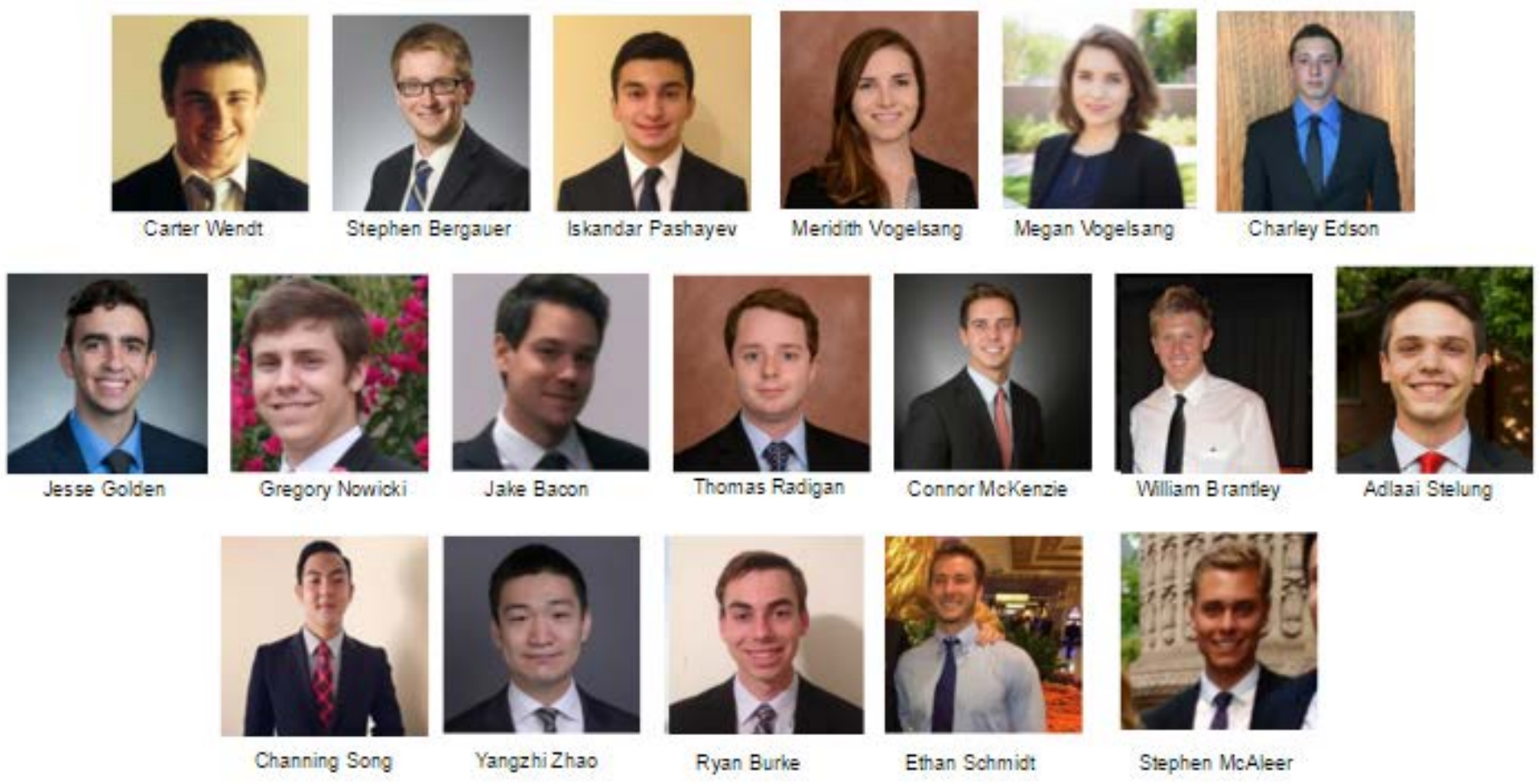
Undergraduate Student Investment Management Fund

Semi-Annual Presentation

April 29th, 2016

Meet the Fund



Agenda

1. Theory Review
2. Implementation
3. Returns
4. Moving Forward

Overview of Investment Thesis

Arbitrage Asymmetry and the Idiosyncratic Volatility Puzzle
Stambaugh, Yu, Yuan (2015)

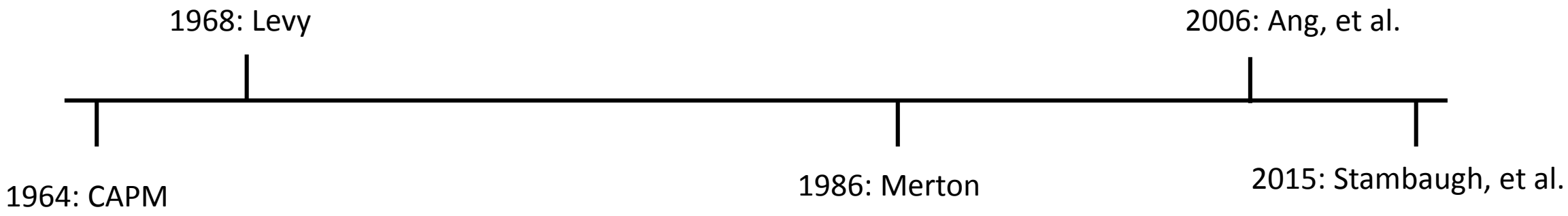
Invest in securities with two key features:

Underpriced
- Determined by ranking securities along five pricing anomalies

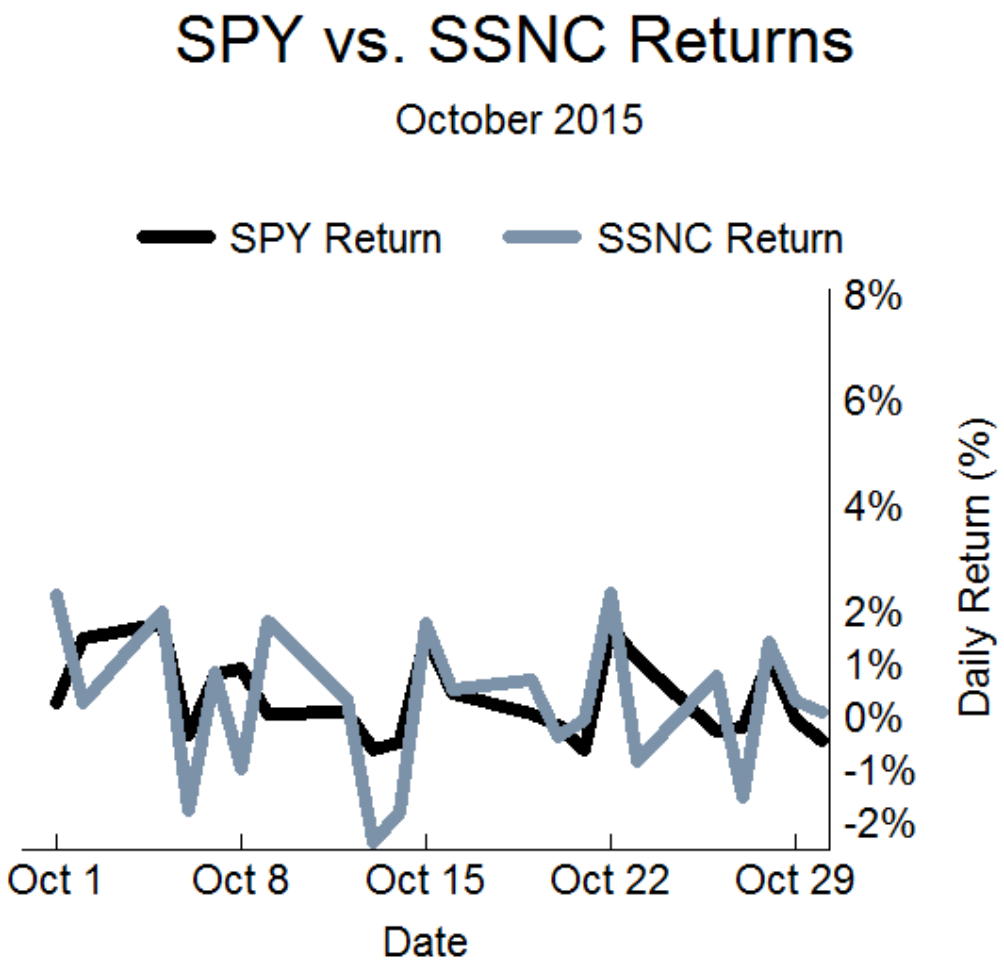
High Idiosyncratic Risk
- Individual risk of a stock after removing effects (in excess) of market/systematic risk

