

College Football Fan Sentiment Predicts Team Performance

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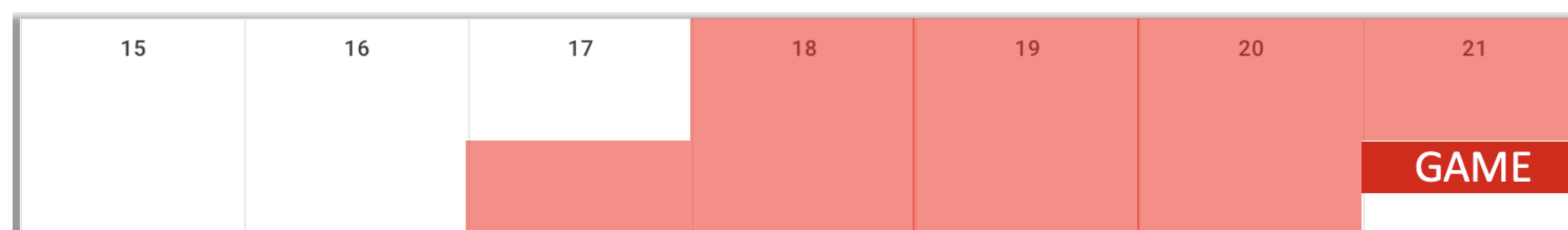


Summary

- Fan sentiment in 11.4 million message board posts is predictive of team performance in upcoming games
- Teams are less likely to win, and less likely to cover a bookmaker's spread
- This relationship is strongest for:
 - Very negative weeks
 - Posts about upcoming games
 - More popular/anticipated games
 - Road teams
- A betting strategy based on games from 2015-2022 would have won 55%–61% of bets

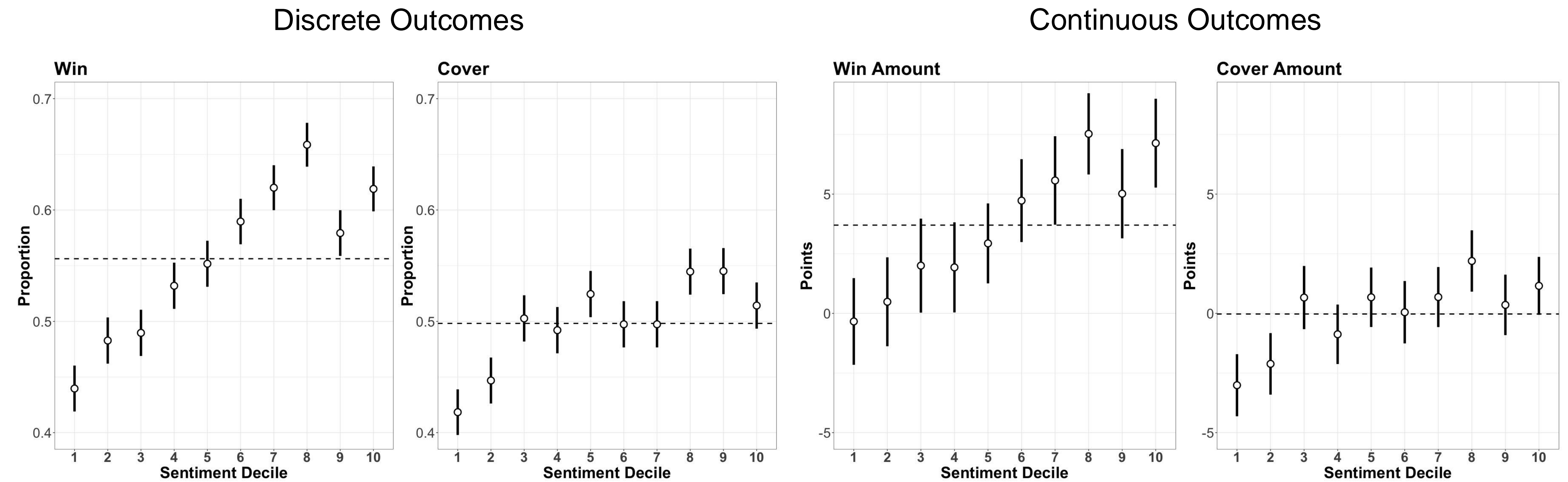
Data

- Posts
 - 11.4 million posts scraped from 63 team-specific online forums (Rivals.com)
 - 2015-2022 NCAA seasons
 - Limited to 96 hours prior to games
 - Sentiment measured with LIWC (2022)
 - Posts categorized by topic with GPT 4.0
- Games
 - Posts merged to 3,631 unique games
 - Game information collected from CollegeFootballData.com (CFBD)
 - Betting spreads are current as of kickoff time
 - Results are robust to using opening lines and when controlling for movement

