

Surviving January Blues

Team 7

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Executive Summary



Strategy

Stocks with a lower price deviation (PD) than the S&P 500 will outperform the market.



Performance

Over 10 years: 486.2% cumulative return, 23.11% mean return, with a .78 Sharpe Ratio



Recommendation

Invest \$14,648 in the LVHR Systematic Strategy

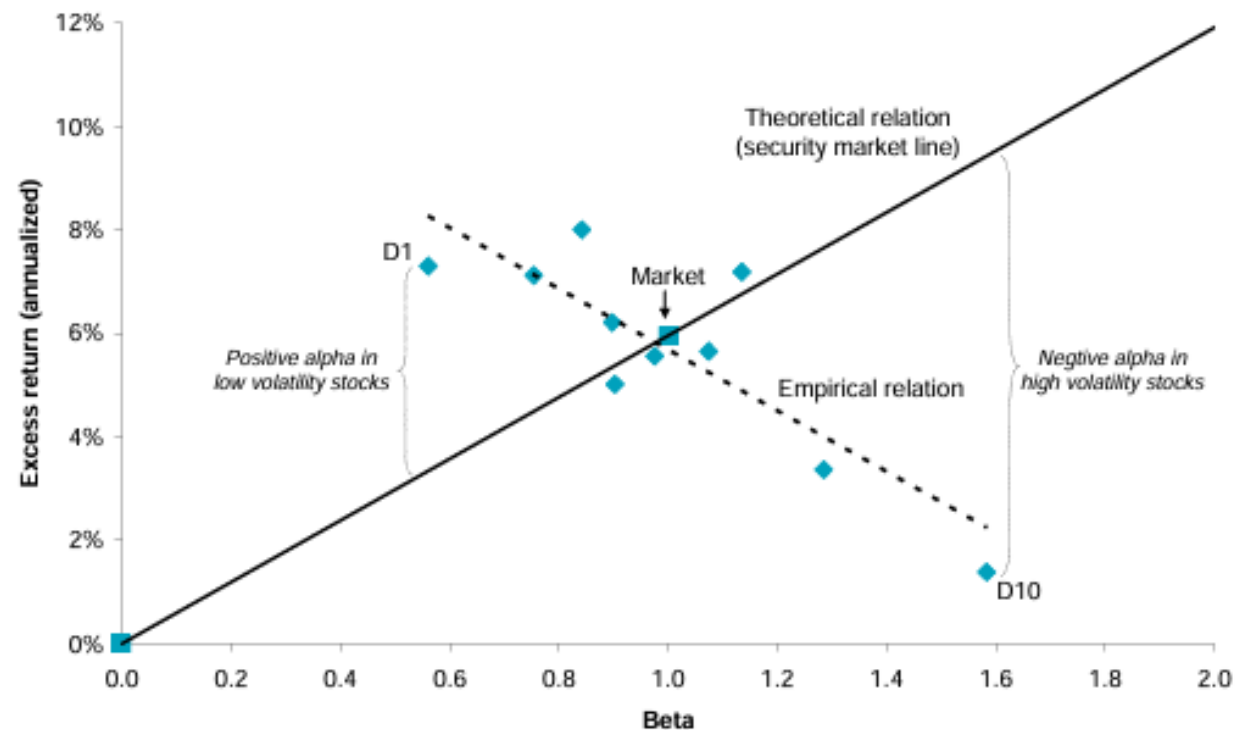
Price Momentum Strategy

Low Price Deviation Strategy:

Stocks with lower price deviation than the market perform better on a risk adjusted basis

How to benefit:

Capitalize on the continuing bias in the market against stocks with low price deviation, and capture higher returns.



Strategy Design

Description

- Low Deviation, High Return strategy **identifies undervalued stocks that will generate higher returns than overpriced, high risk stocks.**

Origin

- The article *The Volatility Effect: Lower Risk without Lower Return* by Erasmus School of Economics highlights David C. Blitz's and Pim van Vliet's research, which provides **empirical evidence that stocks with lower PD earn high risk-adjusted returns and that investors need to include them as a separate asset in their portfolios.**

Hypothesis

- If a stock has a lower PD then it doesn't present the typical risk profile that attracts investors. Therefore, they are underpriced relative to the market and have the potential for higher returns.