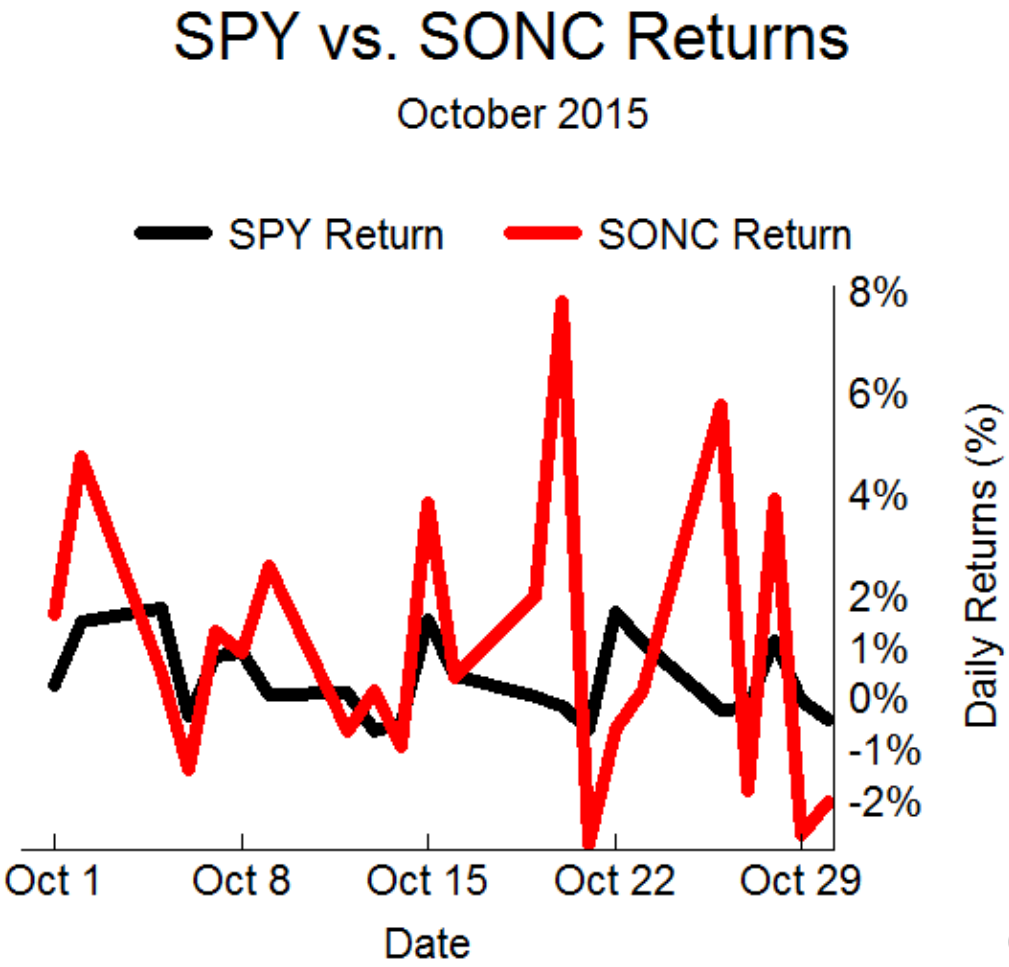
CAPM and Idiosyncratic Risk

- CAPM assumes the market is in equilibrium and all investors are fully diversified
- The real-world market has frictions that prevent full diversification (Levy 1968, Merton 1986); idiosyncratic risk is priced and has a **positive expected premium**
- Ang, et al. (2006) found empirically that idiosyncratic risk has a **negative premium**
- Stambaugh, et al. (2015) explain this using a combination of mispricing and constraints on arbitrage

