Final Presentation

Undergraduate Student Investment Management Fund – Team B

April 29, 2022

Team Introduction

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The Interest

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Choice Set

Expected Alpha

Experience

Relevance

Investment Thesis

Investment Thesis Evidence

Boehmer, Jones,, Zhang, Zhang. "Tracking Retail Investor Activity." The Journal of Finance, 76(5), 2249-2305. https://doi.org/10.1111/jofi.13033.

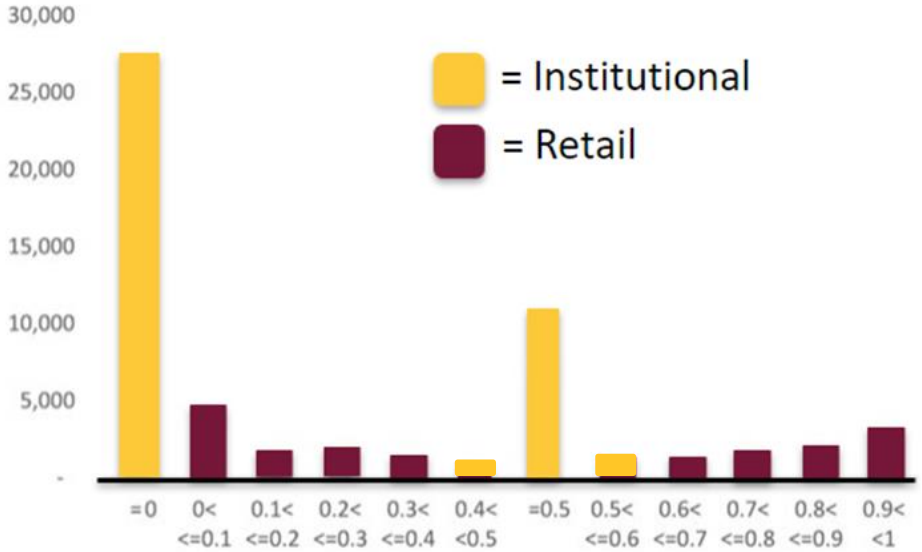
Panel A: Form Portfolios on the Previous Week's Marketable Retail Order Imbalance Based on Number of Shares Traded

Holding	Full Sample				Small		Medium		Big	
Period	Mean	*t*-Stat	alpha	*t*-Stat	alpha	*t*-Stat	alpha	*t*-Stat	alpha	*t*-Stat
1 week	0.092%	2.66	0.084%	2.43	0.403%	9.16	0.170%	6.24	0.067%	1.78

4.78% | 4.37% | 20.96% | 8.84% | 3.48%

Annualized Alphas

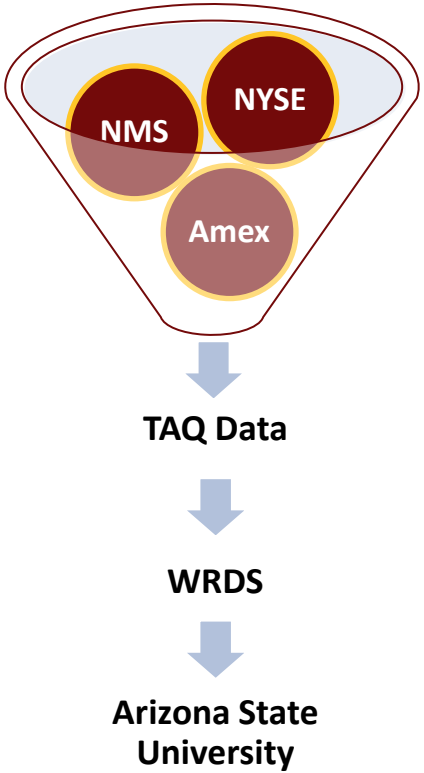
How Do We Find Retail Trades?



$$\text{Retail Order Imbalance} = \frac{\text{Retail Buy Vol.} - \text{Retail Sell Vol.}}{\text{Retail Buy Vol.} + \text{Retail Sell Vol.}}$$

Initial Strategy Implementation

Where Do We Get Our Data?



