(i,t) + \beta_24 ConfChampGame(i,t) + \beta_25 BowlGame(i,t) + \beta_26 ScoreDiff(i,t) + \beta_27 TotalPoints(i,t) + \beta_28 WeekOfSeason(i,t) + \beta_29-31 Season(i,t) + \beta_32 Time(i,t) + \beta_33-43 Channel(i,t) + \varepsilon(i,t) \]

While most variables are self-explanatory, we identify the following for clarity. AvgWeekPayne is the average weekly Bruce Payne power ranking leading into the contest for each of the competing teams. This variable measures the absolute quality of game. As consumer interest in specific teams may not directly correlate to current season team quality, we include AvgPowerCorr which is the average end-of-season Bruce Payne power rating for the competing teams in the three most recent seasons. These variables differ and are both necessary, as viewership may be high for
a team that has been historically strong, but may not be strong in the current season.

Results and Discussion
Our initial results fail to support the UOH with respect to anticipated contest uncertainty. The closing line pre-game point spread (ClosingSpread) is positive and significant which indicates that larger point spreads are associated with increased viewership. This suggests increased consumer interest when the anticipated outcome of the contest is more certain. While the effect was relatively small in terms of viewership – an increase of 10,000 consumers per one point increase in point spread – this finding is still noteworthy. We also test for the impact of actual contest outcomes on viewership and find support for the UOH as viewership is higher for games where the actual scoring margin of the contest is smaller. These results indicate that consumers may not initially prefer contests expected to be uncertain, but respond favorably to games where enhanced uncertainty actually occurs.

Unsurprisingly, in support of existing empirical work on team quality and consumer interest (Borland & MacDonald, 2003), we find that viewership is significantly higher when absolute contest quality is higher. As expected, viewership is positively associated with factors tied to game importance as all else equal, conference championship games and bowl games have increased viewership.

Interestingly, we also find that viewership has declined significantly and at increasing levels over time. This reduction in consumer interest may simply reflect a change in viewership habits as the number of non-traditional outlets (streaming options, for example) to view games has increased. The results have implications for decision-makers and various stakeholders involved with broadcasting NCAA FBS football contests, as each play a valuable role in evaluating and selecting which teams will appear in featured match ups.

Conclusion
We extend the literature investigating consumer interest in college sport by estimating the determinants of television viewership in NCAA FBS college football. Our results are mixed with respect to the predictions of the UOH as consumers appear to initially prefer contests with outcomes expected to be more certain. However, once the contest begins our modeling results indicate that viewers also respond positively to games which are in actuality more uncertain. These results suggest that consumers may update their preferences once a contest begins and underscores how both pre-game characteristics and game dynamics have the ability to influence viewership.