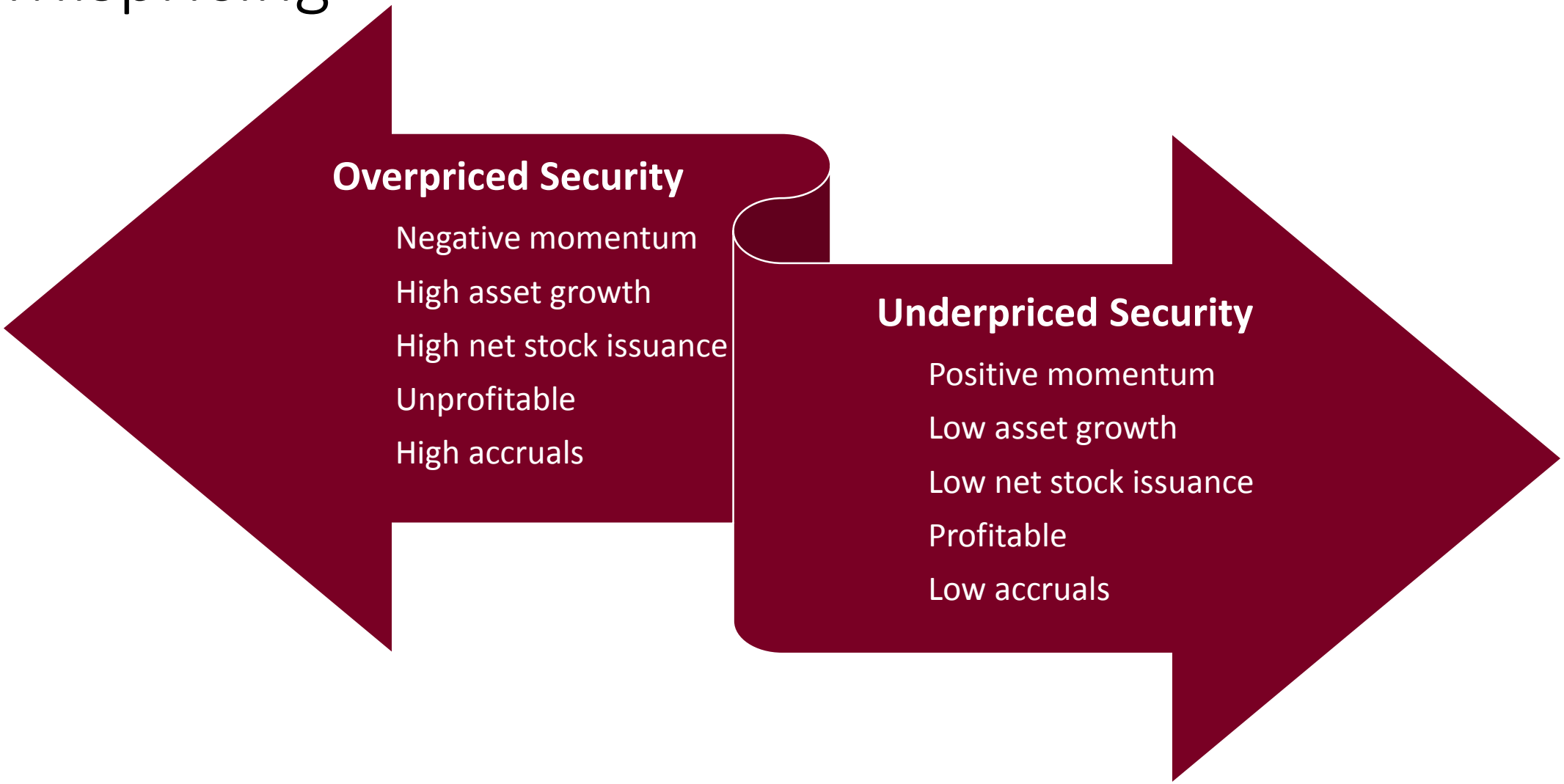


Idiosyncratic Risk Defined: IVOL

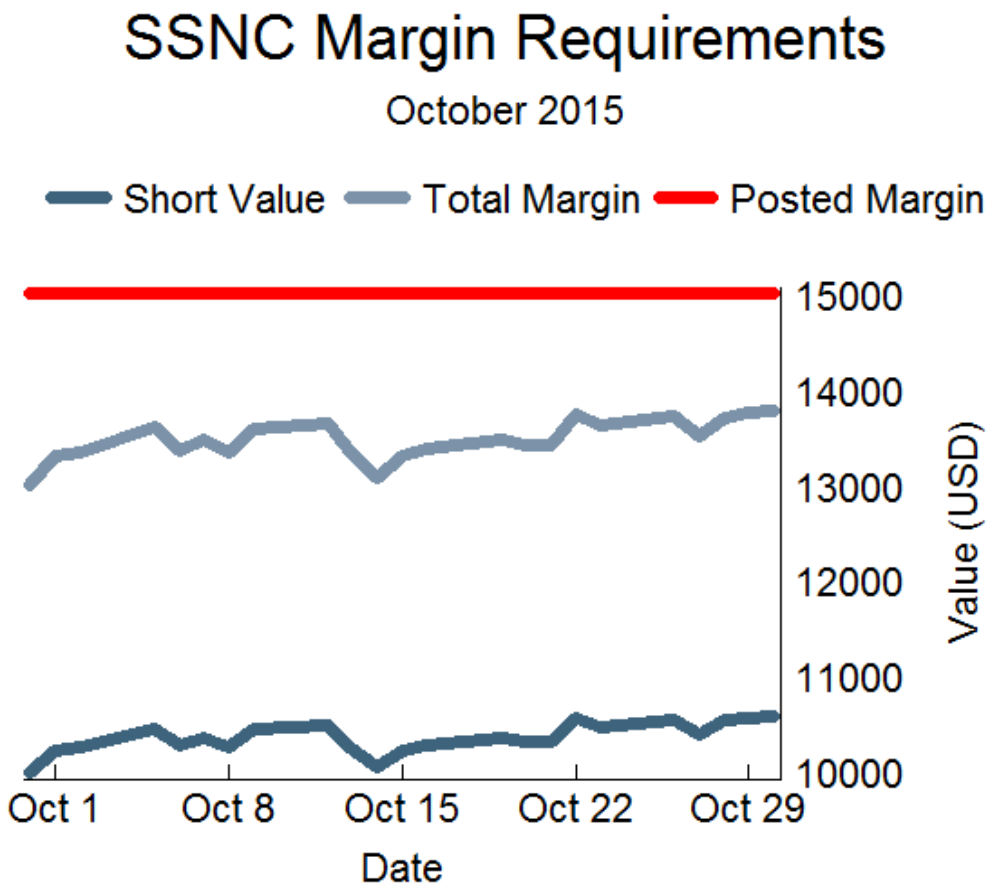




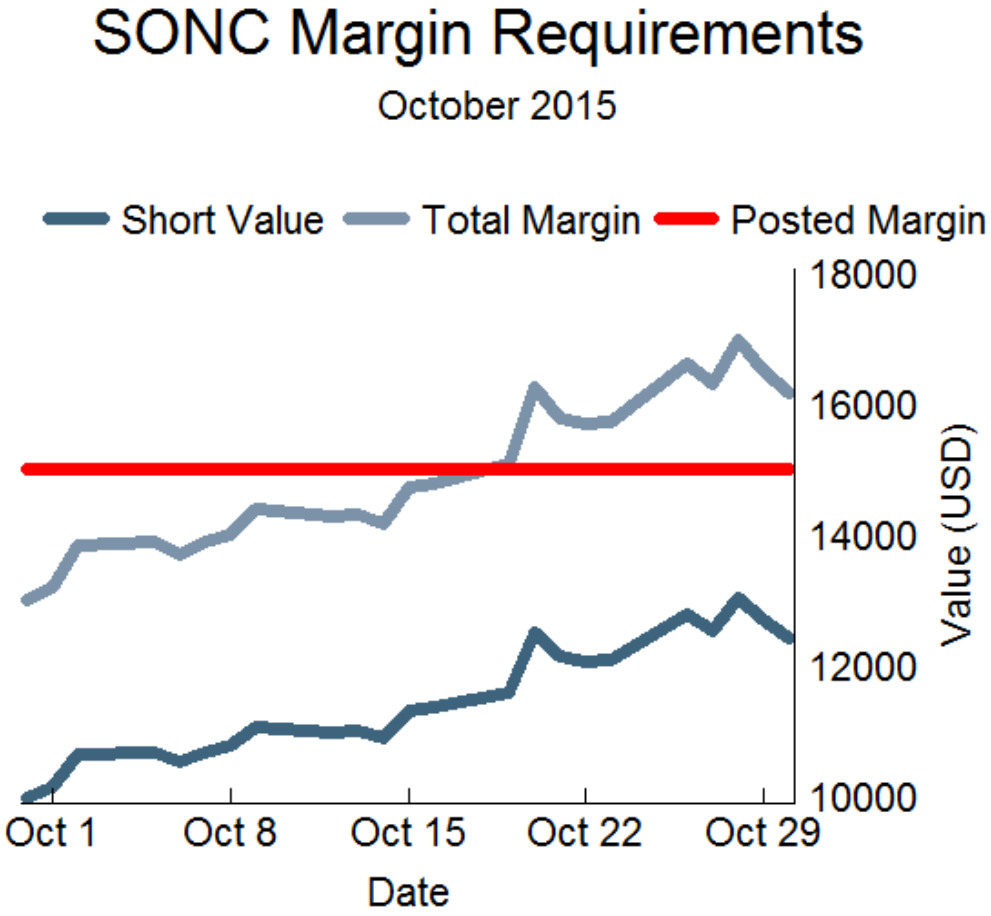
Mispricing


Overpriced Security
Negative momentum
High asset growth
High net stock issuance
Unprofitable
High accruals
Underpriced Security
Positive momentum
Low asset growth
Low net stock issuance
Profitable
Low accruals