Step “0”

1) Extract the NBBO
2) Data cleansing & exported to CSV file
3) Apply constraints
4) NBBO file and trade files merged
5) Clean final table
6) Create zip file
7) Export to team

Seeding & Rebalancing Mechanics

1. Receive Data [Daily]
2. Python Data Cleansing
3. Order Sheet
   A. Deciles
   B. Rolling Window
4. Implementation
   A. Market Cap, Price, Volume
   B. Sector constraints
   C. News check
   D. Consider trading costs
5. Submit Buy/Sell List

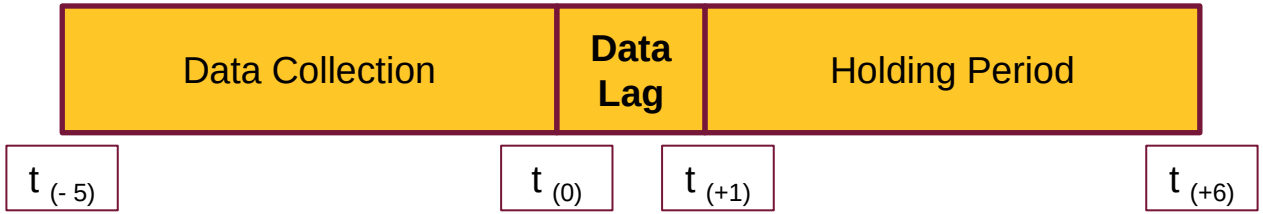
Issues Encountered

Pre-Existing

- Data arrival – four days of trading
- Data lag due to collection period
- Transaction costs

During Implementation

- Technical difficulties with WRDS
- Intraday price volatility
- ASU SIM Fund investment charter

