

Betting Against Beta

11/3/2025

Ute Capital

Torlif Wegener

Garrett Pusey

Ryan O'Connor

Imran Al Sabbagh



Executive Summary



Strategy

Replicating BEB strategy, by mimicking the effects of leverage and shorting; Under these parameters, a long-only portfolio of low-beta equities screened for quality and liquidity can still deliver superior risk-adjusted returns for investors.



Performance

Over 10 years: 273.1% cumulative return, 0.78 Sharpe Ratio, Beta of 0.82, 32.7% 10 Y Average Turnover, slightly underperformed the S&P(314.7%).



Recommendation

Do Not Buy Low Beta Strategy; Strategy is not fully replicable

Strategy Rational

Article Title: [[“Betting against Beta”](#)]

Key Takeaways:

1. Higher beta stocks are overvalued
2. Investors aren't fully compensated for taking on more risk
3. Constraints (limits on borrowing/leverage) distorts prices

Betting against beta ☆

Andrea Frazzini ^a, Lasse Heje Pedersen ^{a,b,c,d,e,*}

^a AQR Capital Management, CT 06830, USA

^b Stern School of Business, New York University, 44 West Fourth Street, Suite 9-190, NY 10012, USA

^c Copenhagen Business School, 2000 Frederiksberg, Denmark

^d Center for Economic Policy Research (CEPR), London, UK

^e National Bureau of Economic Research (NBER), MA, USA

Strategy Design

Description

- Can low-beta equities alone outperform when screened for quality and liquidity?

Origin

- The paper was found in The Journal of Financial Economics

Goal

- Mimic market neutral returns without leverage or shorting

Parameters

- Attempted to mimic the hedging effects of shorting via high float, adjust beta up to reflect leverage, and target firms with operational efficiency

Back testing Parameters

Screening Criteria

Parameter	Description	Stock Universe
Market Cap	>\$300M	3,417 stocks
Beta	$0.8 \leq \text{Beta} \leq 1$	717 stocks
Free Float %	$\geq 95\%$	344 stocks
Net Debt to Shareholder Equity	$\leq 20\%$	132 stocks
T12M Diluted Earnings Per Share	≥ 5	32 stocks
Current Price to Earnings Ratio	≤ 30	26 stocks
Top 15 Rank Return on Common Equity	N/A	15 stocks

Monte Carlo Simulation

Simulation Model Configuration

Portfolio Type ⓘ

Tickers



Initial Amount ⓘ

50000

.00

Cashflows ⓘ

No contributions or withdrawals



Simulation Period in Years ⓘ

30



Tax Treatment ⓘ

Pre-tax Returns



Simulation Model ⓘ

Historical Returns



Use Full History ⓘ

Yes



Bootstrap Model ⓘ

Single Year



Sequence of Returns Risk ⓘ

No Adjustments



Inflation Model ⓘ

Historical Inflation



Rebalancing ⓘ

Rebalance quarterly



Intervals ⓘ

Defaults



Expected Returns

Expected Annual Return

Percentile	1 Year	3 Years	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
10th Percentile	-4.05%	3.50%	5.93%	8.25%	9.31%	9.95%	10.42%	10.74%
25th Percentile	-0.85%	8.10%	9.59%	10.94%	11.61%	11.96%	12.19%	12.31%
50th Percentile	13.72%	14.38%	14.12%	14.13%	14.12%	14.13%	14.13%	14.10%
75th Percentile	30.66%	20.00%	18.64%	17.32%	16.65%	16.36%	16.12%	15.92%
90th Percentile	33.81%	26.03%	22.97%	20.18%	19.00%	18.35%	17.84%	17.52%

