Research Notes

Not So Fast, My Friend

Biases in College Football Polls

McDonald Paul Mirabile[1] and Mark David Witte[1]

Abstract

The national championship game in Division IA football is selected in part by voters. Are the voters biased? Examining all weekly rankings from 2004 to 2008, the authors find the following results. Voters in the USA Today (Coaches') Poll tend to rank their team's recent opponents 4.3 places higher than the average voting coach and rank the recent opponents of their alma mater 3.2 places higher. Additionally, both coaches and sports media (AP Poll) overassess teams who play in certain Bowl Championship Series (BCS) conferences relative to non-BCS conferences and reward "running up the score" by voting teams with high offensive output above their peers.

Keywords

voting, sports, bias, college football

Introduction

Each Saturday morning in the fall, ESPN College GameDay analysts Lee Corso and Kirk Herbstreit and host Chris Fowler discuss and debate the day's matchups live on the campus of the day's biggest top 25 matchup. Broadcast to the backdrop of a spirited tailgate party, Corso, a former college football coach, banters with Herbstreit and Fowler, both current voting members in the Associated Press (AP) Poll. Disagreements between Corso and Herbstreit frequently begin with Corso's catchphrase "Not so fast, my friend" and typically conclude with Corso donning the mascot

[1] College of Charleston, South Carolina

Corresponding Author:
Mark David Witte, Department of Economics and Finance, 5 Liberty Street, College of Charleston, Charleston, SC 29401.
Email: wittem@cofc.edu

headpiece of his pick of the week and taunting his cohosts. Although favoritism among these on-air personalities can be difficult to spot, when one listens to their comments within the context of their alma maters and former employers, traces of partiality begin to appear. This article examines the context in which such biases present themselves as we develop a series of models to explain voting outcomes in the Coaches' and AP Polls.

In Division I Bowl Subdivision (commonly referred to as Division 1A) college football, the two teams in the national championship game are determined by the final BCS rankings, a metric combining the voting polls and computer polls. This contrasts with Division I Championship Subdivision (aka Division IAA), Division II and Division III college football, where the national champions are crowned via a play-off process. Given the importance of voting in Division IA football, this study examines to what extent the voters display any systematic bias. To answer this question, we will examine all voting outcomes in the Coaches' Poll and the AP Poll over five seasons from 2004 to 2008.

This question of bias has become increasingly important in light of upcoming changes in the Coaches' Poll. The Coaches' Poll, administered by USA Today and the American Football Coaches Association, makes up one third of the final determination of the national championship game.[1] Starting in the 2010 season, the final ballot of the individual coaches who participate in the poll will no longer be publicly available (while no previous ballots will be publicly known either).[2] If voting coaches already display evidence of systematic bias, then it is possible that more secrecy will encourage coaches to engage in yet more biased voting. Voters in the Coaches' Poll over the investigation period are determined by conference standing with a "bonus voter" system that awards additional voting rights to conferences that were ranked more highly in the previous season. Bowl Championship Series (BCS) conferences, those power conferences with automatic tie-ins to games in the Bowl Championship Series, have at least as many if not more voting coaches than non-BCS conferences.

The AP Poll chooses its voters from the sports media that cover college football. The writers are chosen by AP bureau chiefs based on the number of Division I teams located within that state. In 2008, Texas, with 10 Division I teams, had 3 more writers allotted voting privileges than Hawaii, which has only 1 Division I team and 1 voting writer. Starting in the 2005 season, the AP Poll recused itself from the official determination of the national championship game to "improve its reputation for honesty and integrity."[3] The vacancy left by the departure of the AP Poll was filled by the Harris Interactive College Football Poll.

The model herein builds on the existing literature of the determinants of National Collegiate Athletic Association (NCAA) football voting. Paul, Weinbach, and Coate (2007) show that expectations (in the form of the difference between the game's outcome and the sportsbook pointspread) as well as exposure (in terms of TV broadcast) significantly affect the rankings of teams. Additionally, Lebovic and Sigelman (2001) show that a team's previous ranking is a significant determinant of their

current ranking. The authors also demonstrate that the ability to move up in rank is highly dependent on the quality/ranking of the team's most recent opponent. Logan (2007) examines the importance of how early, or late, in the season a team loses, as well as a team's margin of victory and strength of schedule.