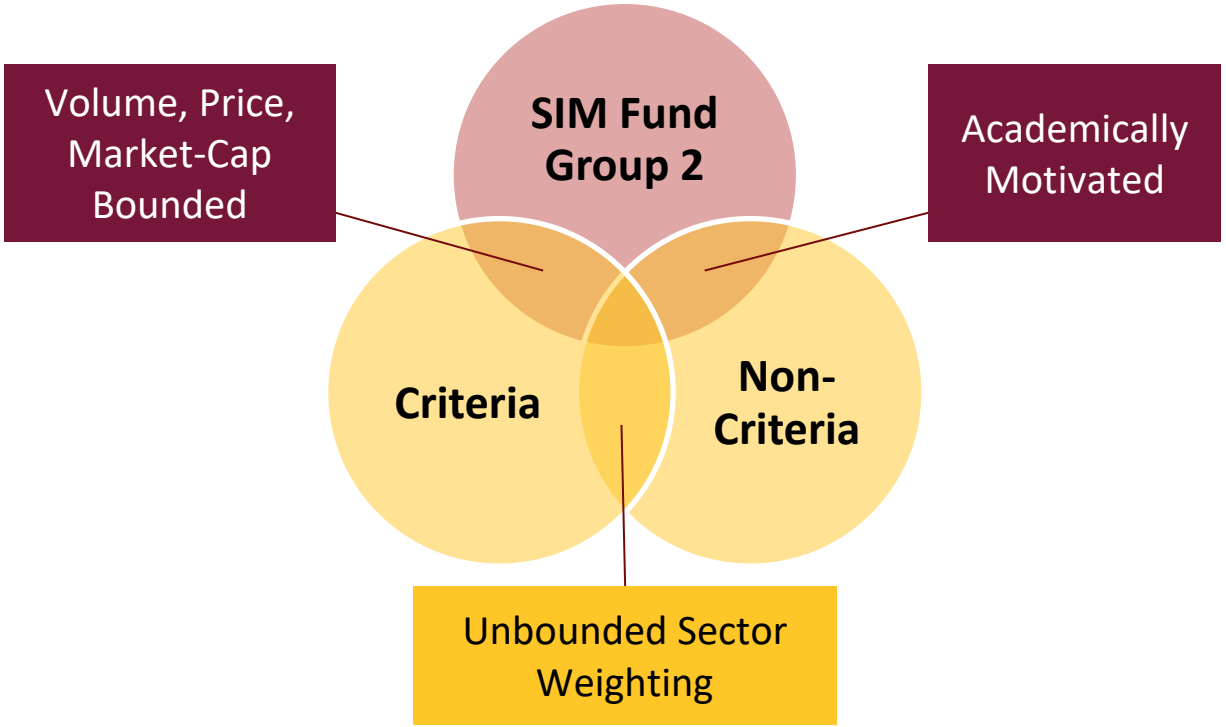


Portfolio Administration

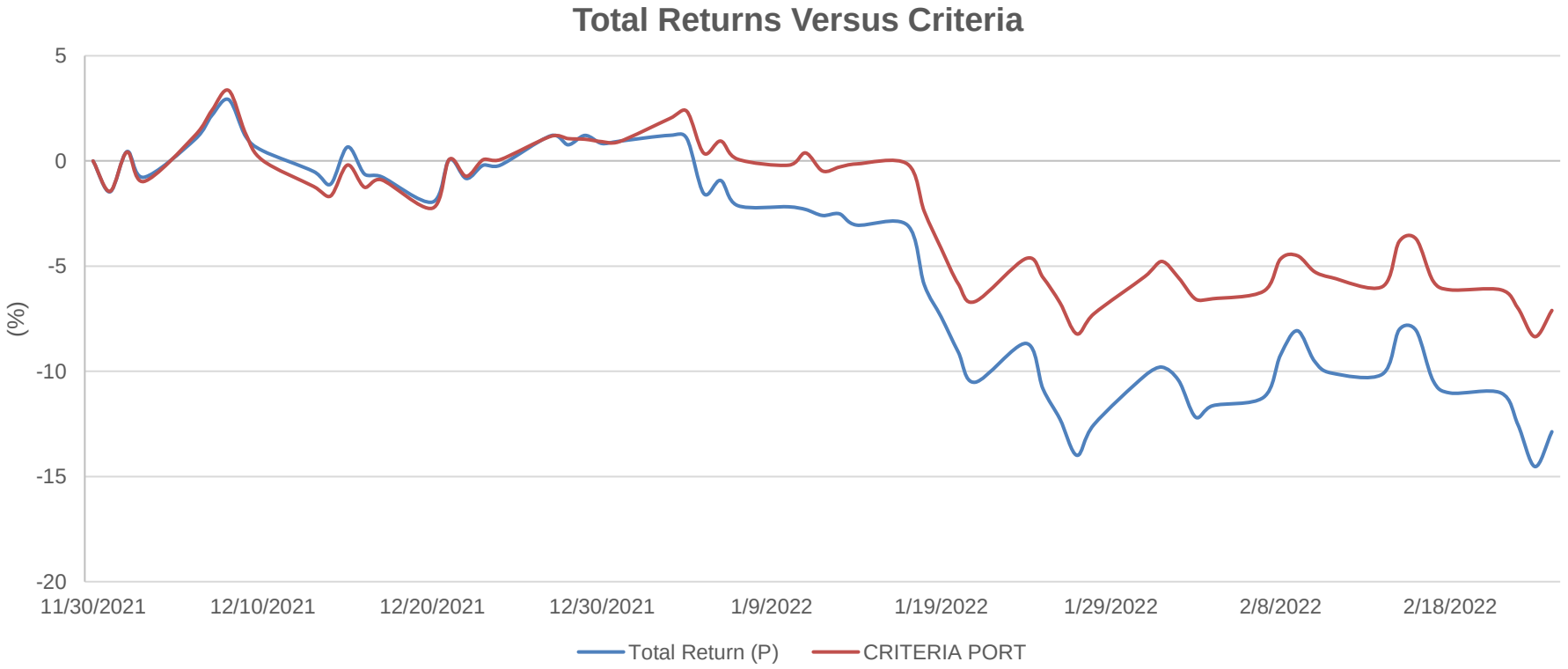
Weekly Meetings

- ✓ Portfolio performance
- ✓ Comparison of pseudo portfolio returns
  - Used to determine the effect of portfolio constraints
  - Built into stock selection process
- ✓ News checks