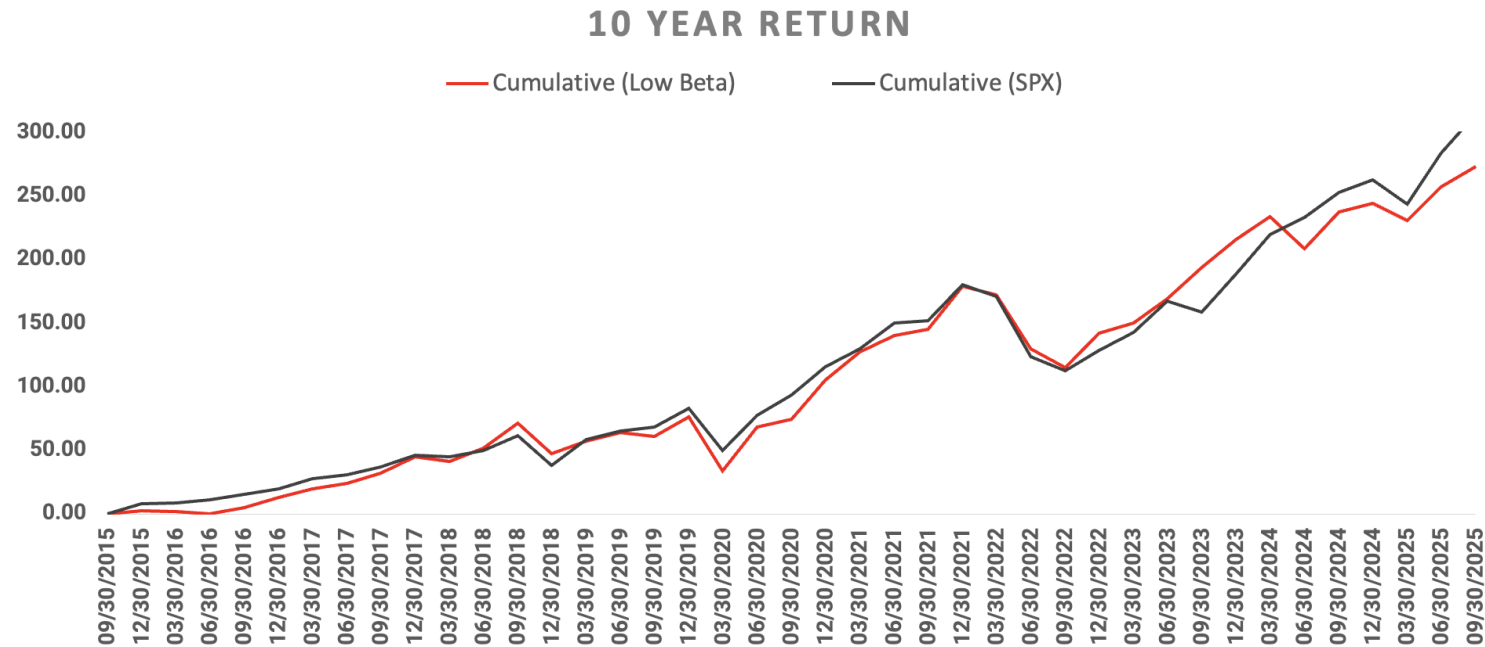
Expected Losses

Loss Probabilities

Loss	Within Time Period	End of Time Period
>= 2.50%	62.44%	0.00%
>= 5.00%	40.62%	0.00%
>= 7.50%	33.32%	0.00%
>= 10.00%	30.44%	0.00%
>= 12.50%	27.28%	0.00%
>= 15.00%	26.38%	0.00%
>= 17.50%	18.46%	0.00%
>= 20.00%	14.69%	0.00%
>= 22.50%	13.96%	0.00%
>= 25.00%	13.25%	0.00%
>= 27.50%	12.98%	0.00%
>= 30.00%	2.65%	0.00%
>= 32.50%	0.70%	0.00%
>= 35.00%	0.35%	0.00%
>= 37.50%	0.16%	0.00%
>= 40.00%	0.06%	0.00%

