

## Behavioral Finance and Football Betting: A Note

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### ABSTRACT

Behaviorists argue that investors' fear of regret causes them to favor stocks that are popular and familiar. If bettors share that fear, they are more likely to place wagers on favorites vis-à-vis underdogs. Such a preference would inflate point spreads and possibly explain why underdogs in the National Football League produced a significantly nonrandom wins-to-bets ratio of nearly 52 percent over the 1991-2004 period.

### BACKGROUND

Forty years ago, Pankoff (1968) drew an analogy between investing and betting and reasoned that regular profits from the latter activity would represent no less an exception to the theory of efficient markets than those from the former. When his imaginary wagers on National Football League (NFL) games produced only breakeven results, Pankoff concluded that participants in the football betting market—like those in the securities market—are rational profit-maximizers. Since that seminal article, researchers have become increasingly aware of the impact of psychology on the decision-making of individuals. Not only do people sometimes behave in a less-than-rational manner, but those actions can often take predictable forms.

One such pattern was termed the “disposition effect” by behaviorists Shefrin and Statman (1984). It claims that people tend to feel sorrow and grief after having made an error in judgment. This fear of regret will cause investors to avoid selling stocks that have suffered losses. The disposition effect can also explain why investors will prefer popular stocks—rationalizing that any resulting losses would not be peculiar to them. In the context of sports betting, the avoidance of regret could arguably translate into a preference for favorites; losing a bet on a favored team would be easier to accept than doing likewise on an underdog. This “buying pressure” on favorites should cause their “prices” to rise—making underdogs the beneficiaries of inflated point spreads and giving them a betting advantage. The emotional decision to prefer favorites is precisely the kind of irrational behavior that Kochman and Goodwin (2006) argued will create inefficiencies in the sports betting market.

### METHODOLOGY

If bettors overbet favorites and bookmakers adjust point spreads up, profit opportunities should accrue to those wagering on underdogs. To test that hypothesis, we placed imaginary bets on all

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underdogs in the National Football League (NFL) during the 1991-2004 seasons as identified by Las Vegas oddsmakers and reported by the Internet site for a popular football newsletter: [www.goldsheet.com](http://www.goldsheet.com). Not unlike Gandar et al. (2001), our resulting wins-to-bets ratios were then tested for nonrandomness per Equation (1).

$$(1) Z = \frac{(W/B - 0.50)}{\{[(0.50)(1 - 0.50)]/B\}^{1/2}}$$

Z = statistic for testing the breakeven null hypothesis

W = number of winning bets

B = total number of bets.

## RESULTS

By wagering exclusively and consistently on underdogs in the NFL over the 14 consecutive seasons through 2004, we achieved a significantly nonrandom wins-to-bets ratio of 51.90 percent. It is also evident from Table 1 that winning bets on underdogs outnumbered losing bets in 11 (or roughly 80 percent) of those years. Cumulatively, the first half of our 14-year measurement period generated a significantly nonrandom wins-to-bets ratio of 52.28 percent while the cumulative W/B ratios for years 12, 13 and 14 were likewise significantly nonrandom.

**Table 1**  
**Wins-to-bets ratios for NFL underdogs (1991-2004)**

Season	Bets	Wins	Wins-to-bets	Cumulative Wins-to-bets
1991	226	112	49.56%	
1992	223	116	52.02%	50.78%
1993	231	125	54.11%	51.91%
1994	224	118	52.68%	52.10%
1995	244	130	53.28%	52.35%
1996	240	121	50.42%	52.02%
1997	234	126	53.85%	52.28%*
1998	239	109	45.61%	51.42%
1999	245	130	53.06%	51.61%
2000	247	132	53.44%	51.81%
2001	245	125	51.02%	51.73%
2002	260	144	55.38%*	52.06%**
2003	256	126	49.22%**	51.83%**
2004	258	136	52.71%**	51.90%**
Totals	3372	1750	51.90%**	

\*significant at  $p < 0.10$

\*\*significant at  $p < 0.05$

## CONCLUSIONS

Random returns from wagers are generally interpreted to mean that the market for bets is efficient. While our results suggest that the market for bets may be less than efficient, regular profits remain elusive. Our wins-to-bets ratio of 51.9 percent stops short of the 52.4-percent<sup>1</sup> mark needed for nonrandom profitability. Behaviorists could argue that our results imply that individuals behave irrationally—creating profit opportunities for those who are alert to the inclination of bettors to eschew underdogs in favor of favorites. While the temptation might be to view market efficiency and behavioral finance as competing explanations, they may, in truth, be complementary. Irrational (rational) behavior would account for the (absence of) mistakes that, in turn, produce abnormal (normal) returns. Thus, it seems fair to say that our nonrandom returns not only illuminate an attractive strategy for bettors but also energize the argument that individuals gravitate toward popular choices to avoid the fear of regret.

While no distinction between heavy and slight underdogs was made in this study, we would encourage future researchers to consider doing so. It could be that bettors' alleged aversion to (losing wagers on) underdogs is positively related to the size of the spread and that heavy underdogs are therefore the likeliest beneficiaries of inflated points. To the extent that a clearer definition of underdogs facilitates higher wins-to-bets ratios, our behaviorist approach to betting may finally pay off ... literally!

## ENDNOTES

1. Having to risk \$11 to win \$10, bettors must win 11 of 21 bets (or 52.4 percent) to break even.

## REFERENCES

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