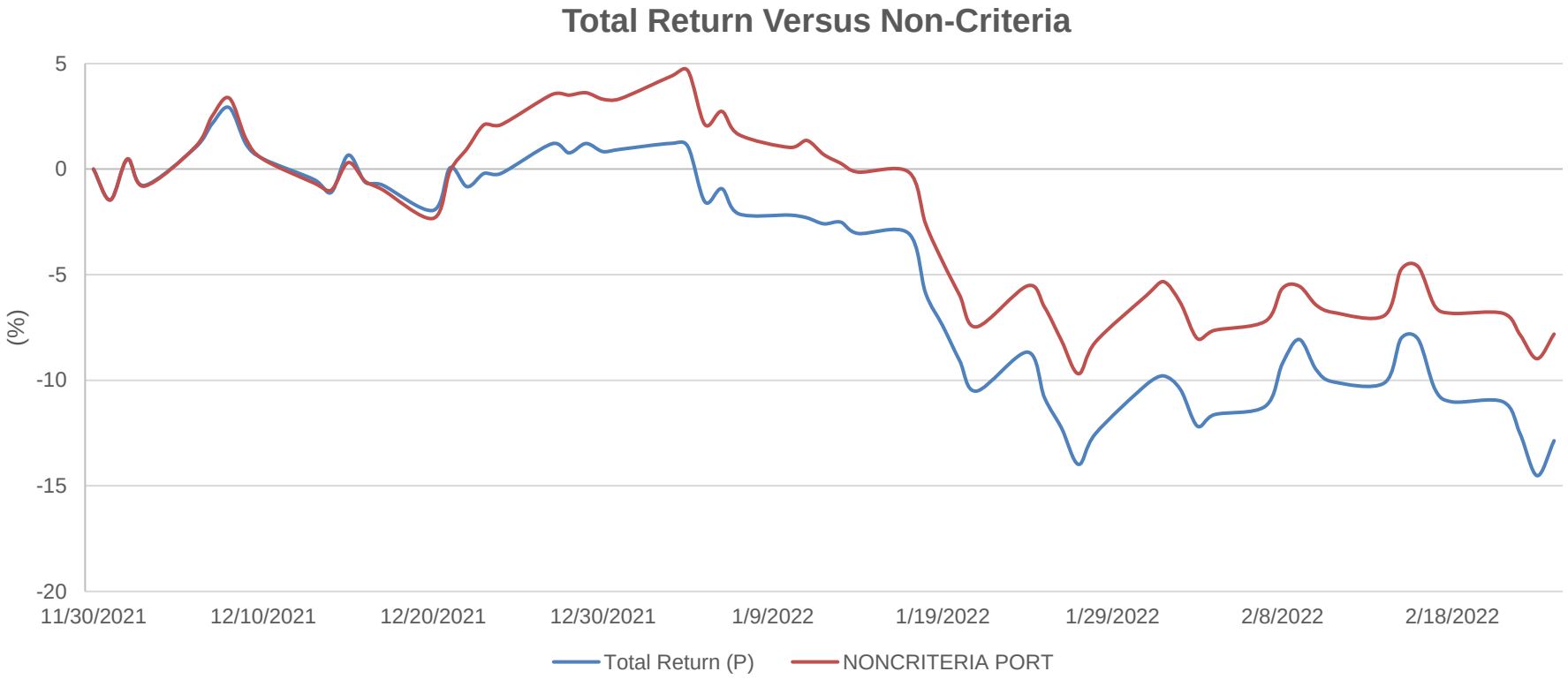
Pseudo Portfolios



Criteria Pseudo Performance



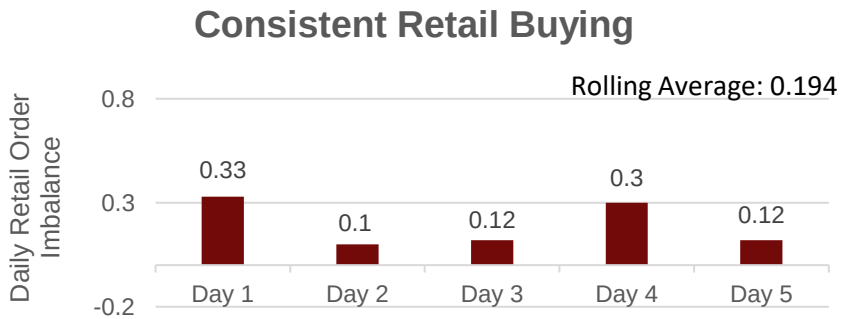
Non-Criteria Performance

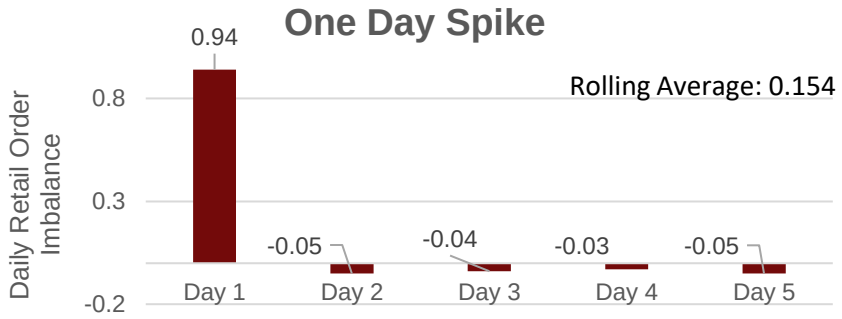


Data Study

- Study reason: inconsistency of returns and strength of our indicator.
- The "type" counts the number of previous five days are positive.
- Measure of excess return across the following week.

Signal Strength	Average Excess Return
5	0.37%
4	0.51%
3	0.38%
2	0.31%
1	0.33%





