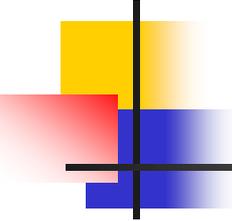


# Taking Sides on Return Predictability

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David McLean  
Jeffrey Pontiff  
Christopher Reilly

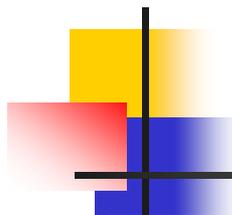
Discussion by  
Tarun Chordia



# The motivation

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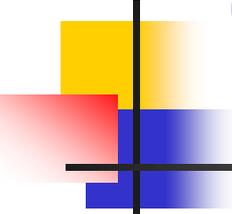
- What drives the profitability of anomalies?
  - **Data mining** - Linnainmaa and Roberts (2016)
  - **Mispricing** - McLean and Pontiff (2016)
  - **Small Stocks, Frictions** - Hou, Xue, Zhang (2019)
  - **P-hacking, MHT** – Harvey (2017), Harvey, Liu, Zhu (2016)
- This paper
  - Do investors trade in the right direction?
  - **Which investors** trade in the right direction?
  - **How do investor trades impact their returns?**
- Do anomalies capture impact of investor trading on returns?



# The Idea

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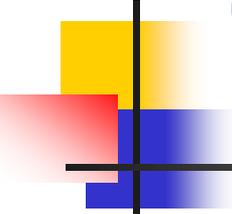
- Compute **NET**  $\equiv$  # of (long-short) extreme quintile positions across 130 anomalies
- Different market participants
  - Firms
  - Retail investors
  - Mutual funds
  - Banks (Trusts)
  - Insurance companies
  - Wealth managers
  - Hedge funds
  - Other institutions
  - Short sellers



# Computation of Trading

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- Retail Trading from transactions data
  - As reported to FINRA TRF i.e., exchange code D
  - Sub-penny pricing - Boehmer, Jones, Zhang (2020)
    - After reg NMS need to offer price improvement to avoid sending to the exchange with a superior price
    - Pay for order flow and/or internalize
- Institutional traders
  - Changes in quarterly institutional holdings - 13F filings
  - Identify mutual funds using S12 data
  - Identify banks and insurance companies – Bushee (1998)
  - Wealth management or hedge funds – textual analysis of names
  - Remaining are other institutions



# Computation of Trading

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## ■ Short selling

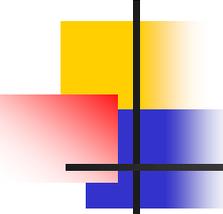
- End of month short interest - Compustat
- But who are short sellers? Hedge funds? Reported on 13F?

## ■ Firms

- Share issuance is negative position
- Share repurchase is positive position

## ■ Caveats

- Will not capture all retail trades and may misclassify some trades as retail
- Not all institutions report - <\$100 mill in assets, non-profits, etc



# Results

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- Based on past one-year of trading
  - Retail investors trade in **wrong** direction
  - Hedge funds trade in **wrong** direction
  - Firms, insurance companies, short sellers trade in **right** direction
  
- Based on three-month post formation
  - Retail investors and hedge funds continue to trade in **wrong** direction
  - Firms, insurance companies trade **correctly**
  - Short sellers cover positions

Reported Variable:	Net <sub>t</sub> Quintile					Hi - Lo	t-stat
	Lo	2	3	4	Hi		
<i>Mutual Fund Ownership<sub>t</sub></i>	14.2%	7.3%	2.5%	5.1%	8.2%	-6.0%	-12.7
<i>Bank Ownership<sub>t</sub></i>	8.1%	6.2%	5.1%	5.5%	4.3%	-3.8%	-13.1
<i>Insurance Ownership<sub>t</sub></i>	2.2%	1.5%	0.9%	1.1%	1.2%	-1.0%	-20.2
<i>Wealth Management Ownership<sub>t</sub></i>	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%	-2.4
<i>Hedge fund Ownership<sub>t</sub></i>	16.9%	11.8%	8.5%	11.7%	13.3%	-3.6%	-17.7
<i>Other Institutional Ownership<sub>t</sub></i>	32.6%	23.1%	18.1%	22.0%	21.3%	-11.4%	-27.3
<i>Short Seller Ownership<sub>t</sub></i>	-6.5%	-4.2%	-2.0%	-2.6%	-2.8%	3.6%	21.5

