

# Research Question Proposal

...

Weijiia Li

**What is the relationship between short interest rate and stock returns?**

# What is 'short interest'

“A short interest is the quantity of stock shares that investors have sold short but not yet covered or closed out.”

-- Investopedia

---

**An increase in short interest means more people believe the stock price will decrease.**

**Will the stock price drop?**

- *“We find that the higher the short interest ratio, the lower is the subsequent performance.”*

*-- P. Asquith, et al, “Short Interest, Institutional Ownership, And Stock Returns,” Journal of Financial Economics, 2005*

- *“We show that short interest is arguably the strongest known predictor of aggregate stock returns. A one-standard-deviation increase in SII corresponds to a six to seven percentage point decrease in the future annualized market excess return.”*

*-- D. Rapach, et al, “Short Interest and Aggregate Stock Returns”, Journal of Financial Economics, forthcoming, 2016*

**IS THIS TRUE?**

# DATA

★ Compustats

---



# NEW METHOD

Old:

- ★ Four-factor linear regression
- ★ Time series (VAR)

Proposing:

- ★ Random forest

---

# Random Forest

- Explanatory variable
  - ◆ Equally weighted short interest and other market indicators and moments
- Response variable
  - ◆ Categorise stock return into large rise(2), rise(1), no change(0), drop(-1), and large drop(2)
- Two classifications
  - ◆ one with explanatory variable “short interest” and one without
- Compare accuracy of predictions

**Thank You**