Implementation Adjustment

Change of Implementation

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Phase 1

Market Cap: 500M - 15.5B

- Maintained a small-cap strategy
- Strongest excess returns

Average Buying Pressure

- Focused on securities with the highest average buying pressure over the week
- Highest Decile

Phase 2

Lifted 15.5B Market Cap Ceiling

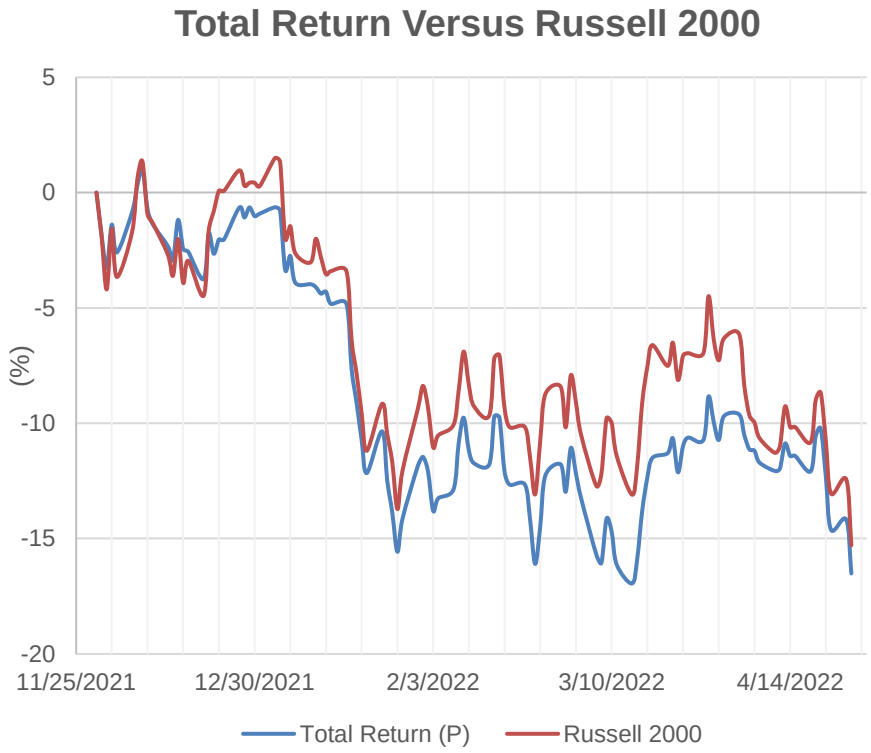
- Adoption of the Russell 3K as our benchmark
- Driven by pseudo portfolios