With a uniquely deep data set, we control for expectations, exposure, strength of schedule, as well as the quality of the preceding game and the timing of the preceding game. In testing for voters' bias, we examine whether the voter's identity has any impact on the outcome of the Coaches' Poll. Additionally, after controlling for the quality of the preceding game, we test whether voters in the AP Poll and Coaches' Poll display any bias toward certain conferences. Lastly, we examine all aspects of the game's outcome relative to the expectations inherent in the sportsbook predictions, and how such expectations influence the following week's top 25 rankings.[4]

Our major findings suggest that voting coaches display a bias in favor of their team's most recent opponent and the most recent opponent of their alma mater. There is a conference bias as well. Coaches tend to overassess teams who recently played nonconference games or conference games in the Big Ten, Big Twelve, SEC, and Pac-10, thereby significantly underrating teams that play in the non-BCS affiliations: Conference USA, MAC, Mountain West, Sunbelt, Independent, and WAC. Voters in the AP Poll tend to overassess teams recently playing in the SEC, Big Twelve, or nonconference games relative to teams in nonBCS affiliated conferences. Additionally, evidence suggests that voters are biased toward the offensive showing of a team in their preceding game. Even after controlling for the actual margin of victory and point spread, voters in both the Coaches' Poll and the AP Poll tend to reward "running up the score" (when a team scores a large number of points).

Data

The data for this study cover 5 years of college football from 2004 through 2008. The outcome variable of this article is the number of votes received in a given week (defined as week *t*). Games involving two teams where neither team received any votes in both the Coaches' poll and the AP (Writer's) poll were excluded from the analysis. There are 3,748 unique observations satisfying these criteria in this time period.

The poll data for this study are gathered from ESPN.com's reporting of weekly AP and USA Today/Coaches' polls. In each poll, votes are tabulated by aggregating each voter's ballot that contains the voter's ranking of the top 25 football teams. For each ballot, the team ranked Number 1 receives 25 votes, the team ranked Number 2 receives 24 votes, and so on. Based on their totaled votes from all ballots, teams are ranked from 1 to 25, and teams ranked outside the top 25 are noted at the conclusion of the polls with their votes received.

The point spread and totals (the sum of the home and away teams' scores) data are collected from reported median values of more than a dozen sportsbooks, as reported

on covers.com, a site devoted to sports gambling. The authors decided to collect the median value as it is a more representative of the average sentiment among bettors on the likely outcome of the game.[5] All additional data come from a uniquely deep data set on football games from 2004 through 2008. These data were collected from NCAASports.com each week prior to game day and includes all team-specific performance metrics (and these metrics' rankings among Division 1 peers).[6]

Model

Working from the foundation of Paul et al. (2007), for each poll, our dependent variable is the total number of votes received by team i at week t, which is estimated using five different cohorts of explanatory variables: previous voting outcomes ($X1$), game outcome/quality controls ($X2$), game timing controls ($X3$), expectations/exposure controls ($X4$), and voter identity information ($X5$).

$$\text{VoteTotal}_{i,t} = \beta_0 + \beta_1 X1_{i,t} + \beta_2 X2_{i,t} + \beta_3 X3_{i,t} + \beta_4 X4_{i,t} + \beta_5 X5_{i,t} + \varepsilon_{i,t} \quad (1)$$

The previous voting outcomes ($X1$) include the following: the team's votes at time $t-1$, the team's votes at time $t-2$, the team's preseason votes, and the opponent's votes at time $t-1$. This cohort explains the majority of the week-to-week variation in total votes received, as it accounts for the voters' opinions prior to the game being played in week t.

The game outcome and quality controls ($X2$) serve to update information obtained from the most recent week's games, by qualifying each win or loss with the ranking of the team and its opponent and incorporating additional game quality controls. This cohort includes dummy variables if the team wins and was ranked 1–10, if the team wins and was ranked 11–25, if the team wins and was ranked 26–50, if the team loses and was ranked 1–10, if the team loses and was ranked 11–25, if the team loses and was ranked 26–50, if the team wins and opponent was ranked 1–10, if the team wins and opponent was ranked 11–25, if the team wins and opponent was ranked 26–50, if the team loses and opponent was ranked 1–10, if the team loses and opponent was ranked 11–25, if the team loses and opponent was ranked 26–50, if both teams are ranked in the top 25, and if the game is a bowl game. Additionally included are the team's record in previous year, the combined record of all previous opponents of the team, the opponent's record in previous year, and the combined record of all previous opponents of the opponent.

