Rest Schedules and Market Efficiency in NFL Point Spread Markets

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Finance/Economics - Economics (Professional Sport)
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The National Football League (NFL) has developed initiatives (i.e., Thursday Night Football and bye week) that arrange a few games at irregular periods. Bye week system provides teams a total of approximately two weeks to recuperate and prepare for subsequent games whereas Thursday Night Football (TNF) provides a very short interval for player and team recovery. Irregular rest patterns can cause differences in team and player production, affecting team competencies. Mixed results have been reported as to the potential effects of rest on performance in team sports settings (Ashman, Bowman, & Lambrinos, 2010; Scoppa, 2015), and the variances in rest periods caused by these two different game schedules are also crucial to NFL betting markets, where the efficient market hypothesis should be satisfied.

Workweek schedules and rest breaks have been discussed in academia largely in terms of recovery, fatigue, and worker productivity (e.g., Sonnentag, 2003). Because being away from work reduces work demands (Fritz & Sonnentag, 2005), rest influences labor productivity in organizations (Bechtold, Janaro, & Sumners, 1984). In NFL betting markets, bettors can easily understand that a short rest period (a long rest period) is disadvantageous (advantageous) to a team. Thus, all potential effects of these irregularities on team production in the NFL must be incorporated into betting prices and predictions. Disregarding these irregularities would give rise to consistent arbitrage opportunities, thereby driving a violation of the efficient market hypothesis.

With this knowledge, the current study used all NFL regular season games from 2002 through 2015 to examine whether NFL point spread betting market has been efficient in terms of different rest patterns. Using the binary outcome variable, betting outcome (win/loss), and a set of independent variables, we estimated a logistic model to verify the degree to which the probability of winning bets changes. The independent variables included in the model were as follows: Dummy variables (i.e., home, favorites, bye week, and TNF), continuous variables (i.e., differences in rest between two teams and closing point spreads), and interactions between these variables.

The key finding of the current study is that the NFL point spread betting market was inefficient when the concepts of rest and game schedules were incorporated into the analyses. The probability of winning bets increased for favored teams that played on Thursday and after a bye week. This result indicates that high-performing teams tended to exceed market expectations, suggesting a potential arbitrage opportunity. An unexpected occurrence was also found that betting on the favorites and away favorites during post-bye week games remained profitable, confirming that arbitrage strategies in previous research (Sung & Tainsky, 2014) were not momentary. The findings of the current study for TNF and post-bye week games suggest that there seem circumstances in which the disadvantage that a short rest presents to outstanding teams is not as severe as expected and that the benefits of a long rest for such teams are greater than those for inferior teams.