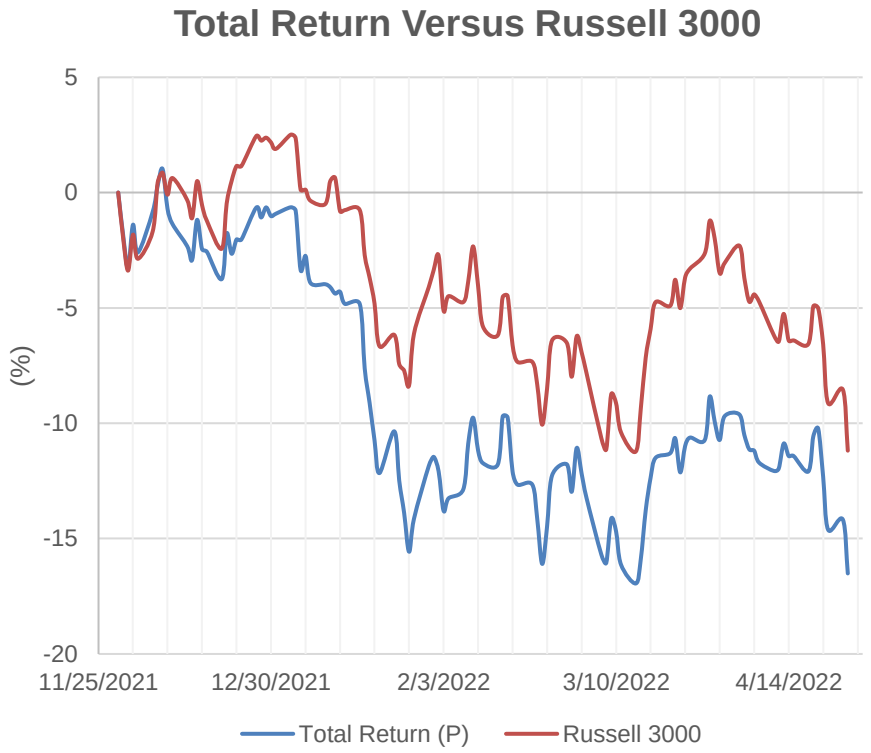
Consisting Buying Pressure

- Focus on firms with 4 or 5 days of retail buying pressure
- Driven by data study