Arbitrage Constraints

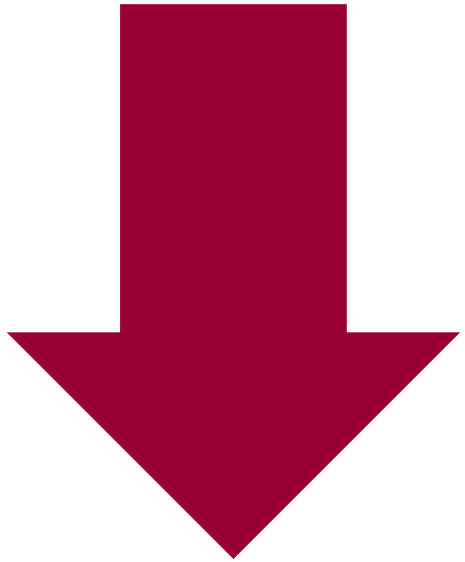


Assumes 50% initial margin, 30% maintenance margin

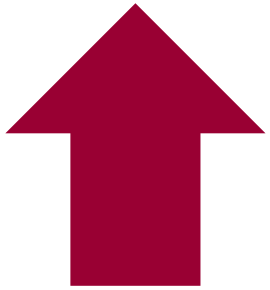


Assumes 50% initial margin, 30% maintenance margin

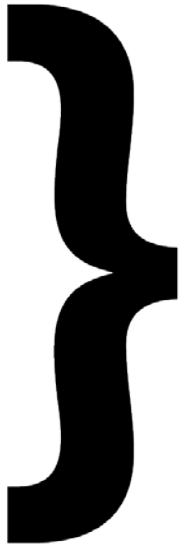
Asymmetric Arbitrage



Overpriced Securities
+ Unable to Short
=
Negative Expected Return



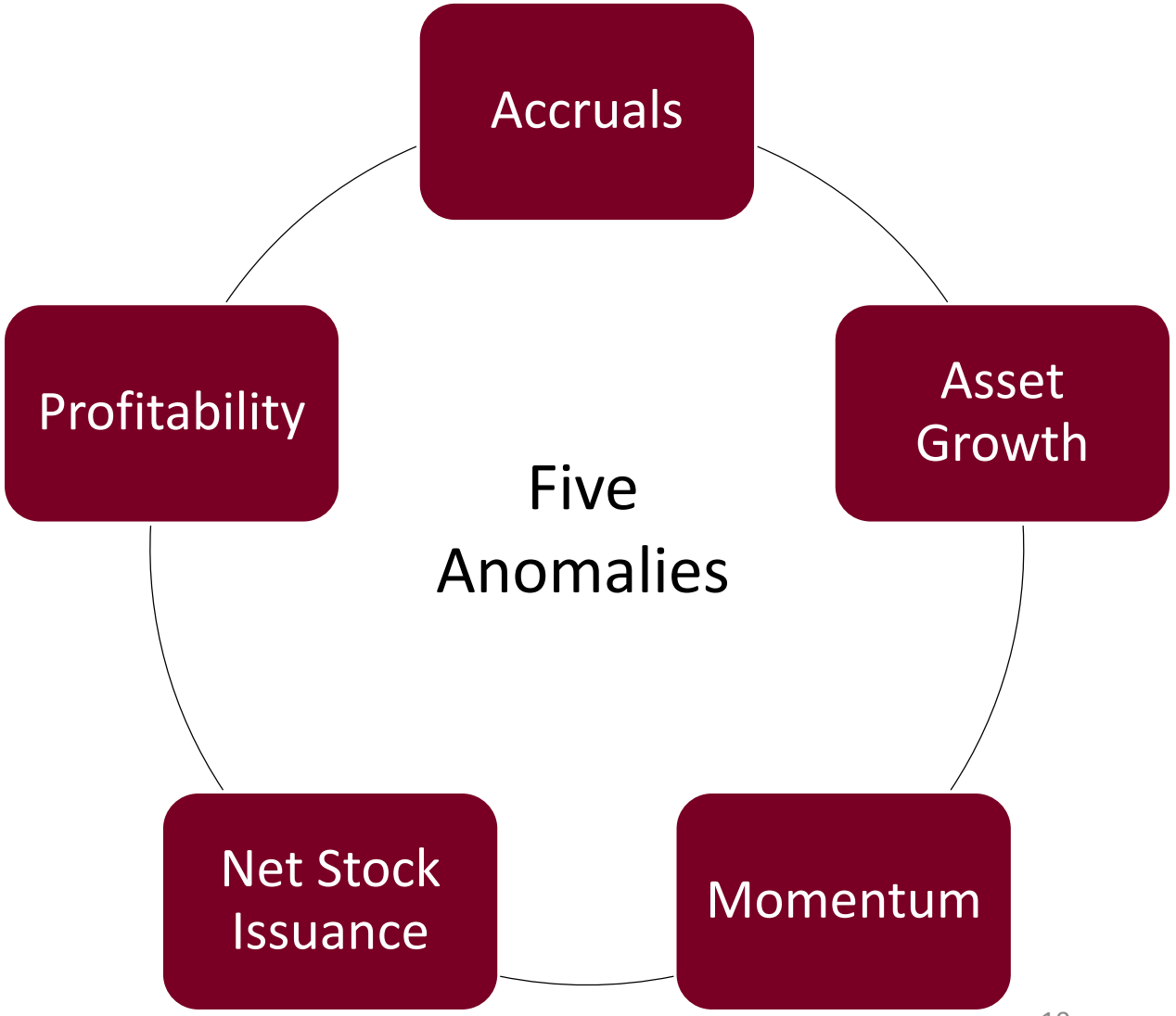
Underpriced Securities
+ Unable to Long
=
Positive Expected Return



Negative Overall
Expected Return to IVOL

Anomaly Selection

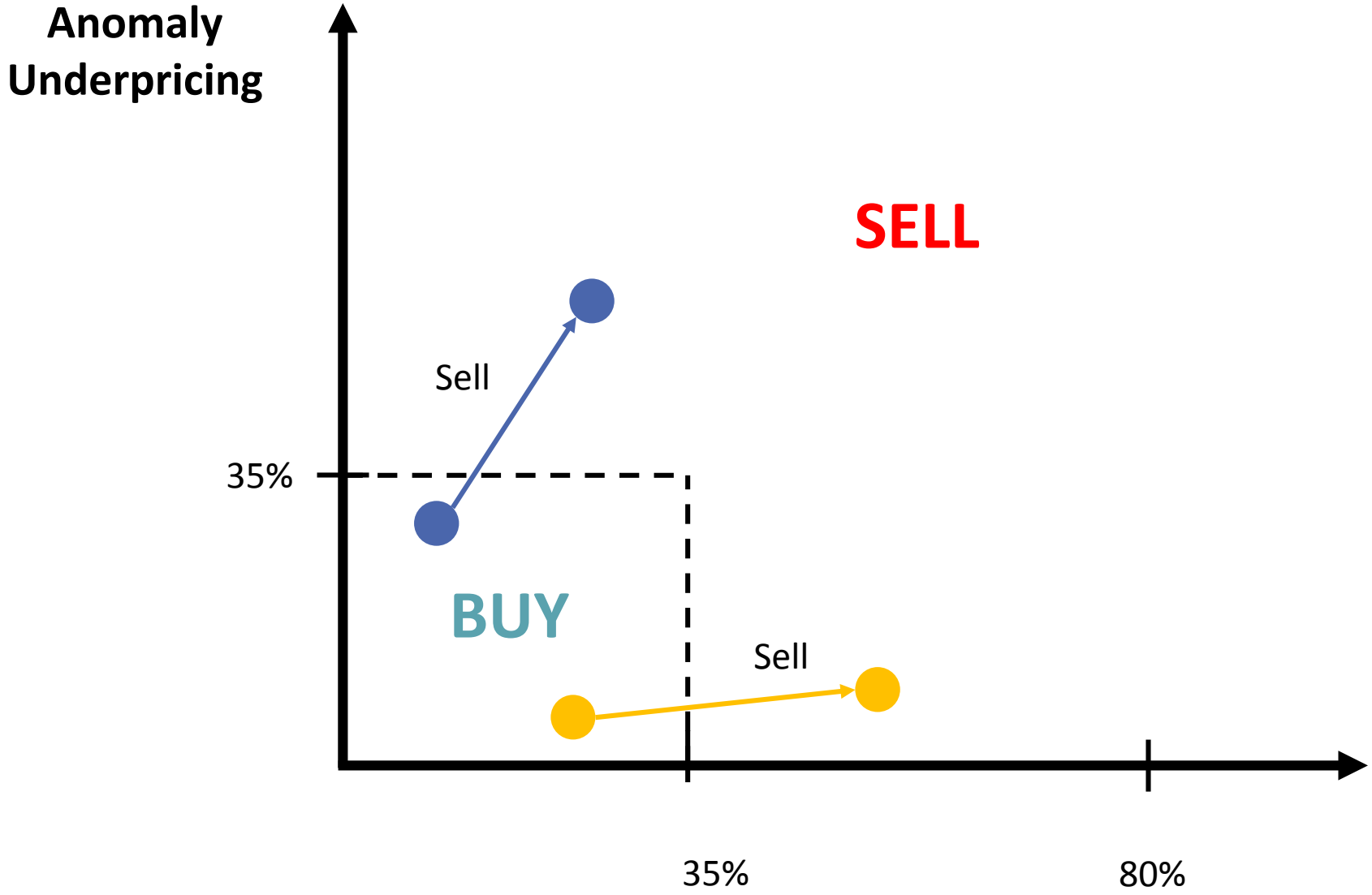
- Goal: narrow down 11 mispricing anomalies from Stambaugh's IVOL Theory to 5 to make mispricing forecasts more manageable
- Chosen based on:
  - Confidence in supporting research & returns
  - Ease of calculation
  - Covariances

