

# Bayesian logistic betting strategy against probability forecasting

Masayuki Kumon, Jing Li, Akimichi Takemura, Kei Takeuchi

(Submitted on 16 Apr 2012)

We propose a betting strategy based on Bayesian logistic regression modeling for the probability forecasting game in the framework of game-theoretic probability by Shafer and Vovk (2001). We prove some results concerning the strong law of large numbers in the probability forecasting game with side information based on our strategy. We also apply our strategy for assessing the quality of probability forecasting by the Japan Meteorological Agency. We find that our strategy beats the agency by exploiting its tendency of avoiding clear-cut forecasts.

Subjects: **Probability (math.PR)**; Statistical Finance (q-fin.ST)

MSC classes: 60G42

Cite as: **arXiv:1204.3496 [math.PR]**

(or **arXiv:1204.3496v1 [math.PR]** for this version)

## Submission history

From: Akimichi Takemura [[view email](#)]

[v1] Mon, 16 Apr 2012 14:23:50 GMT (36kb)

*[Which authors of this paper are endorsers?](#)*

## Download:

- [PDF](#)
- [PostScript](#)
- [Other formats](#)

## Current browse context:

math.PR

[< prev](#) | [next >](#)

[new](#) | [recent](#) | [1204](#)

## Change to browse by:

[math](#)

[q-fin](#)

[q-fin.ST](#)

## References & Citations

- [NASA ADS](#)

## Bookmark([what is this?](#))



Science  
WISE