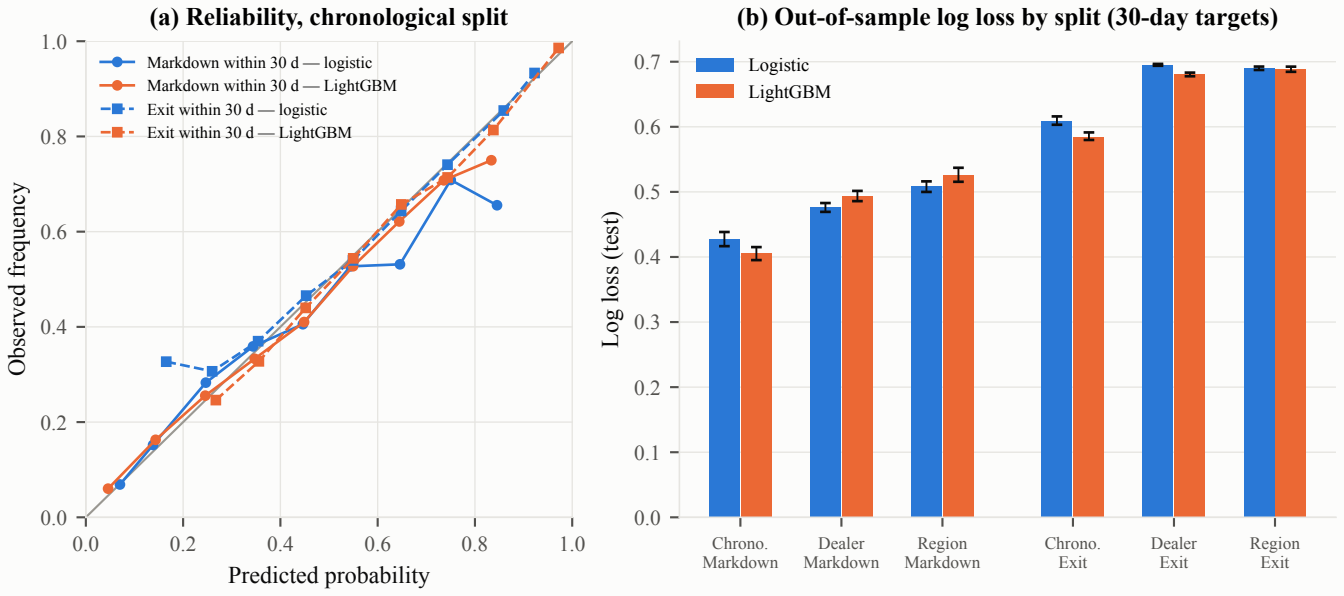

(a) Reliability, chronological split
Markdown within 30 d — logistic
Markdown within 30 d — LightGBM
Exit within 30 d — logistic
Exit within 30 d — LightGBM
Observed frequency
Predicted probability
0.0
0.2
0.4
0.6
0.8
1.0
(b) Out-of-sample log loss by split (30-day targets)
Logistic
LightGBM
Log loss (test)
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
Chrono. Markdown
Dealer Markdown
Region Markdown
Chrono. Exit
Dealer Exit
Region Exit