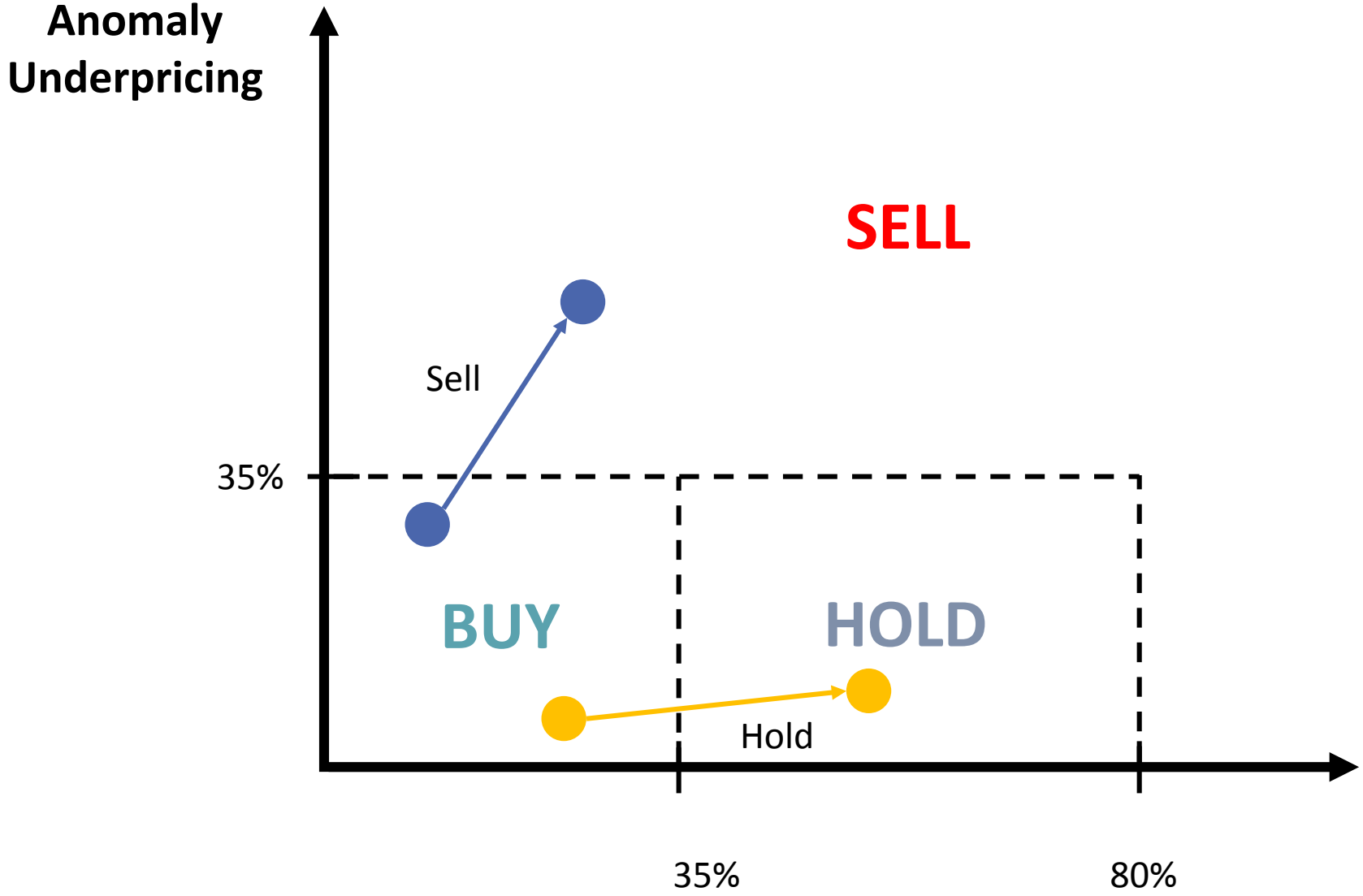


Portfolio Implementation

Trading Costs

- First rebalance: monthly turnover of 156.6%
- Trading costs were $.02/share plus spread
  - Effective trading costs of ~30-35bp
  - Expected premium was only 30-50bp
- Goal: control trading costs while still capturing expected premium


Anomaly Underpricing
SELL
Sell
35%
BUY
Sell
35%
80%
IVOL


Anomaly Underpricing
SELL
Sell
35%
BUY
HOLD
Hold
35%
80%
IVOL

New Buy Ranking Method

Old Method

Security	IVOL Percentile	Anomaly Pecentile	Average	Bid-Ask	Commission	Closing Price	Transaction Cost Percentage
Company A	3	5	4	0.02	0.02	20	0.20
Company B	14	5	9.5	0.04	0.02	34	0.18
Company C	20	35	27.5	0.01	0.02	55	0.05
Company D	15	10	12.5	0.02	0.02	45	0.09

New Method

Security	IVOL Percentile	Anomaly Pecentile	Average	Bid-Ask	Commission	Closing Price	Transaction Cost Percentage
Company C	20	35	27.5	0.01	0.02	55	0.05
Company D	15	10	12.5	0.02	0.02	45	0.09
Company B	14	5	9.5	0.04	0.02	34	0.18
Company A	3	5	4	0.02	0.02	20	0.20

