

Hot Hand or Invisible Hand:
Which Grips the Football Betting Market?

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Abstract

Betting that winning streaks against the point spread will end for teams in the National Football League over the 1993-2015 seasons produced wins-to-bets ratios that veered sharply from the results obtained from the same strategy used for the 1983-1992 period and suggest that the football betting market is more likely governed by the *invisible hand* than by the *hot hand*. Our wins-to-bets ratios of 48.8 percent (vs. three-game streaks), 52.1 percent (vs. four-game streaks) and 46.6 percent (vs. five-game streaks) are characteristic of a market populated by the independent and profit-maximizing participants envisioned by Adam Smith.

Background

A journal note (Badarinathi and Kochman, 1994) reported regular profits when betting against teams in the National Football League with three-game winning streaks versus the point spread. Wagers on opponents of teams with four- and five-game winning streaks were also profitable. The authors had hypothesized that since streaking teams would be considered *hot* by bettors, spreads in future games would be inflated beyond normal expectations and therefore more difficult to cover. (“Winning streaks” can include losses on the field but by margins smaller than the respective point spreads.) For the 1983-1992 period, wagers on the opponents of NFL teams with three-, four- and five-game winning streaks against the spread produced wins-to-bets ratios of 59.1 percent, 58.1 percent and 61.4 percent, respectively. Whether bets were placed on or against hot teams, a hot-hand effect was clearly in evidence.

Kochman and Goodwin (2003) used results from college football to test the hypothesis that streaking teams held some predictive value. They found that betting against teams riding a five-game winning streak against the points generated a wins-to-bets ratio of 60 percent (or 63/105) during the 1996-2000 seasons—significant at five percent. Two-, three- and four-game streaks were nonpredictive. Paul et al. (2012) reported significant increases in bets against streaking NFL teams for the 2005-2009 seasons but no evidence of regular profits. While it is curious that such an imbalance of wagers did not inflate point spreads on hot teams to the extent that profit opportunities became available when betting on opponents, Paul et al. speculated that bookmakers choose to gamble themselves by allowing imbalances and betting against the public. Levitt (2004) argued that bookmakers do, in fact, engage in betting by consciously failing to counter instances of overbetting by the public and thus leaving point spreads unchanged. Woodland and Woodland (2000) found that betting on or against streaking NFL teams did not generate excess returns. Earliest studies of streaking teams [Brown and Sauer (1993) and Camerer (1989)] focused on games in the National Basketball Association and agreed that any advantage when betting on or against such teams was wiped out by transaction costs.

Methodology

To test the predictive value of winning streaks against the point spread, we placed imaginary wagers on the opponents of NFL teams with three-, four- and five-game winning streaks during the 23 seasons immediately following Badarinathi and Kochman's 1983-1992 span. Like B&K, our definition of a winning streak is consecutive wins against the point spread regardless of the outcome on the field. Our rationale was not unlike that from previous studies: teams on winning streaks become bettors' favorites; bookmakers inflate spreads on games in which they

play to balance bets; and spreads which exceed normal expectations create profit opportunities for opponents. Point spreads and final scores were obtained from The Gold Sheet's website www.goldsheet.com.

Results

Tracking consecutive wins against the spread for all 32 NFL teams over the 1993-2015 period produced 604 streaks of three or more games, 265 streaks of four or more games and 118 streaks of five or more games. When 295 streaks ended after three games, our rule of betting against teams on winning streaks earned a wins-to-bets ratio of 48.8 percent—or 295/604. When 138 streaks ended after four games, our betting rule notched a W/B ratio of 52.1 percent—or 138/265. When 55 streaks ended after five games, our betting rule claimed a 46.6 percent W/B ratio—or 55/118. Divided into five-year segments, success rates proved volatile. Winning bets against teams with a three-game streak ranged from 55.2 percent (1998-2002) to 43.4 percent (2003-2007). Winning bets against teams with a four-game streak ranged from 63.6 percent (1998-2002) to 43.6 percent (1993-1997). Winning bets against teams with a five-game streak ranged from 57.1 percent (2013-2015) to 37.9 percent (1993-1997). Inasmuch as our rule of betting against streaking teams enjoyed above-average wins-to-bets ratios in some five-year segments, the hot-hand effect may seem somewhat persuasive. Yet, below-average ratios in other five-year segments argue not only against our strategy but also for bets *on* streaking teams. In the broad view, winning 488 of 987 total bets (or 49.4 percent) negates any call to action and makes us wonder if something else had a *hand* in matters.

Perhaps it is the invisible hand. Adam Smith (1776) employed the phrase to explain how a market reaches equilibrium when participants act independently and pursue their self-interests.

In finance, the invisible hand is analogous to the Efficient Market Hypothesis, where information is speedily and efficiently incorporated into asset prices. The result is the absence of regular profit-taking. Since the football betting market attracts participants no less knowledgeable, competitive or profit-maximizing than investors (Pankoff, 1968), it seems reasonable to believe that the invisible hand can preempt regular profits for bettors and for our betting rule in particular. The parallel between investing and betting was also drawn by Woodland and Woodland, who likened the contrarian strategy of selling winning stocks to our strategy of betting on winning streaks to end.

Conclusions

In sum, the supposed need for bookmakers to balance bets and adjust point spreads to the advantage of streaking teams' opponents has long fueled the hot-hand theory. Limited occasions of above-average returns were supportive, but our 23-year investigation turned up only breakeven results and suggests that bookmakers allow imbalances and elect to bet against the public. The implication is clear: the invisible hand has a tight grip on the football betting market.

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