- All except for short sellers are holding wrong stocks
  - What about derivative positions
  - What about indexers
    - forced to buy/sell as investors trade in/out and as index changes
  - What is economic impact? Need to see dollar amounts and firm size by NET. For instance, a hedge fund holds \$5 billion of Hi NET stocks and holds \$100 million of Lo Net stocks. Purchase prices?
  - Retail classification based on sub-penny pricing may cause biases. For example, Morgan gets large sell to-be-worked order from short seller. Morgan then internalizes, purchases order follow such that retail investors get sub-penny price improvement - Gamestop

<i>Net<sub>t</sub></i>	2.37*** (3.86)	2.73*** (4.33)
<i>Retail Trading<sub>t-35,t</sub></i>	- 1006.56*** (-3.60)	-988.47*** (-3.88)
<i>Mutual Fund Trading<sub>t-35,t</sub></i>	-11.56 (-0.40)	-2.78 (-0.10)
<i>Bank Trading<sub>t-35,t</sub></i>	-128.38** - (-2.62)	-78.14 (-1.55)
<i>Insurance Company Trading<sub>t-35,t</sub></i>	19.44 (0.27)	12.04 (0.18)
<i>Wealth Management Trading<sub>t-35,t</sub></i>	1408.59** (2.53)	1338.76** (2.44)
<i>Hedge fund Trading<sub>t-35,t</sub></i>	44.81 (0.89)	50.00 (1.05)
<i>Other Institutional Trading<sub>t-35,t</sub></i>	-24.84 (-0.73)	-34.18 (-0.96)
<i>Short Seller Trading<sub>t-35,t</sub></i>	274.96*** (4.66)	282.19*** (5.02)
<i>Firm Trading<sub>t-35,t</sub></i>	27.47** (2.09)	29.37** (2.08)
<i>Weekly Order Imbalance<sub>t</sub></i>	105.17*** (12.50)	104.71*** (15.95)
<i>log(Size<sub>t</sub>)</i>		5.33 (1.50)
<i>log(Price<sub>t</sub>)</i>		-3.35 (-0.49)
<i>Constant</i>	134.50*** (6.74)	74.95** (2.15)
<i>Lags for Newey-West SE's</i>	36	36
<i>No. Time Periods</i>	99	99
<i>N</i>	281,522	281,519

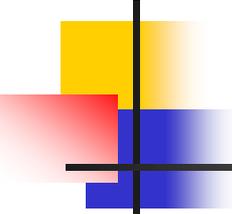
Retail investors lose long-term but make money short-term. What is net dollar impact?

Hedge funds make money only on shorts

Firms time the market

In 1-yr trading, short sellers, firms, weekly OIB impacts returns +vel, bank trading -vely

Why not use risk-adjusted returns as independent variable?



# Suggestions

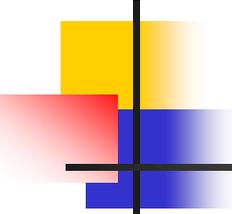
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- Would like to see

- Control for **standard factors**
- **Economic impact** in terms of dollars

- What impact do anomalies have on total returns?

- Actual dollar returns may be small as **anomalies may not really exist, especially post publication and the sample starts in 2006**
- Suppose retail holdings=1-13F, or Odean data set -- then what is **total return to retail investors** and what is the **impact of anomalies?**
- **Impact of anomalies on holding based returns of institutions**



# Suggestions

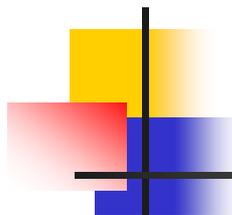
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- Where does the **return impact originate?**

- Long or short **positions?**
- **Which anomalies matter** – group anomalies as in Hou, Xue, Zhang (2015) or in McLean and Pontiff (2016)

- **Robustness** to definition of Net – **lead to stronger results?**

- Stambaugh, Yu, Yuan (2012) use **rank percentiles** to identify overpricing versus underpricing
- For instance, in a given stock there may be **10 short signals with percentile rank =19 and zero long signals → Net=10**
- Versus another stock with **zero long signals and 5 short signals with percentile rank =1 and 100 signals with percentile rank=21**



# Final Thoughts

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- **Interesting and important** progression to authors' research agenda
  - How do investors trade
  - Do anomalies matter in trading decisions
  - What **impact** does **anomaly-based trading** have on overall returns
    - Do anomalies even matter / exist
  
- **Final Suggestion**
  - What about **transaction costs**
  - **Is shorting even possible** for some of the stocks
    - Maybe this is the reason for not enough shorting