The game timing controls ($X3$) address the date of the game within the season, the day of the week, and time of day on which the game is played. This includes the number of weeks into the season as well as dummy variables for a Monday games, Thursday games, Sunday games, games played in the afternoon (1:01-5:00 p.m. eastern standard time [EST]), games played in the evening (5:01–8:00 p.m. EST), and games played late at night (after 8:01 p.m. EST).

Expectations and exposure controls (*X*4) include variables with which we control for the various effects of playing on television, and covering the spread, as encouraged by Paul et al. (2007). Additionally, we determine the effect of running up the score and look for bias involving teams from BCS conferences. Variables include the margin of victory minus the Vegas line, the team's score in excess of expected score based on Vegas line and Vegas total, the total points scored by team, the total points scored by opponent, and indicator variables if the game is nationally broadcast, and/or if the game is a BCS conference game.

Lastly, the voter identity information (*X*5) includes coach-specific traits we use to examine how the member composition of the polls influences the weekly top 25 rankings. Variables include whether the team's coach is a voter, whether the opponent's coach is a voter, the difference in total voters between the team's conference and the opponent's conference, the number of voters who graduated from the team's school, and the number of voters who graduated from the opponent's school.

Descriptive statistics for the previous voting outcome variables (*X*1), the expectations and exposure controls (*X*4) as well as the voter identity information (*X*5) can be found in Table 1.

Results: Voter Identity Bias

The primary question this article seeks to address is to what extent the identity of voting coaches affects the ranking of college football teams. The results of testing Equation 1 for the Coaches' Poll are given in Table 2. The coefficients discussed in this section refer to those in Model 4. Models 1, 2, and 3 are reduced specifications provided to underscore the robustness of the results.

The coefficient on the dummy variable for the team's coach being a voter is insignificant and negative after accounting for the various game quality control and game timing control variables. This implies that there is no obvious, systematic bias wherein coaches vote their own team higher than their peers otherwise would.

However, the coefficient on the dummy variable indicating the opponent's coach is a voter is positive and significant after controlling for the game's outcome, quality, and timing—suggesting that if a team plays an opponent with a voting coach then that team receives an additional 4.34 votes. Although there is no consistent widespread evidence that voting coaches overrate their own team, there does appear to be a significant bias in favor of the voting coach's opponents. This finding suggests that coaches rank their recent opponent at least four positions higher than their average peer.

The sizable favoritism for a voting coach's most recent opponent may occur for a variety of reasons. First, the coach now has first-hand experience of the ability of the team in question and thus ranks them higher than others. Although, this explanation also presumes that the voting coach's opponent would consistently exceed his pregame opinion of them. Second, the coach may overweight teams he has faced

Table 1. Descriptive Statistics

	Mean	SD	Min.	Max.
Total votes for team i at week t	289.614	457.436	0	1,575
Team's coach is a voter	0.581	0.494	0	1
Opponent's coach is a voter	0.581	0.494	0	1
Difference in voters in team's conference minus opponent's conference	0.142	1.360	−6	7
Number of voters who graduated from the team's school	0.417	0.696	0	4
Number of voters who graduated from the opponent's school	0.417	0.696	0	4
Bowl Championship Series (BCS) conference game	0.541	0.498	0	1
ACC conference game	0.098	0.298	0	1
Big East conference game	0.055	0.229	0	1
Big Ten conference game	0.096	0.295	0	1
Big Twelve conference game	0.104	0.306	0	1
Pac-10 conference game	0.083	0.276	0	1
Southeastern conference game	0.106	0.308	0	1
Nonconference game	0.312	0.463	0	1
Margin of victory minus Vegas line	0.003	15.858	−53	53
Team's score in excess of expected score based on Vegas line and Vegas total	0.233	11.267	−35	49.5
Total points scored by team	26.209	14.326	0	77
Total points scored by opponent	26.196	14.317	0	77
Team's votes $(t − 1)$	295.175	460.497	0	1,575
Team's votes $(t − 2)$	292.736	458.536	0	1,575
Team's votes (preseason)	275.749	439.875	0	1,547
Opponent's votes $(t − 1)$	295.093	460.522	0	1,575
National Broadcast	0.407	0.491	0	1

