
ABFER Webinar Series

Understanding Retail Investors: Evidence from China

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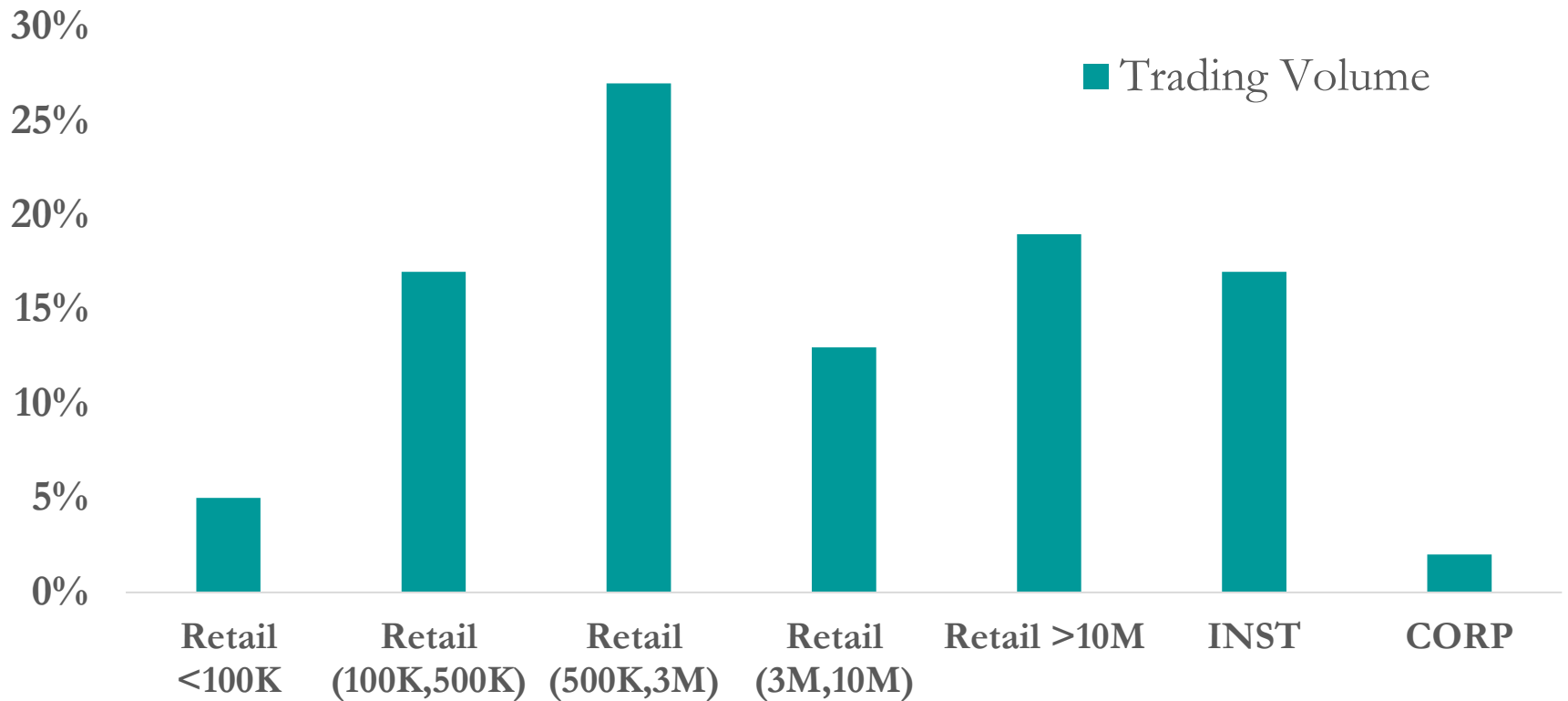