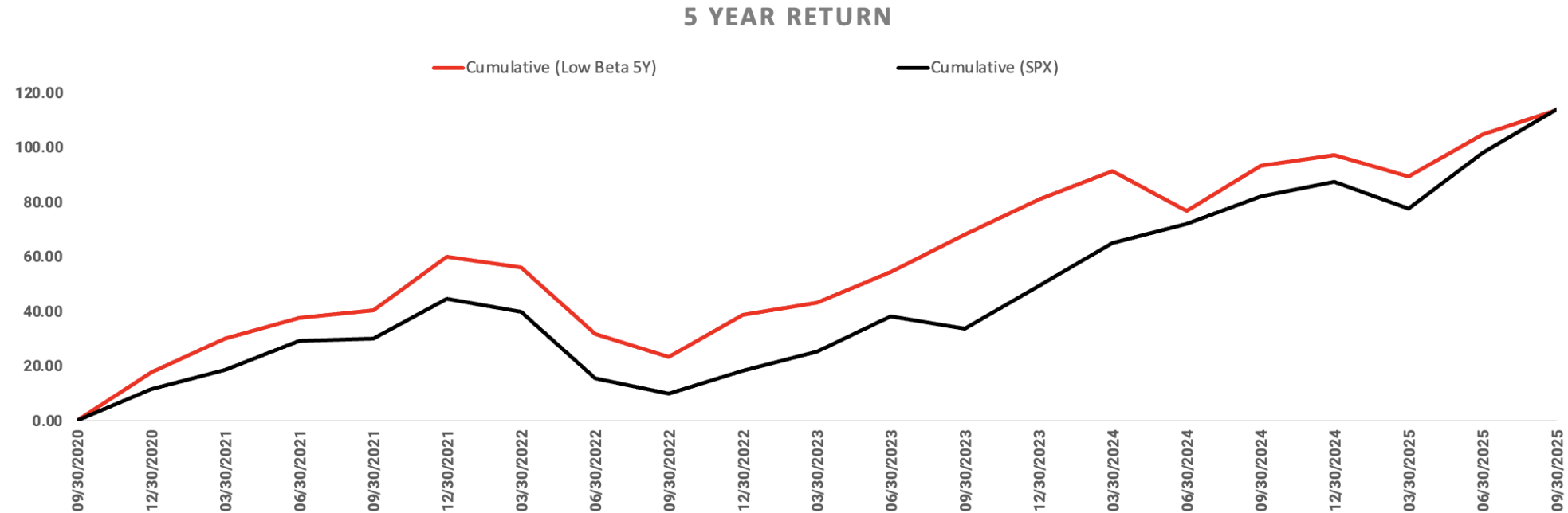
Loss is measured against the original portfolio balance.

Back testing Results – Performance



Period	Return	α	β	σ	Max DD	Sharpe
1yr	10.5%	-4.1	0.8	18.98	-18.9%	0.44
1yr SPX	17.6%	0	1	11.23	-5.2%	1
10yr	273.1%	1.35	0.82	17.69	-24.1%	0.78
10yr SPX	314.7%	0	1	15.29	-24.1%	0.72

