



Analysis of Daily Illini College Football Predictions: Accuracy of Forecasters and Betting Line



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PREVIOUS WORK

- **NFL predictions:** betting line (65%) outperforms statistical model (62%) and sports editors (60%) based on 1212 observations (Boulier & Stekler, 2003).
- **World Cup Soccer predictions:** There is no statistical significance between the performance of experts and non-experts in predicting the outcomes of the Soccer World Cup 2002 (Andersson et al., 2005).
- **German Soccer predictions:** Prediction markets and betting odds perform equally well, but both strongly outperform tipsters (Spann & Skiera, 2009).

DESCRIPTION OF DATA

- **Data Source:** Daily Illini College Football Predictions, obtained from archived copies of Daily Illini. The betting line data were obtained from the website: www.goldsheet.com.
- **6 years** analyzed (2008-2013)
- **346 games** predicted during 2008-2013
- **29 forecasters**, each predicted 55-60 games
- **1740 predictions**

METHODOLOGY

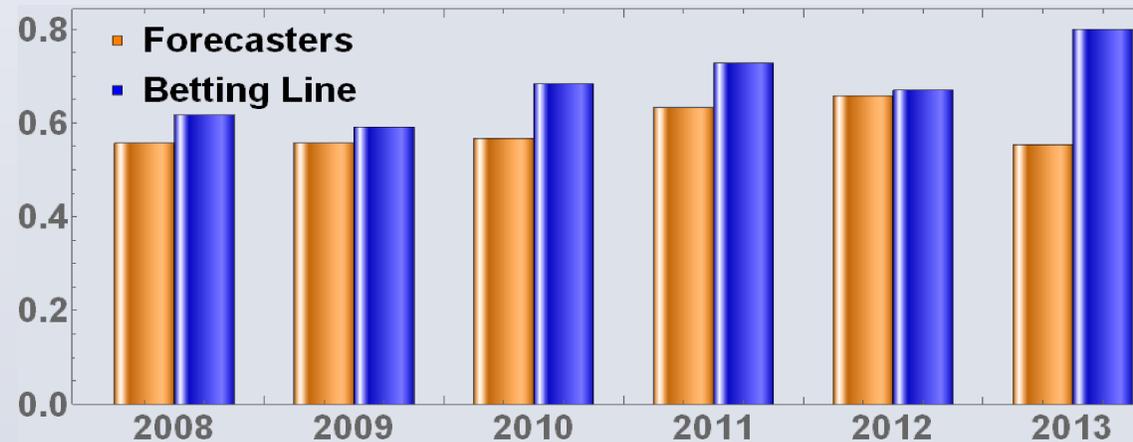
- **Accuracy Rates:** for a given subset of the data (e.g., predictions in 2010), we computed the proportion of correctly predicted games by DI forecasters and by the betting line (i.e., predicting the favorite team to win).
- **Testing Method:** Accuracies were compared using a two-tail z-test for equality of means.
- **Significance Levels:** For each comparison, the corresponding p-value was computed. Results with $p < 0.01$ and $p < 0.05$ were identified as significant at the 1% and 5% significance level.
- **Handling Noise in Data:** A small percentage (<1%) of the prediction data seem to be incomplete or erroneous. We assigned a 50% accuracy to those data points.

SAMPLE DATA: DAILY ILLINI COLLEGE FOOTBALL PREDICTIONS, 09/17/2015

OUR PICKS

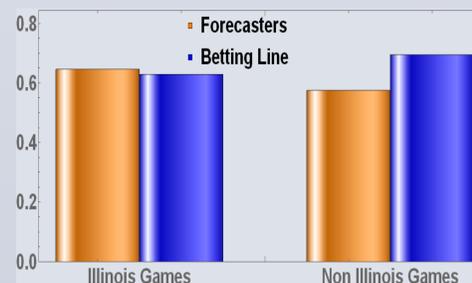
	 MICHAL DWOJAK Staff writer 9-1	 CHARLOTTE CARROLL Staff writer 8-2	 PETER BAILEY-WELLS Sports editor 9-1	 JOEY GELMAN On-air sports editor 7-3	 MASAKI SUGIMOTO Assistant sports editor 9-1	 DAN ESCALONA Columnist 9-1
ILLINOIS VS. UNC	 24-20	 34-31	 35-34	 21-28	 24-13	 28-24
NORTHWESTERN VS. DUKE	 32-23	 31-24	 28-24	 35-17	 27-17	 23-13
GEORGIA TECH VS. NOTRE DAME	 21-17	 27-21	 35-17	 14-35	 17-13	 30-27
ALABAMA VS. OLE MISS	 35-32	 42-34	 36-24	 28-14	 31-10	 29-24
BYU VS. UCLA	 27-14	 27-17	 42-35	 31-28	 24-20	 34-28

RESULTS: FORECASTERS VS BETTING LINE BY YEAR



- **Accuracies of forecasts for different years:** The accuracy of forecasters was **significantly lower** than that of the betting at the 5% significance level in year 2009, 2010 and 2013 (among the total 6 years); all other 3 years had no significant difference comparing with the betting line at 5% significance level.

ILLINOIS VS NON-ILLINOIS GAMES



BIG-TEN VS NON BIG-TEN GAMES



- **Accuracies for games involving Illinois or Big Ten teams:** The accuracy of forecasters for Illinois games was **significantly higher** than that for the Non-Illinois games (64.5% vs 57.4%) at the 1% significance level. A similar discrepancy was observed for games involving Big Ten teams.

SUMMARY OF RESULTS

- **Overall accuracy:** The accuracy of forecasters was **significantly lower** than that of the betting line (58.9% vs 68.6%) at the 1% significance level.
- **Overall accuracy against spread:** The accuracy of forecasters was **significantly higher** than that of random model (53.6% vs 50.0%) at the 1% significance level.
- **Accuracy of individual forecasters:** Among 29 forecasters, only 1 had significantly **higher** accuracy than the betting line at 5% significance level; 10 had significantly **lower** accuracy than the betting line at the 5% significance level.
- **Accuracy of predicted scores:** The mean absolute error in the predicted score difference of forecasters was **significantly higher** than that of the betting line (16.3 vs 12.3) at the 5% significance level.
- **Accuracies for games involving Illinois:** The accuracy of forecasters for Illinois games was **significantly higher** than that for the Non-Illinois games (64.5% vs 57.4%) at the 1% significance level.

REFERENCES

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- Spann, M., & Skiera, B. (2009). Sports Forecasting: A Comparison of the Forecast Accuracy of Prediction Markets, Betting Odds and Tipsters. *Journal of Forecasting*, 28, 55-72.
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