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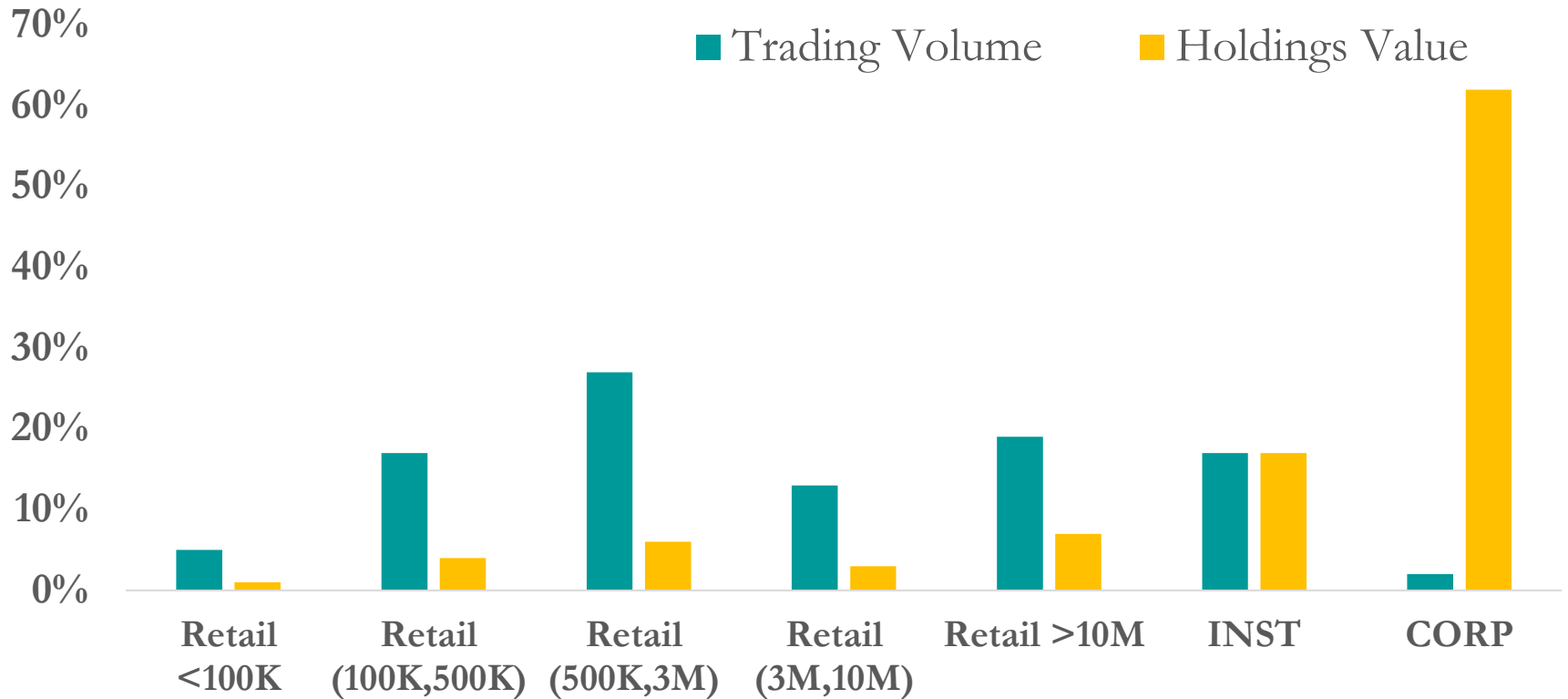
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Why Chinese Retail Investors?