Back testing Results – Performance



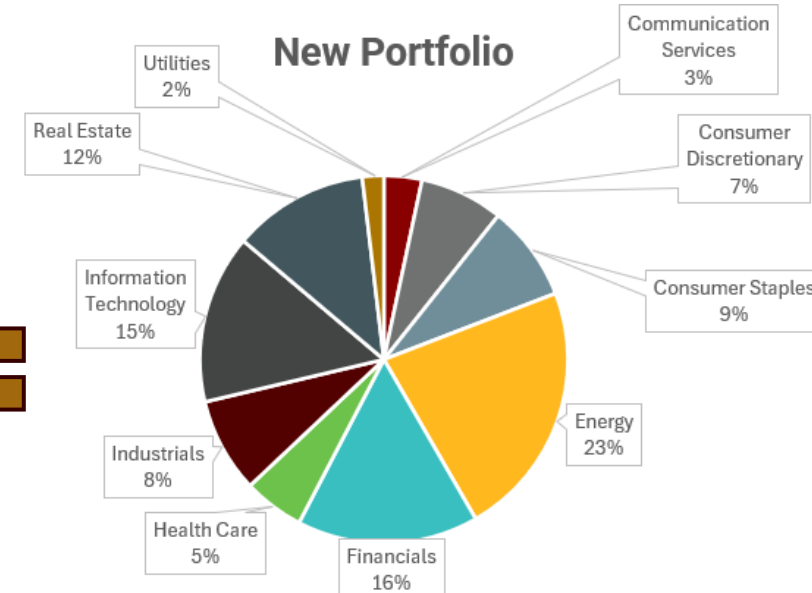
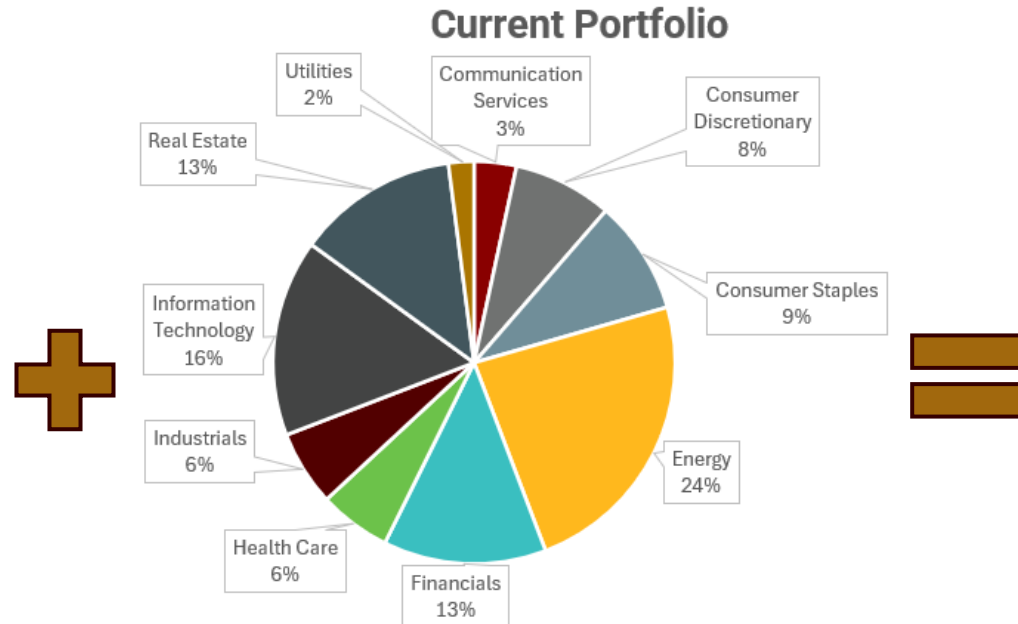
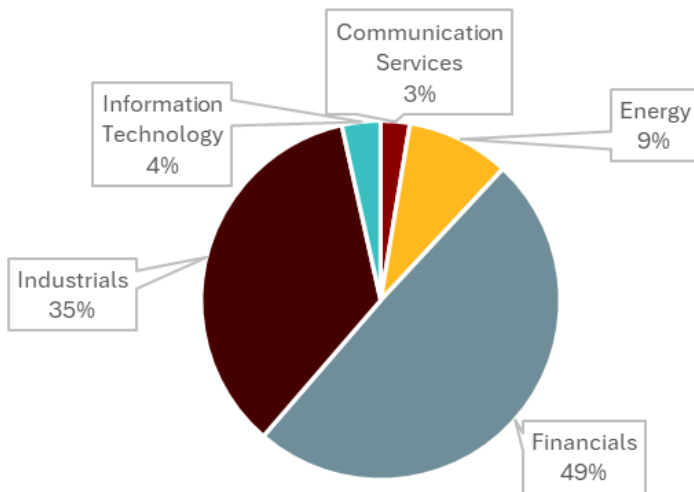
Year	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Mean
STRAT	2.5%	10.6%	28.4%	1.7%	19.3%	16.7%	35.9%	-13.3%	30.5%	9.0%	8.4%	13.6%
S&P	8.0%	10.9%	21.8%	-5.2%	32.2%	18.0%	29.9%	-18.3%	26.3%	25.5%	14.4%	14.9%

