

$$P_t = P_0 + \sum_{t=1}^t \beta + \varepsilon$$

$$\varepsilon \sim N(0, \sigma^2)$$

$\varepsilon \sim iid?$

$$\beta = (X'X)^{-1} X'Y$$

$$E(r_t - r_{t-1}) = 1/r$$

FACULTY FOCUS | *Trevon Logan*

All you need is a win

A numbers man proves that despite the conventional wisdom, only two letters matter to college football pollsters: W and L. By **BOB BEASLEY**.

If you're a college football fan, you've heard the line. To impress the pollsters, your team must take on strong opponents, blow out the weak teams on the schedule, and never lose late in the season.

Now, thanks to a researcher at Ohio State, you can cite empirical evidence to sack those suppositions.

Trevon Logan, an assistant professor of economics, published a study last November that counters the conventional college football wisdom. Logan crunched the numbers and found that in the end, wins and losses are the only variables that really matter to pollsters.

A conversation with a friend, a Notre Dame fan still bitter about his team's 1993 fortunes, prompted Logan to test the

widely held beliefs about pollster biases. In case you don't recall, 1993 was the year the Fighting Irish beat eventual national champion Florida State in November, but suffered their only loss a week later to Boston College and ultimately failed to make the title game. Many fans still think the Irish were unduly punished by pollsters for the late-season loss, while a team they beat went to the big game.

"I wanted to see if it was true that teams were punished for losing late in the season," Logan said.

He assembled a team of 10 undergraduate researchers to pore over data from two primary resources: the *College Football Encyclopedia* and the weekly Associated Press polls from 1980 to 2004. Focusing on 25 traditional football powers,

including Notre Dame and Ohio State, the researchers noted the date of each game, the weekly AP rankings and records of the subject teams and their opponents, and the final scores.

"We had to construct this data set from the ground up," said Logan, who heard from an overwhelming number of undergraduates eager to participate in the project. "I'm not sure I would have had so many volunteers if the students knew how mind-numbing it would be."

While the study wasn't the first to look at the issue, it was the most extensive. The researchers ended up analyzing data from more than 6,000 football games. According to Logan, no other study has looked at more than 20 years of weekly data for a group as large as 25 teams.

While there are several college football polls, Logan said none provides the historical perspective and overall data set that the AP poll does. Additionally, the voters—AP journalists—have seemingly more neutral opinions than coaches, who often show biases when voting.

"What we looked at was the change in points a team received from week to week," Logan said. "A team's ranking may not change, but its points do. The points show how individual voters value a team."

As for late-season losses, Logan discovered that pollsters actually are more generous when teams take a tumble in or after the 10th week of the season. The study showed that in those cases, more than 75 percent of AP voters rank teams

one place higher than when they suffer early-season setbacks. The biggest problem with losing late, Logan said, has nothing to do with the pollsters; teams simply run out of opportunities to recover.

In its last two seasons, Ohio State was criticized by the so-called experts for playing a weak schedule, but the Buckeyes nevertheless ended up in the national championship game both years. While a win this season against the University of Southern California would do wonders for perception, Logan's findings indicate that a victory would carry the same weight with pollsters as a win over a lesser opponent. However, a loss to USC wouldn't be as devastating from a poll perspective as a loss to an average opponent might be.

And for those of you who believe Ohio State needs to blow out the weak teams on its schedule to earn style points, Logan said margin of victory doesn't make a difference to the voters. But if the Buckeyes lose big, look out. According to the study, voters are about 20 percent harsher on losers that fall by 17 points or more.

For his next project, Logan is again tackling college football. This time, he is researching the impact that predictive markets—the betting lines—have on pollsters' expectations. Whatever the study reveals, you can bet the numbers won't lie. ■

Learn more:
www.nber.org/papers/w13596