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Chinese Retail Investors: A 20-Year Debate



- Investors:
 - Investing vs. Gambling?

- Capital Market:
 - Financing platforms vs. Casinos?

- Market Efficiency
 - Information
 - Liquidity

Research Questions

- This study examine three fundamental questions of retail investors in Chinese stock market with account level data.
 - How retail investors contribute to price discovery?
 - Can they predict future returns?
 - What drives retail investors trading behaviors?
 - Information? Liquidity? Behavioral?
 - How retail investors affect liquidity?

Previous Literature

- US retail investors literature
 - **Barber and Odean (2000 JF, 2001 QJE, 2002 RFS, 2008 RFS)**
 - Kaniel, Saar, and Titman (2008 JF), Kelley and Tetlock (2013 JF)
 - Boehmer, Jones, Zhang, and Zhang (2021 JF)
 - Welch (2021 JF), Eaton, Green, Roseman, and Wu (2021 WP)
 - **Barber, Huang, Odean, and Schwarz (2021 WP)**

- Chinese retail investors literature
 - An, Lou, and Shi (2021 WP)
 - Liu, Peng, Xiong, and Xiong (2021 JFE), Liao, Peng, and Zhu (2021 RFS)
 - Li, Geng, Subrahmany and Yu(2017 JEF), Chen, Gao, He, Jiang and Xiong (2019 JoE), Hu, Liu, and Xu (2021 JEF), Titman, Wei, and Zhao(2020 WP), Jiang, Liu, Peng, and Wang (2020 WP)

Contributions

- Our study, with its large coverage of the market for a recent sample period, is one of the most thorough and comprehensive studies for of Chinese retail investors,.
- We separate retail investors into groups based on account sizes and provide unique, direct evidence on investor heterogeneity in trading and return predictability.
- We examine different hypotheses for the return prediction patterns for different retail investor groups, and provide clear evidence on the sources of the retail investors.
- We provide new evidence on how retail investors affect liquidity.

Possible Concerns

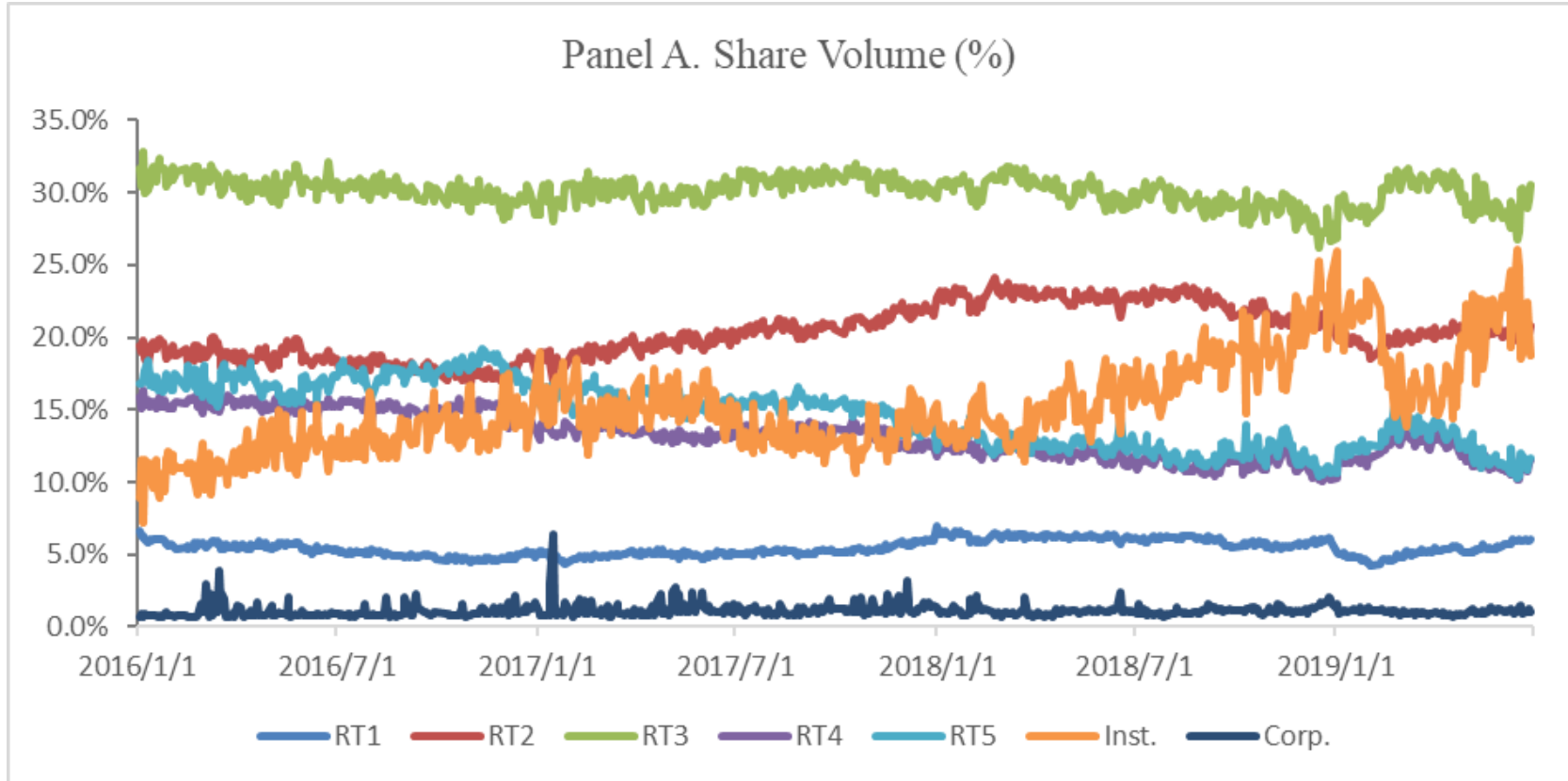
- Too descriptive? Just summary statistics?
 - We do provide important stylized facts for the Chinese stock market.
 - We also provide thorough analyses of sources of return predictive patterns and liquidity provision.
- Are these patterns already found in U.S.?
 - The literature on U.S. retail investors have mixed results on our research questions.
 - Set-ups in the U.S. are quite different from those in China.
 - Understanding current status of Chinese retail investors is important for both academics and regulators.