recently. Vergin (2001) finds this type of overreaction to new information exists in the Vegas line on National Football League games. Offerman and Sonnemans (2004) explain that this hypothesis requires that bettors are overly optimistic (pessimistic) about recent winners (losers). However, this explanation would imply that a voting coach would rank a defeated opponent lower *not* higher. Third, the coach votes strategically, ranking their recent opponent higher, inflating their own team's perceived strength of schedule. Contract incentives tied to the coach team's final ranking in the poll and to top tier bowl game appearances may add further impetus to "strategic" or "self-interested" voting.[7] As the majority of each team's games are against conference opponents, teams from more represented conferences such as the Big Ten and the SEC may disproportionately benefit from any bias toward the most recent opponent.

The model developed also uncovered an additional likely source of bias—a voter's alma mater. Within the Coaches' Poll, the number of voters who graduated from

the school in question has no statistical significance in the model. Yet, the coefficient on the number of voters who graduated from the *previous opponent* of the team in question is positive and significant. This finding suggests that if a team plays an opponent with one voting alumnus, then that team will tend to receive an additional 3.22 votes, as estimated in Model 4 of Table 2.

Overall, these results imply that voting coaches do not display any statistically significant bias favoring their own team or alma mater. Instead, voting coaches appear to rank their most recent opponents and their alma mater's most recent opponents higher than their peers rank those same teams. As discussed above, the American Football Coaches Association and USA Today both can and do privately question any coach with a suspicious ballot. However, they may be less likely to spot a biased ballot related to the *opponents* of the voter or the *opponents* of the voter's alma mater than if the bias was directly in favor of the coach's own team or own alma mater.

Results: Conference Bias

Results of Model 4 in Tables 2 and 3 examine whether a team receives additional votes from coaches or writers, respectively, when that team plays within their own conference. The conferences being tested for this bias are the traditional BCS conferences (Atlantic Coast Conference, Big East, Big Ten, Big Twelve, Pac-10, and Southeastern Conference). We also include a nonconference dummy variable for a game played between teams from different conferences. The omitted null variables are the non-BCS conferences: Conference USA, MAC, Mountain West, Sunbelt, Independent, and WAC. Thus, a positive, significant coefficient suggests that a team receives additional votes for playing an opponent from their own BCS conference. As shown in Model 4 of Table 2, coaches appear to display a significant bias in favor of Big Ten, Big Twelve, Pac Ten, or SEC games. Likewise, the results in Table 3 suggest that AP Poll voters appear to display a significant bias in favor of Big Twelve and SEC games. Additionally, both the coaches and the writers significantly reward teams playing in nonconference games.

Results: Running Up the Score

Additionally of interest in Tables 2 and 3 is the coefficient on the total points scored by the team in the previous game. For both the Coaches' Poll and the AP Poll, this is positive and significant, suggesting that voters reward offensive performance (or "running up the score").

These results are robust to the inclusion of a host of game quality control variables and game timing control variables. The game quality control and game timing control results for the Coaches' Poll and the AP Poll are reported in an online