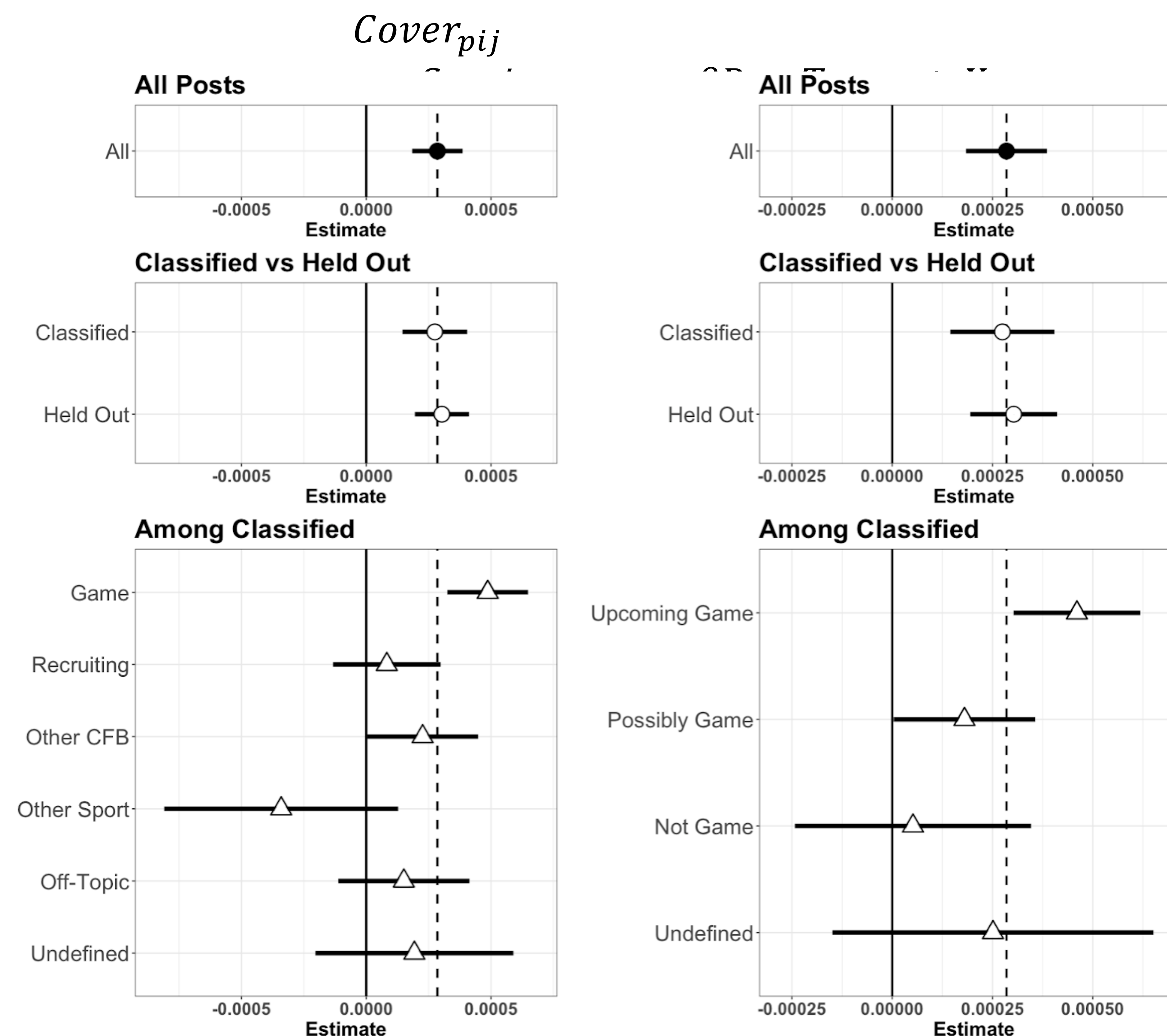


Results

Winning and Covering Across Sentiment Deciles



Estimated Coefficients Across Post Types



Betting Strategy?

- We estimate an optimal strategy based on
 - Threshold to bet for a team
 - Threshold to bet **against** a team
 - Threshold number of posts prior to game
 - Payout of 1.85 (if bet hits, earn .85, else lose 1)
- Result from cross-validation:
 - Bet on 14% of team-games (4% for, 10% against)
 - Won 58% of bets on average [61%, 55%]

Conclusions

- Highly engaged college football fans seem to have some ability to predict team performance
 - Mostly, fans know when bookmakers are too optimistic
- Consistent across years, teams, and is robust to
 - Home/Away
 - Popularity of game
 - Streaks/momentum
 - Line movements

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