Data

- Account level data from a major exchange
 - Sample period: January 2016 to June 2019
 - Number of accounts: Over 53 million accounts

	Account value (CNY)	Number of Accounts('000)
RT1	<100K	31,410
RT2	(100K,500K)	15,282
RT3	(500K,3M)	5,827
RT4	(3M,10M)	735
RT5	>10M	235
INST		40
CORP		47

Figure 1.



Retail Order Flows: Order Imbalance

- For each type of investor G trade stock i on day d , the order imbalance measures are:

$$Oib(i, d, G) = \frac{\sum_{j \in G} Buyvol(i, d, j) - \sum_{j \in G} Sellvol(i, d, j)}{\sum_{j \in G} Buyvol(i, d, j) + \sum_{j \in G} Sellvol(i, d, j)}$$

	Mean	Std	Correlation					
			OibRT1	OibRT2	OibRT3	OibRT4	OibRT5	OibINST
OibRT1	-0.021	0.187						
OibRT2	-0.011	0.171	0.802					
OibRT3	-0.006	0.166	0.610	0.710				
OibRT4	0.002	0.250	0.194	0.244	0.256			
OibRT5	0.019	0.352	-0.151	-0.158	-0.163	-0.091		
OibINST	-0.011	0.455	-0.315	-0.365	-0.380	-0.263	-0.188	
OibCORP	-0.004	0.720	0.022	0.029	0.021	-0.007	-0.043	-0.044

Question 1. Can Retail Investors Predict Future Returns?