Table 2. Determinants of Voting in the Coaches' Poll

	Model 1	Model 2	Model 3	Model 4
Team's coach is a voter	−7.06*	−2.79	−3.05	−3.29
	(3.94)	(2.30)	(2.30)	(2.30)
Opponent's coach is a voter	8.21**	4.90**	4.65**	4.34*
	(3.90)	(2.29)	(2.29)	(2.29)
Difference in voters in team's	0.16	−0.20	−0.22	
conference minus opponent's	(1.40)	(0.81)	(0.81)	
conference				
Number of voters who graduated	0.85	0.71	0.70	0.50
from the team's school	(2.78)	(1.61)	(1.61)	(1.66)
Number of voters who graduated	5.63**	3.40**	3.41**	3.22*
from the opponent's school	(2.78)	(1.61)	(1.61)	(1.66)
Bowl Championship Series (BCS)	−4.57	6.61**	3.87	
conference game	(3.99)	(2.53)	(2.67)	
ACC conference game				6.30
				(5.21)
Big East conference game				5.87
				(5.68)
Big Ten conference game				12.92**
				(5.21)
Big Twelve conference game				12.48**
				(4.76)
Pac-10 conference game				9.11*
				(5.00)
Southeastern conference game				8.70*
				(5.24)
Nonconference game				10.18**
				(4.07)
Margin of victory minus Vegas line	2.27**	0.48**	0.49**	0.44**
	(0.32)	(0.21)	(0.21)	(0.22)
Team's score in excess of expected	−1.05**	−0.52*	−0.53*	−0.44
score based on Vegas line and	(0.50)	(0.29)	(0.29)	(0.31)
Vegas total				
Total points scored by team	−0.56*	0.66**	0.66**	0.63**
	(0.30)	(0.19)	(0.19)	(0.20)
Total points scored by opponent	1.95**	0.20	0.21	0.17
	(0.30)	(0.19)	(0.19)	(0.20)
Game quality controls?	No	Yes	Yes	Yes
Game timing controls?	No	No	Yes	Yes
Adjusted R^2	0.9365	0.9788	0.9789	0.9789
Observations	3,748	3,748	3,748	3,748

(continued)

Table 2. (continued)

	Model 1	Model 2	Model 3	Model 4
Team's votes ($t-1$)	0.95**	0.84**	0.84**	0.844**
	(0.01)	(0.01)	(0.01)	(0.011)
Team's votes ($t-2$)	−0.040**	−0.045**	−0.047**	−0.046**
	(0.015)	(0.009)	(0.009)	(0.009)
Team's votes (preseason)	0.005	−0.006	−0.006	−0.007
	(0.007)	(0.004)	(0.004)	(0.004)
Opponent's votes ($t-1$)	0.010**	0.042**	0.043**	0.042**
	(0.005)	(0.008)	(0.008)	(0.008)
National Broadcast	−7.35*	2.49	4.54*	3.91
	(4.13)	(2.51)	(2.65)	(2.71)
Constant	−109.22**	−43.71**	−47.18**	−52.96**
	(13.67)	(11.12)	(11.29)	(12.19)

Notes. Standard errors are given in parenthesis. Significance at the 5% and 10% level is denoted by * and **. Game quality controls and game timing controls results from Model 3 are included in an online appendix—http://wittem.people.cofc.edu/research.html.

appendix that can be found at www.onlineaddresshere.edu. Indeed, the models herein can account for more than 97% of the variation in votes received by individual college football teams: as such, there is little evidence that any omitted variable bias (including conference quality) exists in these models.

Conclusion

Voting coaches systematically favor their opponents and the opponents of their alma mater, although we cannot determine the rationale behind this finding, be it deliberate self-interested voting or an unintentional overreaction to new information. Both coaches and writers tend to rank teams higher if they play in certain BCS conferences relative to teams who play in non-BCS conferences. Additionally, there is significant evidence that voters in both polls incentivize offense by rewarding teams that "run up the score."

Such findings may lend credibility to those who believed that the University of Utah should have won a national championship during the 2008 season.[8] Mountain West champion Utah celebrated an undefeated season after an upset win over Alabama in the Sugar Bowl. However, in the national championship game, determined in part by voting, one-loss SEC champion Florida defeated one-loss Big Twelve champion Oklahoma. Not one coach in 61 voted Utah higher than fifth place in the final regular season Coaches Poll.[9]

Table 4 shows the regular season records of Utah, Florida, and Oklahoma. On average throughout the 2008 season, both Florida and Oklahoma were favored to

Table 3. Determinants of Voting in the AP (Writer's) Poll

	AP (Writers') Poll
ACC conference game	9.37
	(6.37)
Big East conference game	5.98
	(7.02)
Big Ten conference game	7.08
	(6.43)
Big Twelve conference game	12.72**
	(5.81)
Pac-10 conference game	7.61
	(6.16)
Southeastern conference game	14.73**
	(6.33)
Nonconference game	9.27*
	(5.00)
Team's votes $(t-1)$	0.842**
	(0.013)
Team's votes $(t-2)$	−0.012
	(0.010)
Team's votes (preseason)	−0.011**
	(0.005)
Opponent's votes $(t-1)$	0.035**
	(0.010)
Margin of victory minus Vegas line	0.37
	(0.27)
Team's score in excess of expected score	−0.34
based on Vegas line and Vegas total	(0.39)
Total points scored by team	0.76**
	(0.25)
Total points scored by opponent	−0.07
	(0.25)
National broadcast	5.81*
	(3.34)
Constant	−41.09**
	(14.91)
Game quality controls?	Yes
Game timing controls?	Yes
Adjusted R^2	0.9716
Observations	3,748

Notes. Standard errors are given in parenthesis. Significance at the 5% and 10% level is denoted by * and **. Game quality controls and game timing controls results are included in an online appendix—http://wittem.people.cofc.edu/research.html.