Recommended Purchases

Name	Ticker	P/E Ratio	Monthly Trading Volume (\$M)	Market Cap (\$B)	Share Price	# of Shares	Total Value
Automatic Data Processing	ADP	23.86	0.807	\$118.9	\$260.30	12	\$3,123.60
Bank of New York	BK	14.61	0.359	\$76.8	\$107.93	29	\$3,129.97
EOG Resources	EOG	10.56	0.579	\$61.2	\$105.84	32	\$3,386.88
Paccar Inc.	PCAR	19.23	0.870	\$51.6	\$98.40	34	\$3,345.60
Resmed Inc.	RMD	22.64	0.270	\$40.1	\$246.88	13	\$3,209.44
Cincinnati Financial Corp.	CINF	21.76	0.455	\$24.7	\$154.59	22	\$3,400.98
Snap-On Inc.	SNA	17.56	0.020	\$18.1	\$335.55	10	\$3,355.50
Expeditors International	EXPD	22.14	0.126	\$16.6	\$121.90	27	\$3,291.30
Houlihan Lokey Inc.	HLI	22.77	0.238	\$14.4	\$179.08	19	\$3,402.52
AtkinsRealis Group Inc.	SNCAF	6.77	0.100	\$11.9	\$70.67	47	\$3,321.49
InterDigital Inc.	IDCC	24.21	0.136	\$8.9	\$361.96	9	\$3,257.64
Essent Group	ESNT	8.49	0.060	\$6.3	\$60.57	55	\$3,331.35
Plexus Corp	PLXS	18.71	0.063	\$3.9	\$139.90	24	\$3,357.60
Lindsay Corp	LNN	18.40	0.009	\$1.5	\$111.24	30	\$3,337.20
QCR Holdings	QCRH	10.08	26,643	\$1.3	\$74.39	45	\$3,347.55

Effect on the Portfolio

Proposed Investment Sectors



Portfolio	Exp. Return	St. Dev	Beta	Sharpe Ratio	Idio. Risk	Info. Ratio
Existing	19.00%	6.78%	0.79	-0.40	8.47%	-3.62
Adjusted	16.03%	6.94%	0.80	-0.65	8.55%	-3.45

Risks

“Betting against Beta” is primarily a hedge strategy that includes leveraged longs on low beta stocks and leveraged shorts on high beta stocks, which even with our mitigations ultimately was not possible within MSIF.

<u>Risk Category</u>	Specific Risks	Mitigations
Model & Research	Difficult to form firm thesis from literature in a way that fits our fund	Collaborative approach to criteria definition
Data & Assumptions	Strategy was not fully replicable	Raised beta parameters, stretched impact of other parameters
Portfolio	<ul style="list-style-type: none">• Saw deviation from large-cap low beta value stocks to medium-cap, higher volatility stocks in recent rebalances• Higher Standard Deviation	Adjust diluted EPS growth and Debt to Equity

Summary & Recommendation

Strategy Merits



- **Performance**

Underperformed S&P with more risk, lower alpha; not attractive in the current market environment.



- **Risk**

Strong downside protection, but upside is too limited in a risk-on environment



- **Effects on Portfolio**

Does not move fund beta towards goal and constrain upside; not aligned with fund capabilities and objectives

Action Plan



- **Recommendation: Not to invest in this strategy**