The Wagering Market and NBA Television Ratings

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Purpose and Significance

The sale of television broadcasting rights is a substantial and growing source of revenue for major professional sports leagues. As the value of live sports programming increases, an understanding what drives television ratings for these contests is of similarly increased consequence. An understudied driver of viewer interest is the presence of sports gambling. Speculation has long conjectured that interest in live sports programming has been fueled by the gambling market; however, there is little existing work that explicitly illustrates the nature of the relationship between television ratings and the betting market (Salaga & Tainsky, 2015). This research is the first study to estimate the relationship between in-game demand for television broadcasts and wagering lines in professional sports.

Data support the notion that the size of the betting market is considerable. Over $4.2 billion in legal sports wagers were made in Nevada in 2015 (Schwartz, 2016). The illegal wagering market is even larger according to figures generated by the National Impact Gambling Study Commission, estimating illegal wagers on sport at $380 billion annually (American Gaming Association, 2014). The potentially-related sports broadcast viewership market is also considerable. The National Basketball Association’s (NBA) current television deal is valued at $24 billion over nine years. This equates to an average annual value of $89 million per team. A positive relationship between television viewership and the gambling market would signify that the NBA is benefitting financially from the sports wagering market. NBA Commissioner Adam Silver’s explicit call for legalized sports betting suggests that the relationship indeed exists, and legalizing wagering on games would allow for the league to more directly capture a piece of these revenues.

Review of Literature

Betting lines traditionally have been included in demand estimations to gauge the public’s preference for pre-game outcome uncertainty (Borland & Macdonald, 2003). They have been useful in this regard regardless of whether the research utilized television ratings (e.g., Baimbridge, Cameron, & Dawson, 1996; Buraimo, 2008, Tainsky, 2009) or attendance (e.g., Borland & Macdonald, 2003; Deshriver, 2001; Schmidt & Berri, 2001), notwithstanding mixed evidence regarding the balanced book hypothesis (Levitt, 2004; Paul, Weinbach, & Paul, 2012). What drives demand for the sporting contest has figured prominently in sport management generally and sport economics specifically, with the hypothesized factors characterized as first enumerated by Rottenberg (1956). Although the operationalization has varied, sport demand modeling has remained fairly consistent, largely due to data limitations imposed by a static dependent variable, gate attendance. As the literature has grown to include studies measuring television ratings and, even more recently, intra-match ratings, researchers’ questions have come to include dynamic factors that can be derived from in-game scoring (Alavy, Gaskell, Leach, & Szymanski, 2010; Chung, Lee, & Kang, 2014; Salaga & Tainsky, 2015). In so doing, the extant work has yielded insight into how partisan interest (Sung, Mills, & Tainsky, 2016) and game closeness (Alavy, et al., 2010; Chung, et al., 2014; Xu, Sung, Tainsky, & Mondello, 2015) affect demand over the course of a game.

Methodology & Data Analysis

Using a data set of Nielsen television ratings from NBA games, we created a sample of contests where interest in the betting market can be separated from interest in outcome uncertainty. This approach allowed for the ability to appropriately test for an association between television viewership and betting lines. In specific, this study questioned whether viewership increased as the scoring margin moves closer to the point spread late in the game?

A generalized linear model with robust standard errors clustered by market was utilized to estimate Nielsen household ratings for NBA games during the 2014-15 season. The full set of games (n=1098) was reduced in
generating several samples (n=228; 194) where game outcome was essentially determined, but betting outcome relative to the point spread was still to be determined. Betting variables and control variables representing population, quality, income and substitutes (Fort, 2006) were included as predictors. In both samples after controlling for known factors, ratings increased late in games as the difference between the final scoring margin and point spread decreased. Because our sample only included broadcasts in which the outcome (i.e., probable winner or loser) is not teetering in the balance, and ex ante considerations in the control variables, it is reasonable to conclude that increased viewership is attributable to interest in the outcome only relative to the betting line.

Discussion & Implications
This study establishes a clear relationship between the sports wagering market and broadcast viewership of NBA games. The most glaring implication is that the value of the league’s recent television deals reflects interest generated by the largely illegal wagering market. It is rational to believe the wagering market would be even more robust, and therefore the broadcast rights even more valuable, if sports gambling were to be legalized nationally per the commissioner’s endorsement. Additionally, the game demand literature has historically focused on ex ante outcome uncertainty relative to the point spread. This research underscores recent work (Alavy, et al., 2010; Salaga & Tainsky, 2015) that another primary consideration is dynamic uncertainty relative to game score, in this case based on the point spread. This should not be summarily dismissed as attributable solely to those who have placed wagers on the game, but may also include elements of confirmation bias. That is, because the point spread approximates public sentiment on the anticipated game score, some viewers may be watching until the end of games that are not close and were not anticipated to be close in order to bolster the sense that they were correct in their pre-game assessment of relative team quality (Kesenne, 2000). Additional quantitative and qualitative research investigating the possibility of confirmation bias would further enhance this study’s contribution to the body of knowledge. So too, how other leagues benefit from the wagering market and the extent to which the influence of the wagering market also exists in other media (i.e., online streaming) are fertile grounds for future research.