Table 4. Florida, Oklahoma, and Utah in the 2008 Season

Team	Games	Average Vegas Line	Average margin of victory	Average Team Score	Average Opponent Score	Combined Opponent Record
Florida	12	18.6	30.8	43.1	12.3	0.6181
Oklahoma	12	17.5	27.3	53.8	26.4	0.6111
Utah	11	13.9	20.5	37.5	16.9	0.5379

Note. Bowl games are excluded from this calculation as are games that had no Vegas spread (because the team's opponent was from Division IAA—Football Championship Subdivision).

win games by 17 points against opponents considerably stronger than Utah's. Florida and Oklahoma beat opponents by an average of 30.8 and 27.3 points, respectively, a touchdown more than Utah's 20.5 average margin of victory. The results suggest that voters favor the scoring patterns of Florida and Oklahoma, and their games are significantly overassessed by voters because of the conferences in which they play. Additionally, in 2008, there were more voters in both the Big Twelve (7 voting coaches and 12 teams) and the SEC (7 voting coaches and 12 teams) than in the Mountain West (4 voting coaches and 9 teams), so Oklahoma and Florida benefited more from the voting opponent bias.[10] The autoregressive nature of voting magnifies the cumulative effect such preferences have in determining who plays for the BCS title.

One method to alleviate some of the biases implicit in these findings would be to enact a reverse "bonus voter" system. A reverse "bonus voter" system would allot additional voting coach responsibilities to conferences that were excluded from the top 25 rankings in the previous year. At least initially, as the non-BCS conferences are likely to be allotted more voters, this would increase the opponent voter bias in favor of teams in non-BCS conferences, thereby counteracting the favoritism toward teams playing in BCS conferences.

Notes

1. Full details on the BCS selection process can be found at the following Web site: http://www.bcsfootball.org/bcsfb/eligibility

2. Details on upcoming changes to the Coaches' Poll can be found at the following Web site: http://www.afca.com/ViewArticle.dbml?DB_OEM_ID=9300&ATCLID=3730674

3. Quotation is taken from a press release that can be found at the following Web site: http://www.ap.org/pages/about/pressreleases/pr_122104b.html

4. As shown in Paul et al. (2007), a team with a greater margin of victory relative to the Vegas line will tend to receive more votes.

5. Each sportsbook profit maximizes by balancing bettors on each side of the point spread. Because of transaction costs associated with betting at different sportsbooks, it is possible

for these asymmetries to exist, even though they do represent a potential advantage relative to other casinos.

6. Additional data on the voting members in the Coaches' Poll and the AP Poll are available from a variety of sources including the AP's Web site, the USA Today's Web site, ESPN. com, the coach's own profile Web page or institution's athletic Web site among others.

7. Some specific contract incentives can be found at the following Web site: http://www. usatoday.com/sports/college/football/2006-11-16-contract-provisions_x.htm

8. One notable proponent was National Public Radio correspondent and Washington Post columnist John Feinstein: http://www.washingtonpost.com/wp-dyn/content/article/2009/ 01/06/AR2009010600092.html

9. Details can be found at the following Web site: http://www.bcsfootball.org/cfb/story/ 9789736/It's-time-to-be-honest-about-the-BCS

10. The 2008-2009 list of voting coaches can be found at the following Web site: http://www. usatoday.com/sports/college/football/usatpoll.htm

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Bios

Mark Witte is an assistant professor of economics at the College of Charleston. His primary teaching and research interests are in international trade and finance.

McDonald Paul Mirabile is the manager of strategic and financial analysis at the World Wildlife Fund in Washington, DC. His academic research interests include sports gambling markets and college and professional football. *(He is not affiliated with the College of Charleston.)*