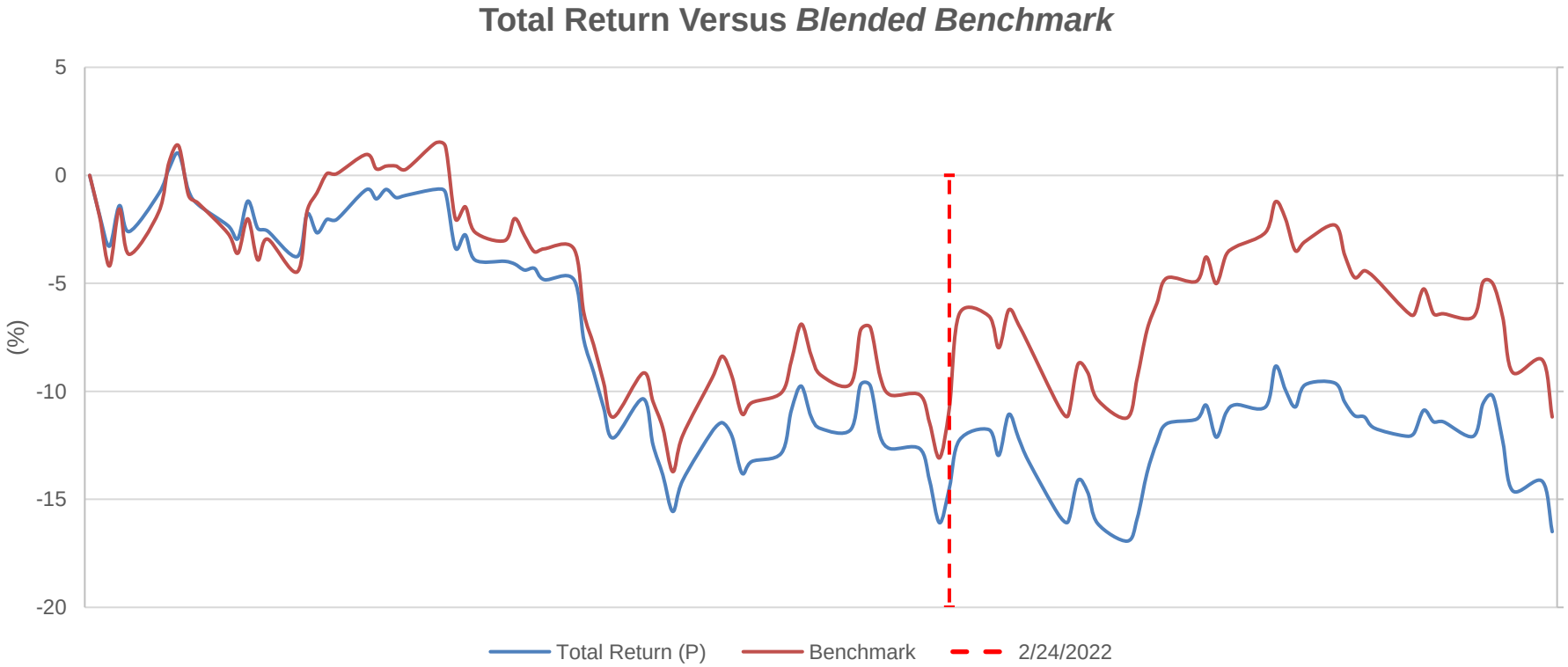
Portfolio Performance

Aggregate Portfolio Performance





Aggregate Portfolio Performance



Lessons Learned

Active Strategies are Costly to Implement

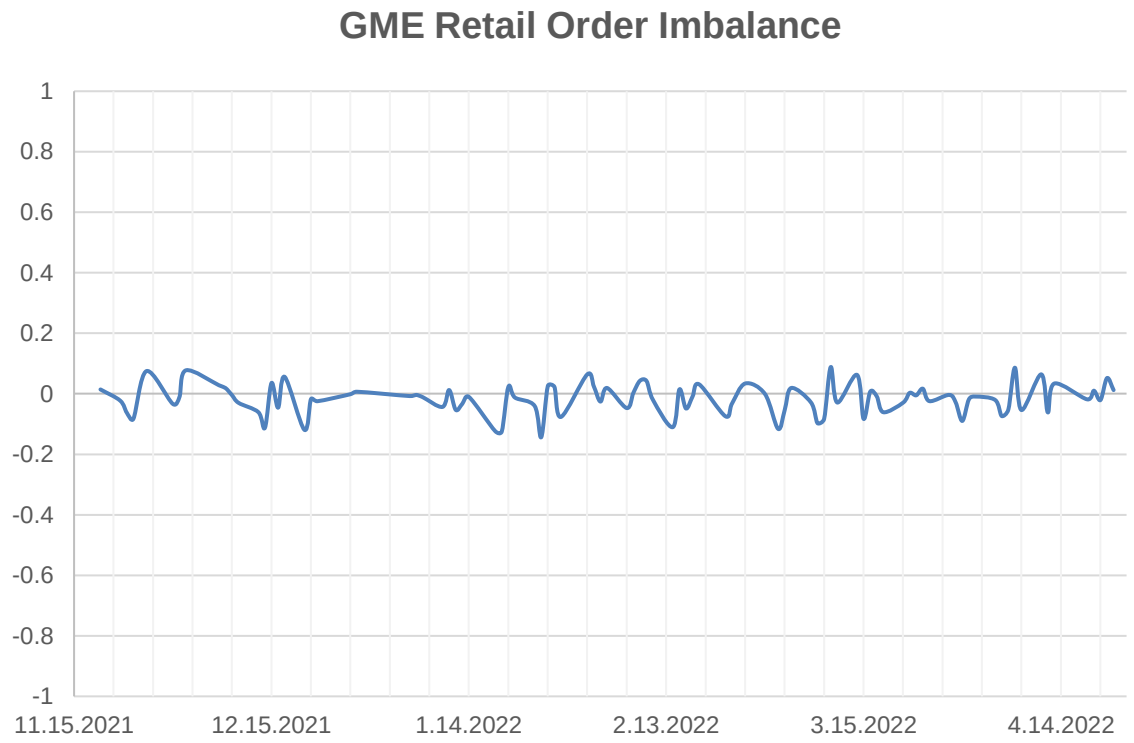
No Alpha is Guaranteed

Sector Neutrality Can Hinder Performance

Questions?

What About Meme-Stocks?

- GameStop (GME)
  - In data, not enough retail buy pressure
- AMC Entertainment (AMC)
  - Excluded from data
- Bed, Bath, & Beyond (BBBY)
  - In data, not enough retail buy pressure
- Nokia (NOK)
  - Excluded from data



Scalability?

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With $100,000...

- Data Accessibility
- Data Prices
- High Turnover
- Bid-Ask Spread & Transaction Costs

With $100,000,000...

- “Instant” Data Accessibility
- Price Impact
- High Turnover
- Bid-Ask Spread & Transaction Costs

Costly to Scale

Order Flow & Price Improvement

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Institutional Order Flow:

Ask → $10.03

1) Midpoint → *$10.0150*

Bid → $10.00

Ask → $8.10

2) Midpoint → *$8.0700*

Bid → $8.40

**Sent Through Exchanges & Dark Pools*

Retail Order Flow:

National Best Bid & Offer

NBO → $10.03

Midpoint → *$10.0150*

NBB → $10.00

NBO → $8.09

Midpoint → *$8.0700*

NBB → $8.40

**Sent Through Wholesalers*

Retail Buy: *$10.0290*

(1)

Retail Sell: *$10.0010*

Retail Buy: *$8.0890*

(2)

Retail Sell: *$8.0410*

Thank You

Appendix

Excess Returns in “K” Weeks

