

ARE THERE PATTERNS IN NFL OVER-UNDER BETTING LINES?

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ABSTRACT

Las Vegas sports books provide two even-money bets (not counting commission, or “vigish”) regarding National Football League games, the point-spread between each pair of teams and the total number of points scored by each pair of teams (the “over-under”). Oddsmakers set the numbers (“lines”) for these two bets almost a week in advance of the games, and they may change these numbers throughout the week as new information becomes available regarding the teams or as bettors bet unequally on either side of the line. This study examines whether there are any predictable patterns in the over-under betting lines over the course of the preceding week that bettors could exploit to improve their expected returns.

SEARCHING FOR PATTERNS IN THE OVER-UNDER LINE

While previous studies used a single number for each game’s betting line, whether the point-spread or the over-under (usually the closing line), the current study examines whether there are any predictable patterns in the over-under betting line over the course of the week preceding the games. For example, might oddsmakers set an over-under line higher or lower at the beginning of the week than at the end of the week on the average? Perhaps there is a burst of betting near the end of the week that tends to pull the line in a particular direction. If there is any significant pattern in the betting lines, there is an opportunity for the bettor to exploit it. The study will also examine whether different sports books present the bettor with any meaningful differences in the betting lines or have different patterns throughout the week. Finally, are the lines unbiased, or are there any obvious inefficiencies that can be exploited by simple betting rules?

Data were collected for all Sunday games during the 2005 NFL season. Over-under lines were recorded each day at a consistent time for several different sports books, and of course the actual results

RESULTS

The current study focuses on differences between opening and closing over-under lines at three sports books. In absolute terms all three showed significant changes in the lines over the course of the week. However, when looking at the direction of change, only one of the three showed a significant trend over the course of the week (an average change of $-.28$ points). As might be expected, the three sports books generally had lines that differed very little from each other, with an average range of $.68$ points at the beginning of the week and $.52$ points at the end. Overall, betting the “under” was the winning strategy from 53% to 57% of the time, depending on the book and the time of the week. However, none of these percentages were significantly higher than the 52.4% needed to break even on betting. The most interesting result was the fact that small profits could be made by trying for a “middle” (betting on both sides of a bet) whenever the line changed by at least $.5$ points in the proper direction.

For complete discussion and results please contact the author.