- Fama-MacBeth regression for each investor group:

$Ret(i, d)$

$$= a_0(d) + a_1(d)Oib(i, d - 1) + a_2(d)'Controls(i, d - 1) + u_1(i, d).$$

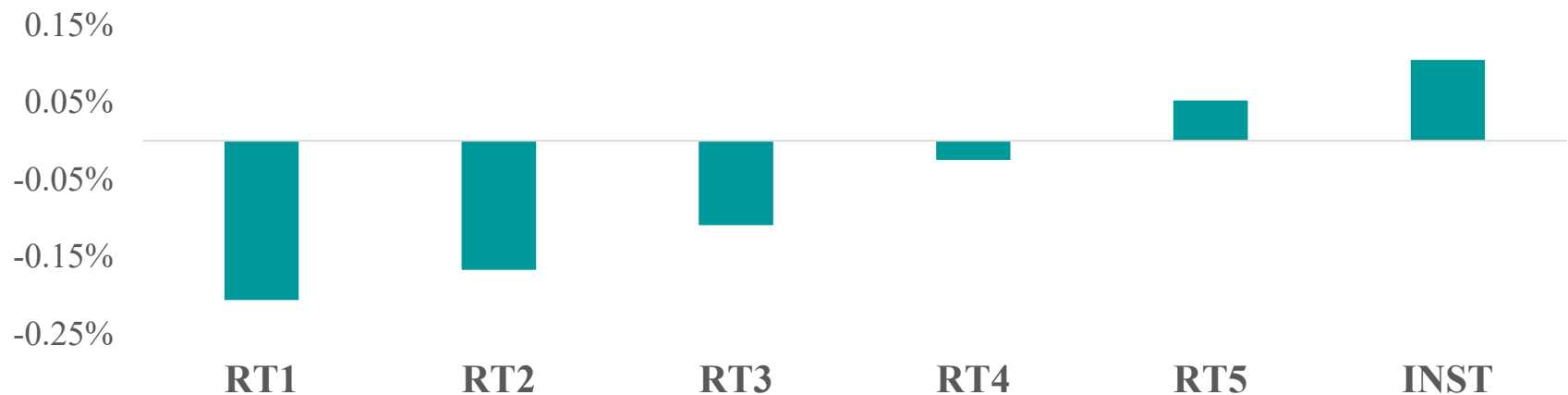
- If retail investors correctly predict future returns: $a_1 > 0$
- If retail investors incorrectly predict future returns: $a_1 < 0$
- If retail investors trading has nothing to do with future returns: $a_1 = 0$
- Newey-West (1987) standard errors with 5 lags.

Answer 1a. Over Next Day

- Can retail investors predict future stock returns?