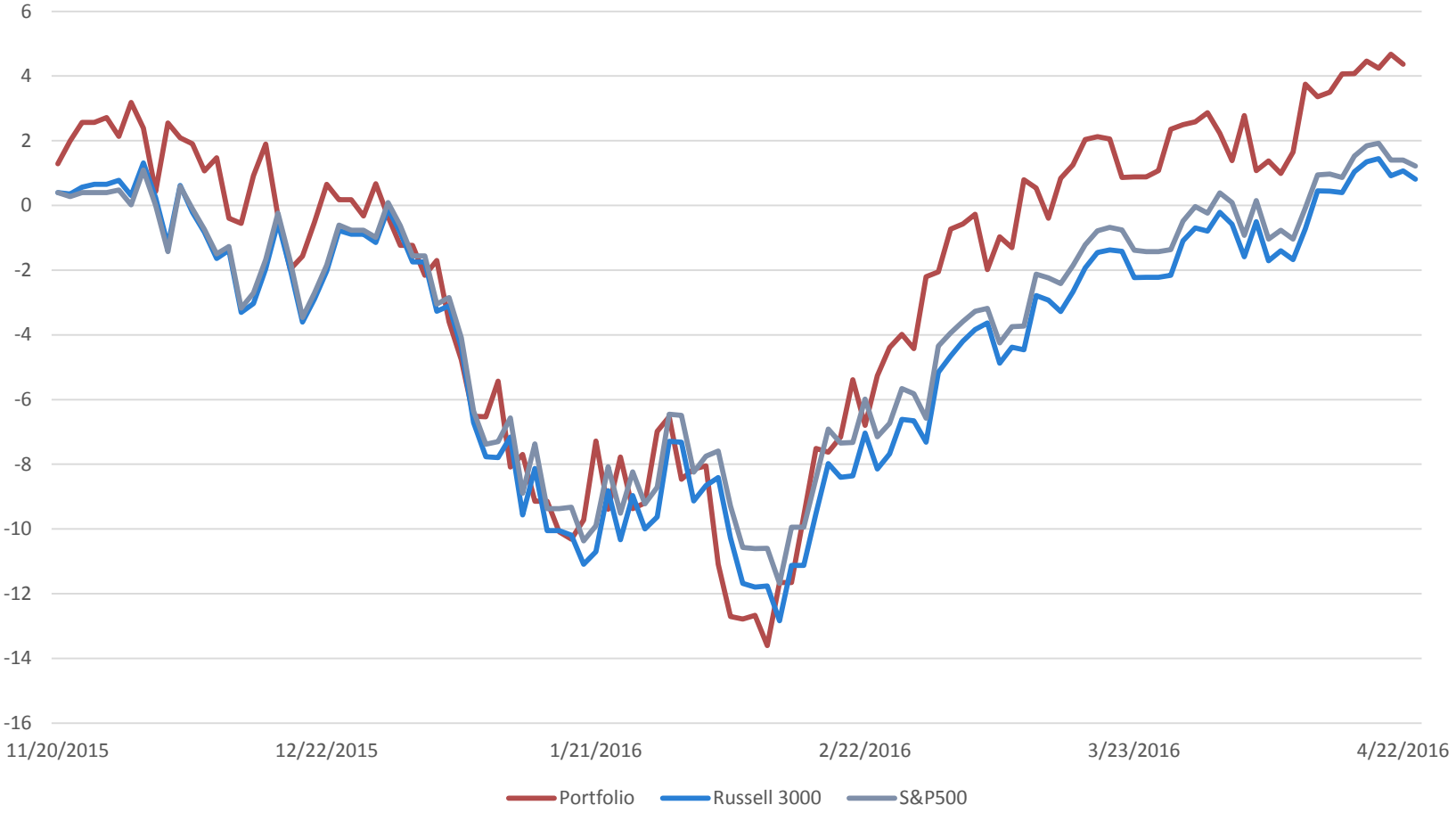
Results

Rebalance month	Turnover %	Notes
December	156.60%	
January	63.65%	Implemented holding range
February	46.48%	Implemented transaction cost ranking
March	8.43%	
April	30.15%	

*Original Seeding in November

Returns

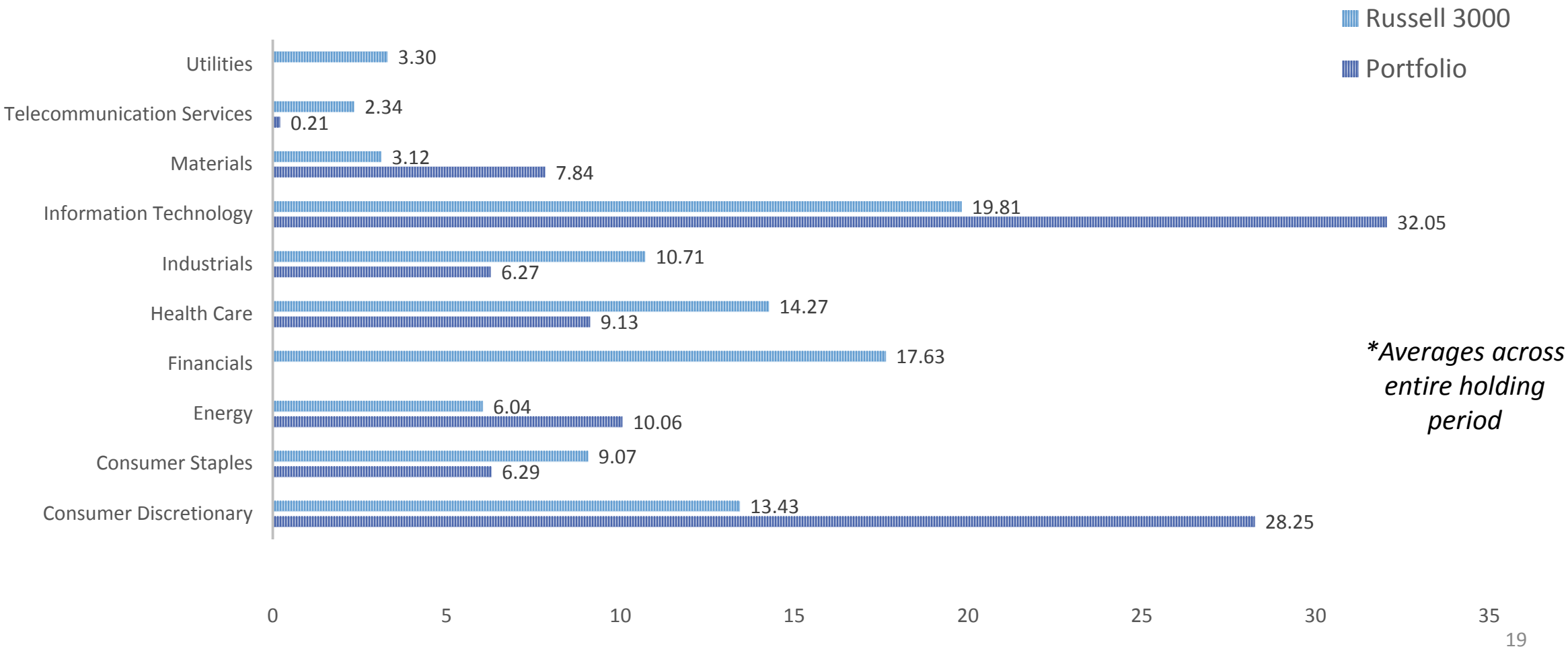
Total Portfolio Returns



Return	Total Port.	S&P 500	Russell 3000
Tot. Return	4.36%	1.53%	1.03%
Std Dev	4.98%	3.77%	4.03%