Backtesting Parameters

Parameter	Screening Criteria	Stock Universe
Equity Float	> 100000	8,725
Current Periodic Enterprise Value	> 2000 Million	1,791
Return on Common Equity	>= S&P 500 Index cap weighted average	100
Price Deviation	< S&P 500 Index cap weighted average	49
1-Month annualized Sharpe Ratio	>= 2	22
12M Net Income Profit/Losses	> 0 Million	22
12M EBIT	> 0 Million	22
12M Free Cash Flow	> 0 Million	22
30-day Annualized Volatility	>= S&P 500 index cap weighted average	9
Top 5 Sequential Rank	Higher is better (current market cap)	5



Backtesting Structure

Sub-Criteria

Criterion	Description
# of Positions	Hold Top 5-6
Weighting Scheme	Market Cap Weighted
Testing Period	10-year, 3-year, 1-year
Rebalance Freq.	Quarterly



Backtesting Results – Stock Characteristics

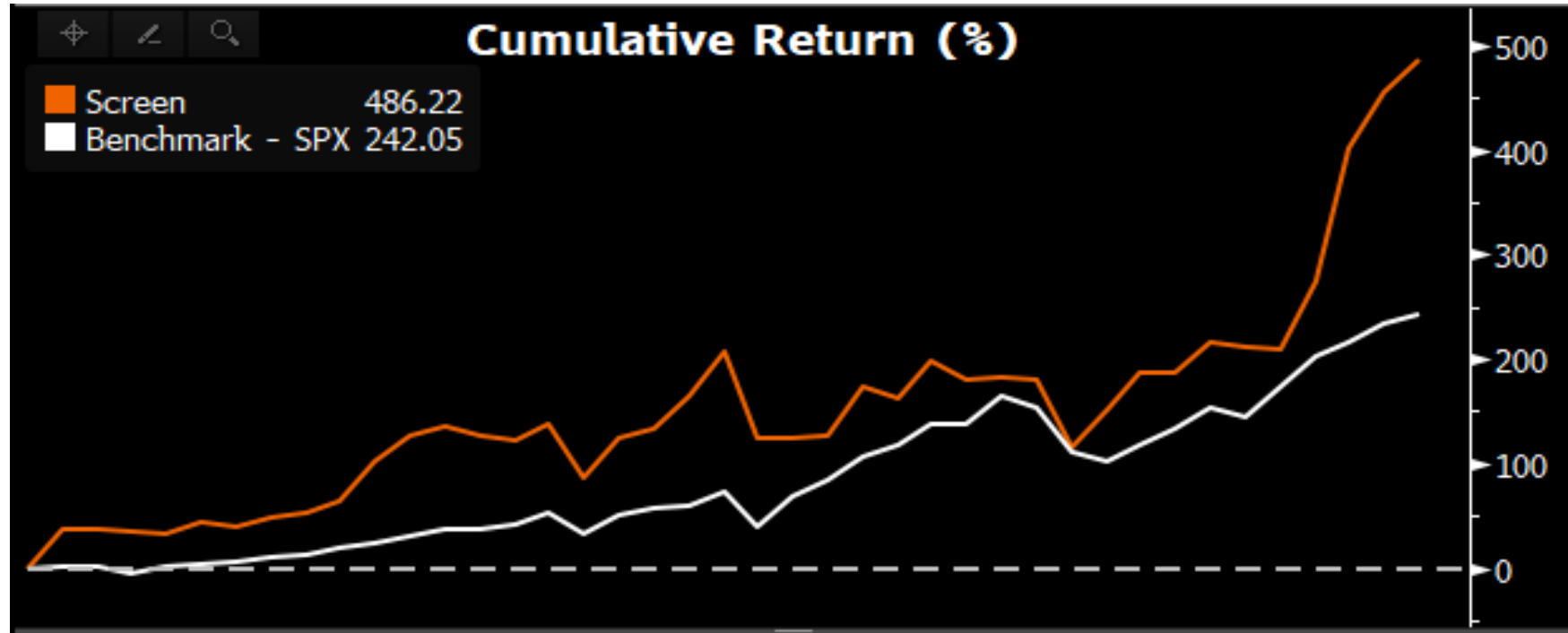
10-Year Analysis	Market Cap (in billion \$)	P/E Ratio	Trade Vol (in thousands)	PPS
Mean	81.7	86.1	13,69	175.05
Min	1.07	28.25	133.9	38.14
25th Percentile	15.3	17.7	5500	23.74
Median	32.8	12.2	1938	166.27
75th Percentile	81.5	47.02	1470	128.94
Max	3229.6	38	53990	216.75