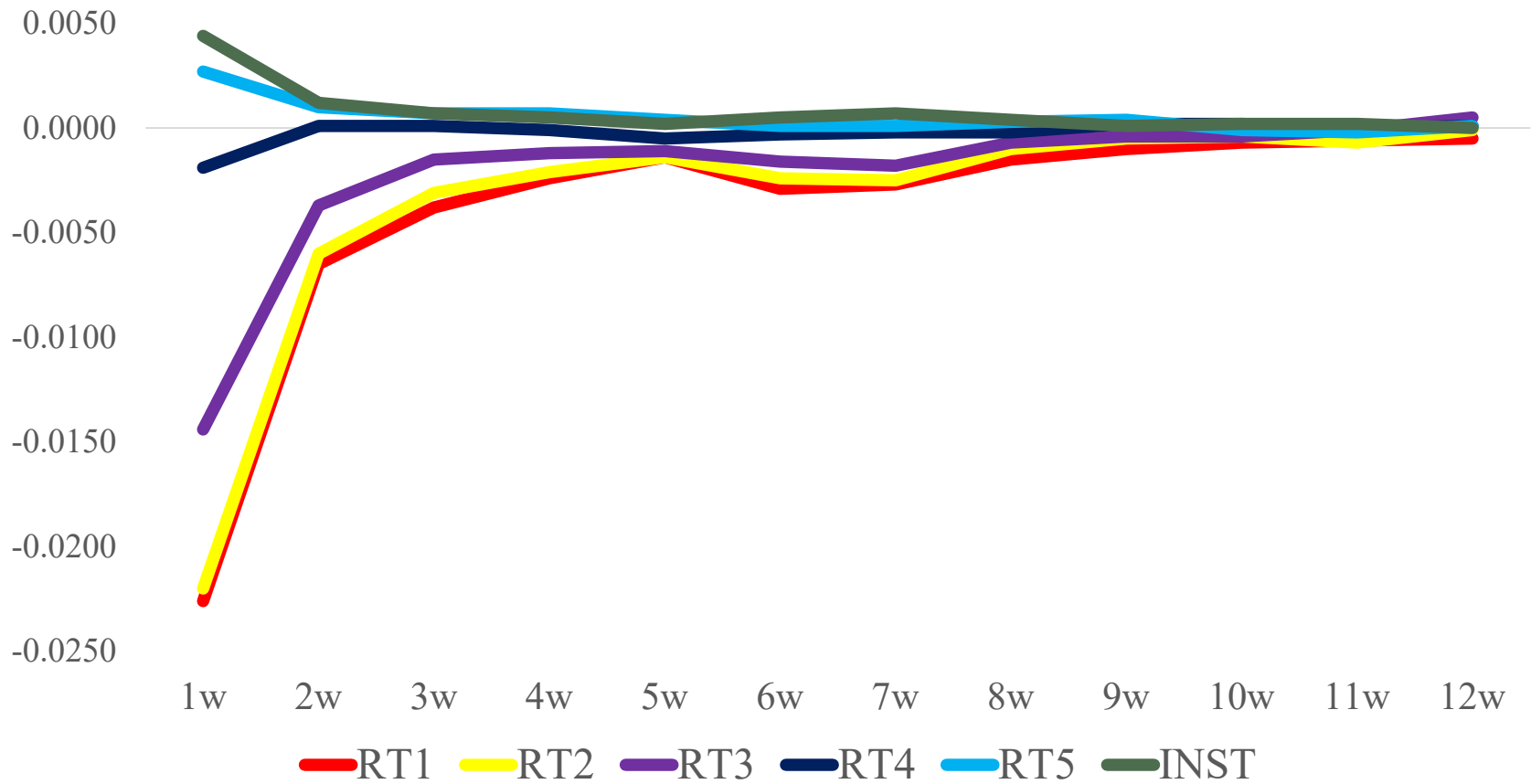
Dep.var	Ret	Ret	Ret	Ret	Ret	Ret
Oib.var	RT1	RT2	RT3	RT4	RT5	INST
Oib(-1)	-0.0093***	-0.0091***	-0.0065***	-0.0009***	0.0012***	0.0016***
Interquartile Ret	-0.21%	-0.17%	-0.11%	-0.02%	0.05%	0.10%

Daily Interquartile Return Diff



Answer 1b. Over 12 Weeks

Predicting kth week ahead returns



Question 2a: What Drives Retail Investor's Trading?

- Hypotheses for explaining the order flow dynamics and their return predictive power for future returns:
 - Order flow persistence: Chordia and Subrahmanyam (2004)
 - Proxy: previous day order flow
 - Liquidity provision: Kaniel, Saar, and Titman (2008)
 - Proxy: previous returns
 - Behavior biases: Liu, Peng, Xiong and Xiong (2021)
 - Proxy for over-confidence: previous turnover
 - Proxy for gambling preferences: previous max daily returns
 - Information: Kelley and Tetlock (2013)
 - Proxy for public information: earnings surprise

Question 2a: What Leads to the Predictive Pattern (Stage I)

	OibRT1	OibRT2	OibRT3	OibRT4	OibRT5
Oib(-1)	0.1867***	0.1965***	0.1711***	0.0499***	0.1037***
Ret(-1)	0.5131***	0.7244***	0.4469***	-0.2210***	-1.2907***
Ret(-6,-2)	-0.4186***	-0.2186***	-0.1047***	-0.0788***	-0.0513***
Ret(-27,-7)	-0.0325***	-0.0171***	-0.0205***	-0.0377***	-0.0231***
Overconf(-1)	0.0792***	0.0366***	0.0318***	0.0177*	-0.0590***
Gamble(-1)	0.0467***	0.1025***	0.1991***	0.2583***	-0.0863***
Adj.R2	7.08%	5.59%	3.88%	0.74%	2.02%

