

Discussion of “Are Arbitrageurs Less Affected by Behavioral Biases? Evidence from the Cryptocurrency Market”

(Bao, Ghosh, Gong and Zhang)

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What does this paper do and find?

- Look at prices of coins on Indian market, US market + USD/IR exchange rate
- $\Delta_{c,t} > 0$ $\rightarrow$ an investor holding one Indian Rupee
theoretically should purchase the coin on Indian market
transfer the coin to US market and sell
convert US Dollars back to Indian Rupee
- Calculate how often a trader in a quarter purchased the coin on Indian market when $\Delta_{c,t} \geq 0$ (“**Arbitrage Score (AS)**”)

What does this paper do and find?

- Calculate a “**Bias Score:**”
 - Did you purchase a coin with positive recent returns? (Extrapolation)
 - Were you more likely to sell a coin in the capital gains region? (Disposition)
 - Are you more likely to trade in volatile coins? (Lottery)
 - Do you trade a lot? (Excessive Trading)

What does this paper do and find?

- Key Findings:
 - *Arbitrage Score* positively predicts performance
while *Bias Score* negatively predicts performance (Tables 3-5)
 - *Arbitrage Score* particularly positively predicts performance when *Bias Score* is low (Table 6)



Current title/research question feels odd

- Current title/research question: *“Are Arbitrageurs Less Affected by Behavioral Biases?”*
- Current answer: *“In fact, arbitrageurs often exhibit higher levels of biases... than those of noise traders.”* (abstract)
- Typically, arbitrageurs are defined by their absence of behavioral biases
- So the paper reads a bit like

“Does a vacuum have less air?”

“In fact, we find that a vacuum has more particles than a saturated space.”

“Is a sterile environment less contaminated?”

“In fact, we find that sterile environments are more contaminated than soiled areas.”



Suggestion 1

Change your writing, clarify your research question:

Perhaps: *“The group of investors that we thought were acting as arbitrageurs actually behave like noise traders.... There are no true arbitrageurs in the real world.”*

Possible Challenge: This notion is already out there in the literature.

Context / Academic Literature

Large literature on who might be “arbitrageurs”

Noise traders

Arbitrageurs



Retail investors

Institutional investors

2000s

Context / Academic Literature

Large literature on who might be “arbitrageurs”



Context / Academic Literature

Large literature on who might be “arbitrageurs”

Studies suggesting retail investors act more like arbitrageurs:

- Chinco and Sammon (RFS 2023)
- Farrell, Green, Jame, and Markov (JFE 2022)
- Cao, Jiang, Yang, and Zhang (JFE 2021)

Studies suggesting that institutional investors act more like noise traders :

- Augustin, Ballou, and Timmermann (RFS 2023)
- Ben-David, Franzoni, Moussawi (JFE 2018)
- Akepaniditawon, Di Mascio, Imas, and Schmidt (JFE 2022)

Context / Academic Literature

Large literature on who might be “arbitrageurs”

