

# Prospect Theory in the Field: Revealed Preferences from Mutual Fund Flows

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# Summary

- Prospect theory value (TK) positively predicts mutual fund flows.
  - with a t-value  $> 10$
  - Stronger when investors are less sophisticated (retail funds and broker-sold funds)
- Estimated prospect theory value parameters align well with previous experiment-based estimates.

# “Background”

- Barberis, Mukherjee, and Wang (2016) study the ***asset pricing*** implication of PT. This paper examines the implication on ***portfolio choices***.
- Apparently, we thought about portfolio choice implications years ago. However, we were not able to figure out a good way to handle it.
  - This is not an easy task.
  - I think this empirical exercise is ***clever***.
- We examined ***stocks***. This paper looks at ***mutual funds***.

# This is not an easy task

- Portfolio choice variables =  $f(\text{TK}) + \text{error}$
- TK is calculated using monthly returns over the past five years.
  - Both DV and IV are highly persistent.
  - TK is correlated with many factors that are known to correlate with portfolio holding.

# This is not an easy task

- Portfolio choice variables
  - Dollar holding
  - % of one's balance
  - % of shares outstanding
- When examining stocks: stocks have a relatively fixed supply (in the short run). If someone is buying, there must be a seller.
  - Mutual fund supply does not have this issue.

# Comment 1

- Asset pricing is affected by *all* investors, limits to arbitrage, etc.
- Mutual fund flows capture preferences of investors.

# Comment 2

- Some of the issues are shared whether examining stocks or funds (main tests are not affected)
  - TK and amount held
  - NetBuy: may have the same issue (needs some clarification on the definition)

# Comment 3

- TK is correlated with investors' mutual fund holdings
  - Level or change?
- Level: if TK is firm-invariant characteristic
- This matters for the PT parameter estimations, too.



# Comment 4

- FM regressions
- Pooled regressions: hard to get standard errors right – both TK and Flow are highly autocorrelated
- FM is also better in terms of capturing *economics*: at any given time, investors can choose which fund to buy, not choose between a fund at a time and another fund at a different time

# Comment 5

- PT parameters:
  - So far, emphasizing the mean estimate
  - The CI (especially Curvature of the value function and Loss aversion) can be wide

Panel A. Estimation of Parameters

	description	mean	s.e.	99% CI
$\alpha$	Curvature of the value function	0.745	0.061	[0.576, 0.914]
$\lambda$	Loss aversion	1.824	0.110	[1.529, 2.119]
$\gamma$	Probability weighting in gain region	0.110	0.028	[0.034, 0.187]
$\delta$	Probability weighting in loss region	0.228	0.041	[0.117, 0.340]

# Comment 6

- Controlling for EU and Morningstar Rating reduces the TK effect significantly. Thinking of the best way to estimate parameters.

# Conclusions

- We knew PT affects asset prices.
- Now, we also have evidence (in fact, very strong evidence) that PT affects portfolio choices.
- I highly recommend this paper to everyone.
  - Very easy to read
  - Fun too