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Question 2b: What Leads to the Predictive Pattern (Stage II)

Interquartile return	RT1	RT2	RT3	RT4	RT5
Oib(-1,Persistence)	-0.1179%	-0.0964%	-0.0598%	-0.0131%	0.0281%
Oib(-1,Liquidity)	-0.0287%	-0.0347%	-0.0257%	0.0099%	0.0095%
Oib(-1,Overconf)	-0.0162%	-0.0321%	-0.0379%	-0.0383%	0.0233%
Oib(-1,Gamble)	-0.0401%	-0.0347%	-0.0342%	-0.0355%	0.0448%
Oib(-1,Other)	-0.1782%	-0.1495%	-0.1009%	-0.0231%	0.0492%

Question 2c: What Leads to the Predictive Pattern – Public News

- Kelley and Tetlock (2013 JF), Boehmer et al. (2021 JF)
“... retail orders might contain firm-level information...”
- Earnings announcement event, for each quarter:
 - Can retail investors anticipate future earnings surprises?
 - Can retail investors process contemporaneous earnings news?
 - Do predictive patterns of retail investors change on event days?

Answer 2c: What Leads to the Predictive Pattern – Public News

- Earnings announcement event, for each quarter:
 - Can retail investors anticipate future earnings surprises?
 - RT1-RT4 in the wrong direction, RT5 and INST in correct direction.
 - Can retail investors process contemporaneous earnings news?
 - RT1-RT4 in the wrong direction, RT5 and INST in correct direction.
 - Do predictive patterns of retail investors change on event days?
 - On event days, the predictive power becomes more negative for RT1-RT4, more positive for RT5 and INST.

Question 3. How Retail Investors Affect Future Market Liquidity?

- Black (1986) argues that noise traders are important participants for a well-functioning capital market, because they provide liquidity and lower transaction costs for other investors.
 - If all participants in the market are informed traders, then there probably would be no trades.
- Ozik, Sadka, and Shen (2021 JFQA)
 - *“Retail provide liquidity during pandemic lockdown”*
- Eaton, Green, Roseman and Wu (2021 WP)
 - *“Robinhood investors reduce liquidity...”*

Answer 3. Retail Trades vs. Future Liquidity?

- Liquidity measure: relative effective spread

$$RES_{i,k} = 2|P_{ik} - M_{ik}|/M_{ik}.$$

Dep.var	RES	RES	RES	RES	RES	RES
Oib.var	OibRT1	OibRT2	OibRT3	OibRT4	OibRT5	OibINST
Oib(-1)	-0.0099***	-0.0054***	-0.0057***	-0.0019***	0.0019***	0.0010**
Adj.R2	12.75%	12.57%	12.41%	12.31%	12.34%	12.51%
Interquartile spread	-0.22%	-0.10%	-0.10%	-0.05%	0.09%	0.07%

Conclusion

- Using account level data from January 2016 to June 2019, we examine millions of retail investors with different account sizes.
 - Retail investors with smaller account sizes
 - buy and sell in the wrong directions
 - public information doesn't help them
 - behavior biases hurt them
 - follow daily momentum, demand immediate liquidity, but reduce future transaction costs.
 - Retail investors with the largest account sizes
 - buy and sell in the correct directions
 - public information help them
 - they take advantage of other peoples' behavior biases
 - follow daily contrarian, provide immediate liquidity, but their potentially informed trades raise future transaction costs for the long run.

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What Next?

- Retail investors continue to be an important part of the market
 - Investor education
 - Restrict riskier trading for the smallest accounts
 - Channel some of the investments into wealth products and pension plans
- The rise of institutions
 - Rapid growth of fund industry
 - New question: how to choose funds?
 - Information environments
 - Foreign institutions

Thanks!