Noise traders

Arbitrageurs



Retail investors

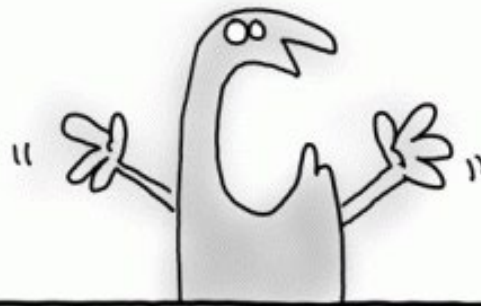
Institutional investors

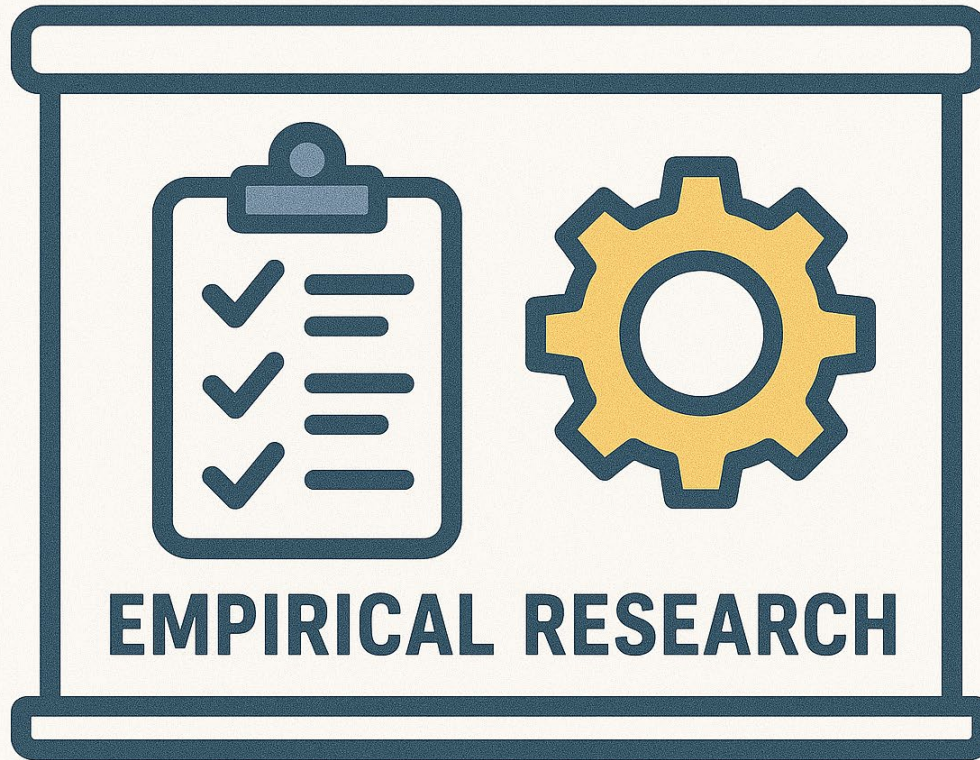
2000s

Retail investors
Institutional investors

2020s

Now What?!!





Measure of *Arbitrage Score*

- Seems reasonable

- Similar to:

If Royal Dutch is underpriced relative to Shell,
I get a score of +1 if I buy Royal Dutch
and a score of 0 if I buy Shell.

Measure of *Arbitrage Score* + Suggestion 2

- Seems reasonable

- Similar to:

If Royal Dutch is underpriced relative to Shell,
I get a score of +1 if I buy Royal Dutch
and a score of 0 if I buy Shell.

“average proportion of arbitrage trading is around 50%” (page 15)

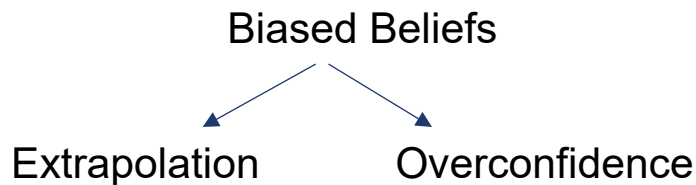
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All the moments of Arbitrage Score seem rather low (Table 1)

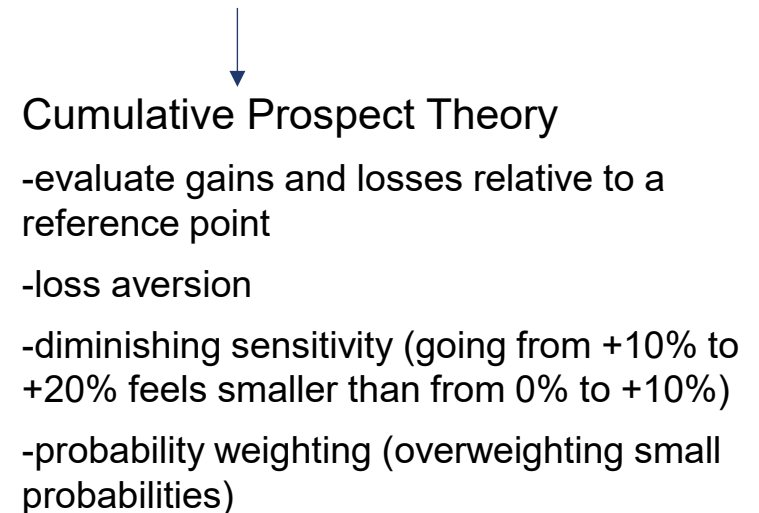
→ Very few traders acting like arbitrageurs?

Measure of *Bias Score*

- Feels a bit ad hoc; could be organized better
- Center of gravity in behavioral finance (as of May 2025)

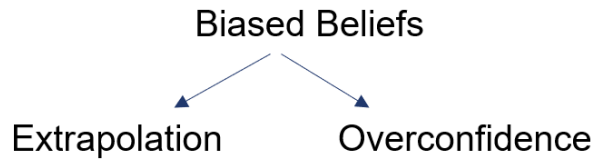


Non-traditional Preferences



Measure of *Bias Score* + Suggestion 3

- Develop measures long this framework



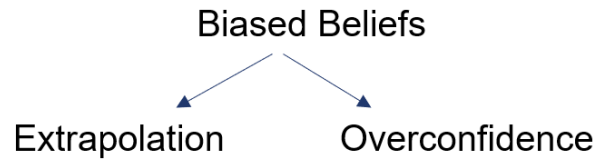
Non-traditional Preferences

↓
Cumulative Prospect Theory

- evaluate gains and losses relative to a reference point
- loss aversion
- diminishing sensitivity (going from +10% to +20% feels smaller than from 0% to +10%)
- probability weighting (overweighting small probabilities)

Measure of *Bias Score* + Suggestion 4

- Develop measures long this framework



Non-traditional Preferences

↓
Cumulative Prospect Theory

- evaluate gains and losses relative to a reference point
- loss aversion
- diminishing sensitivity (going from +10% to +20% feels smaller than from 0% to +10%)
- probability weighting (overweighting small probabilities)

- Do ***not*** aggregate

Suggestion 4

Perhaps try this framing instead:

“Investors who do certain things right, do other things horribly wrong.”

➡ There are no true arbitrageurs in financial markets.

Seems interesting. Spell out the ‘negative associations.’





THANK YOU!

