

FOOTBALL BETTING AND THE NEGLECTED-FIRM EFFECT REVISITED: A NOTE

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ABSTRACT

A study that tested the neglected-firm effect in the football-betting market for the 1985-1995 period was replicated for the 1996-2002 seasons. Wins-to-bets ratios were again compiled for the college teams rated *most-neglected* and *least-neglected*; however, schools so designated in the earlier investigation were re-evaluated and, where necessary, replaced to ensure that neglect—and not specific teams—functioned as the explanatory variable. Results suggest that neglected teams are not an exception to the efficient market hypothesis (EMH).

INTRODUCTION

When textbook writers discuss EMH anomalies, they unflinchingly include the neglected-firm effect. It proposes that securities overlooked by analysts and investors are less likely to be correctly priced than those followed more closely and may therefore produce abnormal returns. Beyond its intuitive appeal, the neglected-firm effect enjoys empirical support from at least three separate studies. Arbel and Strebel (1983) found not only a small-firm effect among the Standard & Poor 500 stocks during the 1972-1976 period but a neglected-firm effect as well when stocks with limited information and institutional support outperformed their more publicized and popular counterparts across all size categories. Barry and Brown (1984) also reported that lower-profile stocks generated higher returns in the absence of a size effect. Finally, James and Edmister (1983) concluded that while neglect (in the trading activity sense) and firm size are highly correlated, they impact stock returns in distinct ways. In sum, while neglect and size are not the same phenomenon, it seems doubtful that the former will ever escape the shadow of the latter in the eyes of stock market observers.

But what about the football-betting market? Can neglect and size be differentiated more clearly when betting outcomes replace stock returns as a measure of pricing efficiency? Pankoff (1968) reasoned that the market for football wagers is a handy proxy for the securities market since bettors are no less numerous, knowledgeable or competitive than investors and that gambling profits represent a bona fide exception to the efficient market hypothesis. The betting-investing analogy seems especially useful for partitioning neglect and size. In football, *size* is controlled for by equal numbers of players in

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the professional game and by equal numbers of scholarships in college. To the extent that *neglect* can be reasonably operationalized, any impact it may exert on wins-to-bets (W/B) ratios would not be confounded by a size effect. Kochman and Waples (1998) defined neglect as the sum of scant national press, a small fan base and limited on-field success and hypothesized that college football teams satisfying that definition are less likely to be correctly handicapped by Las Vegas oddsmakers and may therefore provide opportunities for regular profits. Kochman and Waples rated 20 colleges as most-neglected and an additional 20 schools as least-neglected for the 1985-1995 years. Contrary to expectations, the latter group achieved a higher W/B ratio (52.3 percent) than the neglected teams (48.4 percent).

METHODOLOGY

This paper replicates the Kochman and Waples study by extending the hypothesis that neglected teams are mispriced to the 1996-2002 period. Like K&W, we judged (in)efficiency on the basis of wins-to-bets ratios, which were tested for randomness and profitability per Equations (1) and (2), respectively. While the former model predictably uses a required rate of 50 percent, the latter employs a hurdle rate of 52.4 percent to reflect the customary 10-percent cost of placing a wager and the resulting need to win 11 of 21 bets to break even. The source of betting outcomes was Steele (2003) while Gandar et al. (2001) contributed the statistical tests. Where this current study departs from its predecessor is in the number and composition of most- and least-neglected teams. For the 1996-2002 measurement period, we identified 15 schools which met our condition of neglect—namely, shortages of media coverage, fan support and on-field success—and 15 institutions which represented the opposite. Better ways to define *neglect* never proved practical.

$$(1) \quad Z_R = \frac{(W/B - 0.5)}{\{[(0.5)(1 - 0.5)]/B\}^{1/2}}$$

$$(2) \quad Z_{II} = \frac{(W/B - 0.524)}{\{[(0.524)(1 - 0.524)]/B\}^{1/2}}$$

where: Z_R = statistic for testing the null hypothesis of randomness

Z_{II} = statistic for testing the breakeven hypothesis

W = number of winning wagers

B = number of total wagers

The decision to shorten the list of most- and least-neglected teams from 20 in the original study to 15 in this investigation stemmed, in part, from the belief that fewer schools would mean fewer questionable characterizations. Where colleges regularly handicapped are arrayed along a continuum ranging from famous to obscure, we chose the 15 schools which, we believed, clustered at each end—leaving roughly 100 teams to occupy the middle. Another motivation to shrink our sample size was the

sense that the greater availability of information (e.g., via the Internet and newsstand publications) during the 1996-2002 span (vis-à-vis 1985-1995) meant that the incidence and degree of neglect would necessarily be diminished. A re-evaluation of schools in the prior study led to only one change among the current subject teams—Southern Methodist University replaced Rice.

RESULTS

When we placed (imaginary) bets on our 15 most- and least-neglected teams during the 1996-2002 seasons, we generated wins-to-bets ratios of 47.8 percent and 50.1 percent, respectively. Since the former group tended to be underdogs, wins were achieved one of two ways: by winning the game outright or by losing by a margin that was smaller than the point spread. Inasmuch as the least-neglected schools were generally favorites, wins were notched by beating their opponents by a margin that was greater than the spread. For the most-neglected teams, the 47.8-percent W/B ratio was not significantly different from the 0.5 proportion expected under the randomness null hypothesis ($Z_R = -1.49$ with $p = 0.136$) but was significantly below the 0.524-percent breakeven rate ($Z_{\Pi} = -3.11$ with $p < 0.001$). For the least-neglected schools, the

College	Wins	Bets	W/B
Army	34	72	47.2%
Fresno State	38	78	48.7%
Hawaii	38	78	48.7%
Memphis	36	75	48.0%
Navy	40	74	54.1%
New Mexico	43	76	56.6%
Rutgers	31	74	41.9%
San Diego State	37	76	48.7%
Southern Methodist	34	78	43.6%
Temple	34	75	45.3%
Texas El Paso	37	77	48.1%
Tulane	40	74	54.1%
Tulsa	26	75	34.7%
Utah	40	77	51.9%
Wyoming	35	76	46.1%
Totals	543	1135	47.8%
Z_R	-1.49		
Z_Π	-3.11		

W/B ratio of 50.1 percent was neither significantly different from the 0.5 proportion ($Z_R = 0.69$ with $p = 0.490$) nor significantly below the 0.524 mark ($Z_{\Pi} = -1.59$ with $p = 0.112$).

College	Wins	Bets	W/B
Alabama	40	79	50.6%
Auburn	37	77	48.1%
Florida	40	77	51.9%
Florida State	43	80	53.8%
Miami, FL	41	76	53.9%
Michigan	35	78	44.9%
Nebraska	39	82	47.6%
Notre Dame	40	79	50.6%
Ohio State	42	81	51.9%
Oklahoma	41	79	51.9%
Penn State	42	81	51.9%
Southern California	40	82	48.8%
Tennessee	40	80	50.0%
Texas	39	81	48.1%
UCLA	36	75	48.0%
Totals	595	1187	50.1%
Z_R	0.69		
Z_{Π}	-1.59		

CONCLUSIONS

It seems fair to conclude that neglect is no threat to the efficient market concept. Neglected college teams beat their respective point spreads at a rate (47.8 percent) that was both significantly below the breakeven mark and nearly identical to the disappointing 48.4-percent W/B ratio reported in the earlier neglected-firm effect study. From the 50.1-percent ratio produced by our least-neglected schools, we can infer that public teams do not appear to be burdened (and overpriced) by the inflated point spreads, which might have been anticipated from their high visibility.

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