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Panel A: Predict Bid-Ask Average Return k Weeks Ahead

# of Weeks Ahead	Mroibvol		Mroibtrd	
	Coef.	t-Stat	Coef.	t-Stat
1 week	0.00092	15.60	0.00076	12.30
2 weeks	0.00055	9.35	0.00048	7.89
4 weeks	0.00031	5.56	0.00026	4.66
6 weeks	0.00022	3.90	0.00015	2.60
8 weeks	0.00021	3.47	0.00011	1.75
10 weeks	0.00010	1.82	0.00002	0.35
12 weeks	0.00007	1.29	0.00009	1.52

Panel B: Predict CRSP Return k Weeks Ahead

# of Weeks Ahead	Mroibvol		Mroibtrd	
	Coef.	t-Stat	Coef.	t-Stat
1 week	0.00096	16.29	0.00081	13.20
2 weeks	0.00058	9.99	0.00052	8.57
4 weeks	0.00032	5.92	0.00028	5.05
6 weeks	0.00024	4.18	0.00017	2.93
8 weeks	0.00021	3.50	0.00011	1.80
10 weeks	0.00011	2.04	0.00005	0.81
12 weeks	0.00008	1.39	0.00010	1.76

Excess Returns of Price Groups

Mroib Measure	Mroibvol			
Price Groups	Coef.	*t*-Stat	Interquartile	Weekly Return Diff
Low	0.0014	13.34	1.432	0.205%
Medium	0.0007	10.00	1.289	0.089%
High	0.0002	3.23	0.961	0.020%

Sample Weekly Portfolio Return

Evidence of Paper (Anecdotes)

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(1) Price Relevant Information

- Retail investor with industry specific knowledge
  - Perfectly legal knowledge about various suppliers, competitors, or buyers in the industry.
  - Business knowledge as an informant to their portfolios.
  - Quickly adjust their portfolio before widely known professionals and institutional investors.

(2) Short-Term Momentum

"How a New Wave of Retail Investors is Redefining Stock Pricing," Wharton

Non-Criteria vs Benchmark