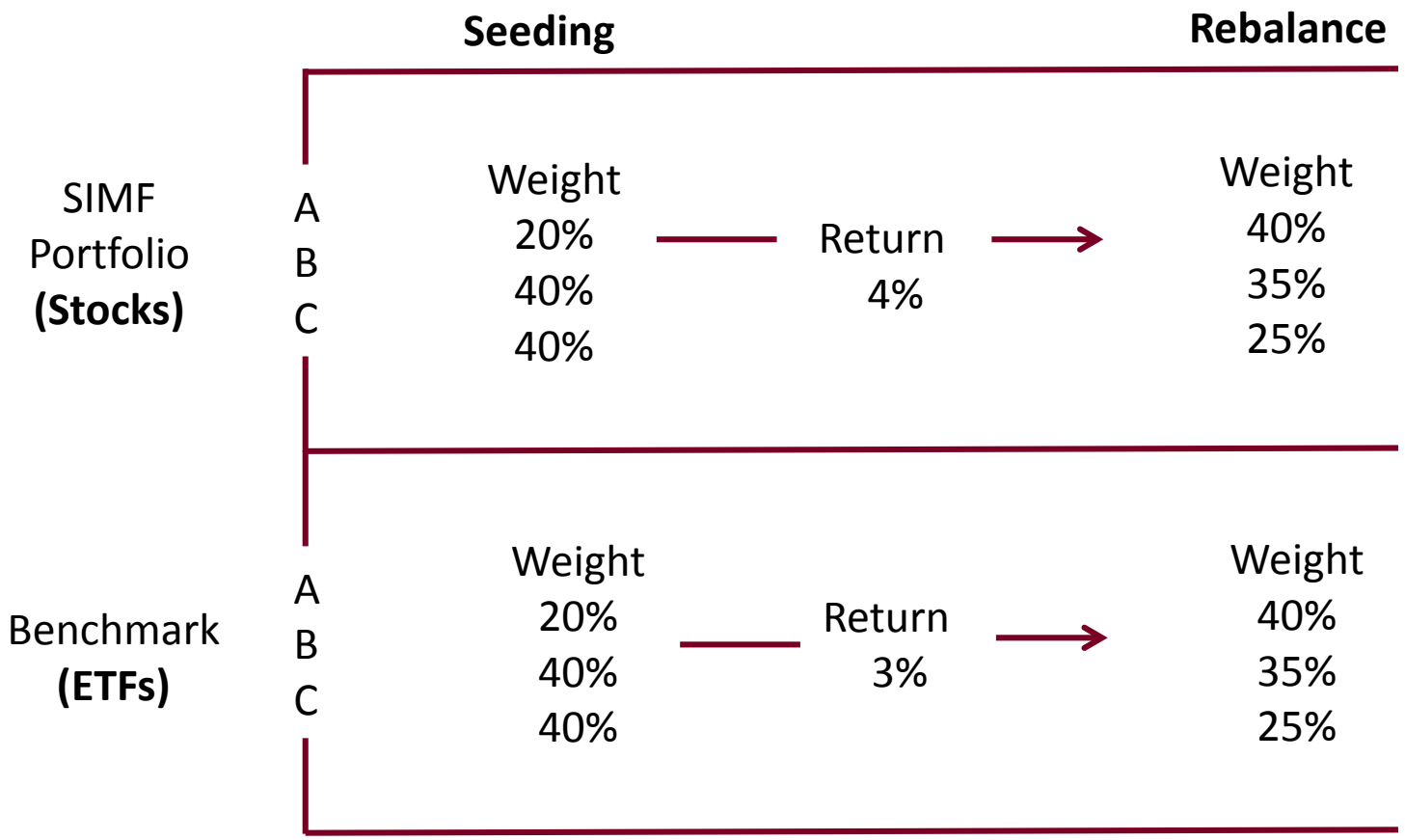
*Since inception, through 4/22/16

GIC Industry Average Weight Comparison

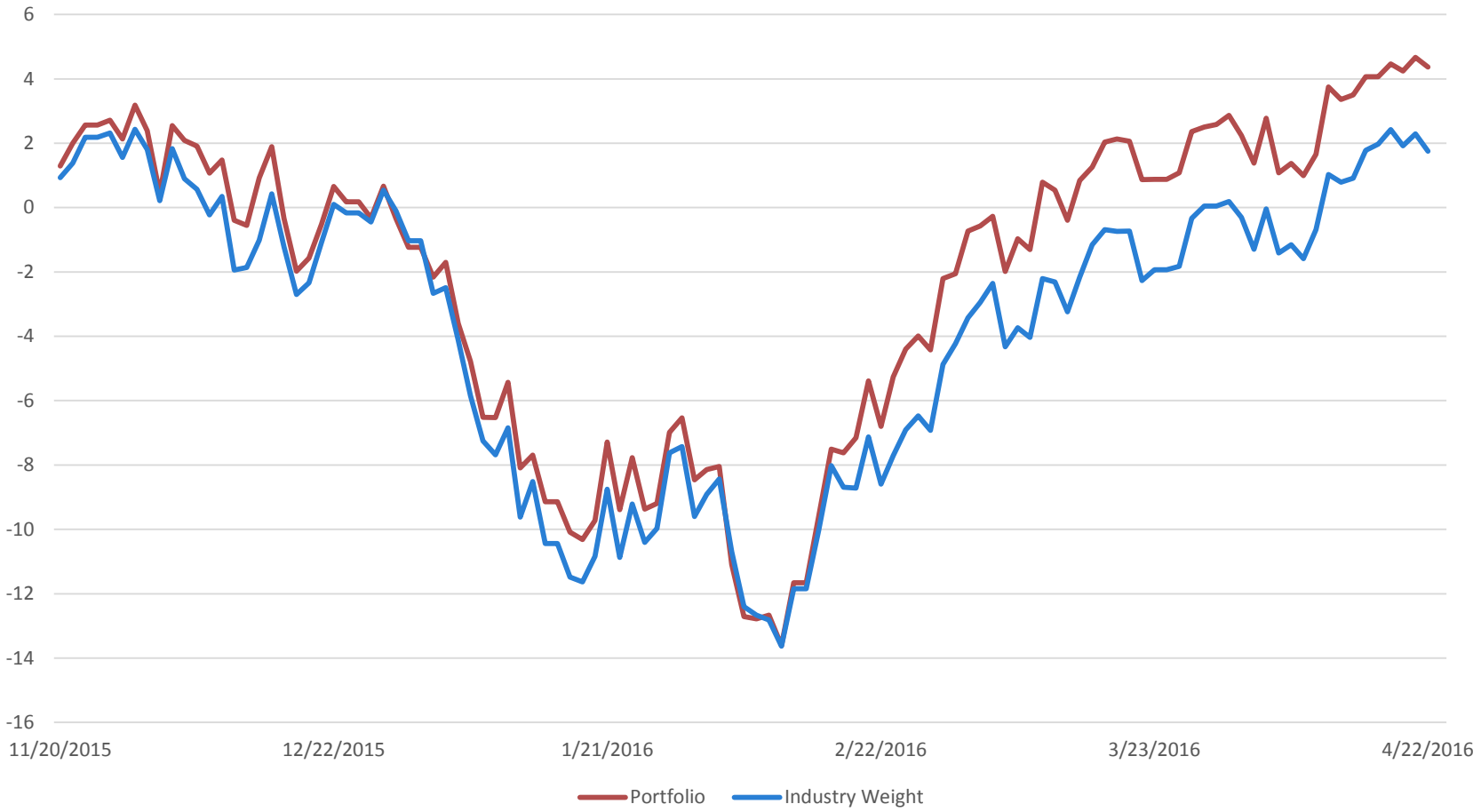


Averages across entire holding period

Industry Benchmark Construction



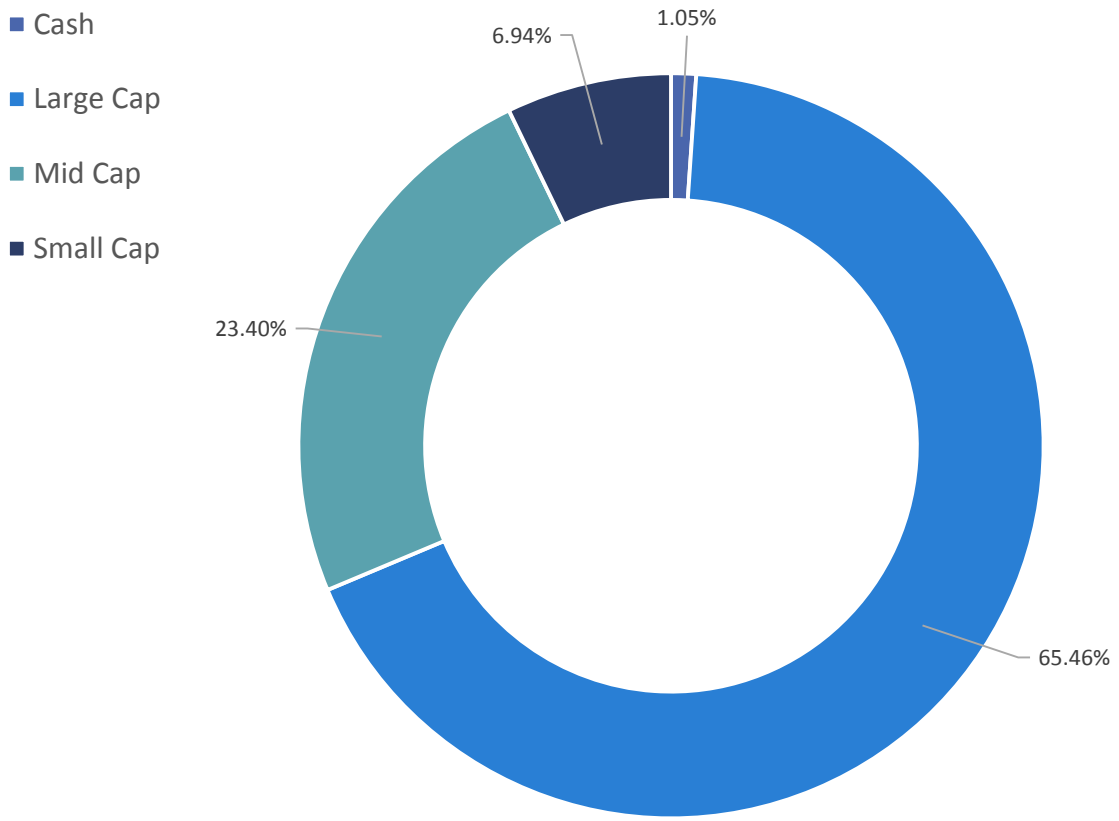
Portfolio Returns vs. Industry Benchmark



Return	Total Port.	Ind. Weight
Tot Return	4.36%	1.75%
Std Dev	4.98%	4.56%

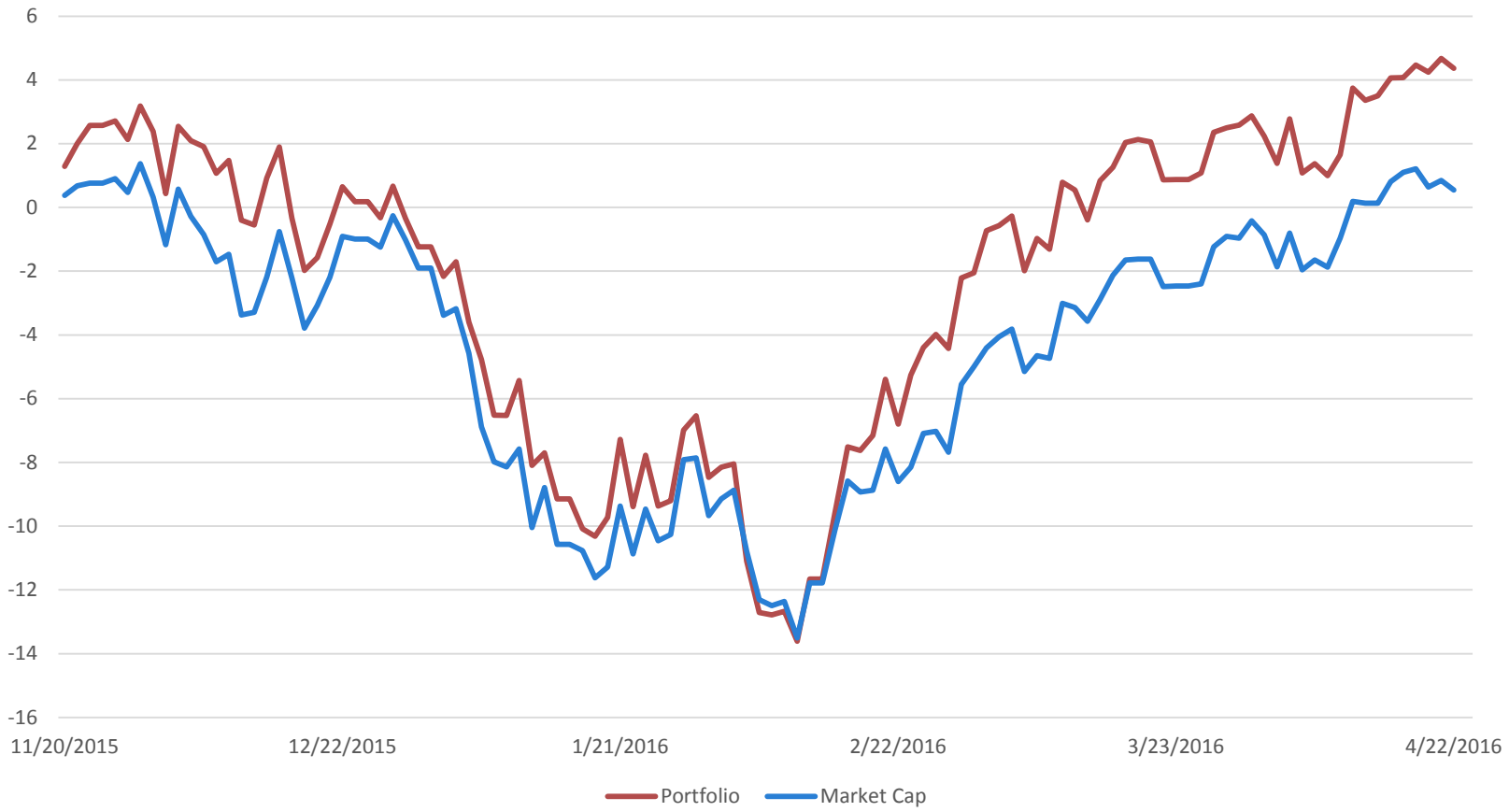
*Since inception

Total Portfolio Market Cap Holding



**Averages across entire holding period*

Portfolio Returns vs. Size Benchmark



Return	Total Port.	Market Cap
Tot Return	4.36%	0.55%
Std Dev	4.98%	4.20%

*Since inception

Long-term: Improving SIM Fund Processes

Portfolio Database

- Utilize SQL Server to track key portfolio information
- Create an infrastructure to calculate holdings, returns, attributions

XBRL

- Pull financial statement data directly from company XBRL filings
- Fix bugs to integrate XBRL into portfolio construction process

XBRL Update: Process

Moving Forward:

1. Integrate with Bloomberg to fill in missing data
2. Add filters for charter restraints
3. Compare XBRL to previous rebalance data

Conclusion

At this time we would be happy to take your questions

Portfolio Database