Over 40 Quarters:

- Total unique companies: 98
- Total Companies : 115
- 67.35% (66) appeared once
- 93.7% rebalancing turnover



Backtesting Results – Performance

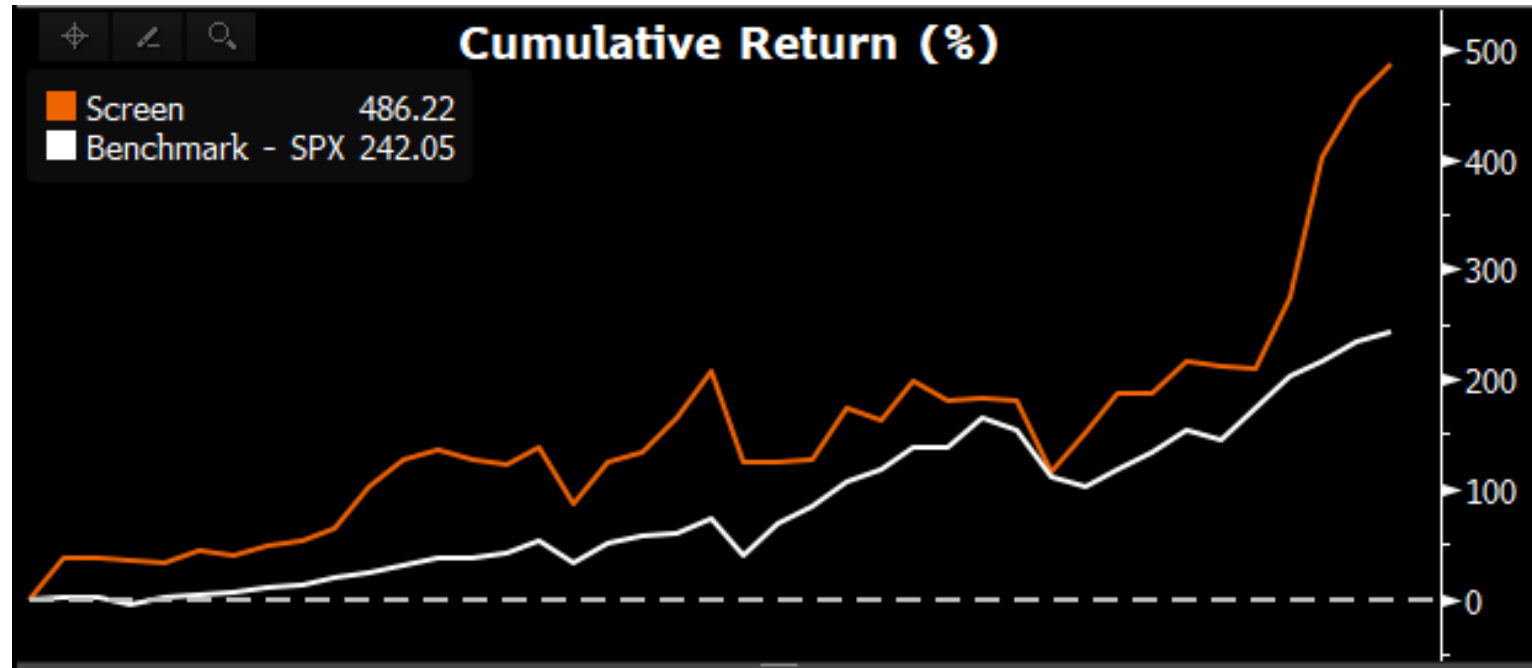


Year	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024*
Return	33.6%	14.8%	54.2%	-21%	64.5%	-11.3%	3.3%	1.7%	7.8%	90.1%
SPY	1.4%	11.9%	21.8%	-4.4%	31.5%	18.4%	28.7%	-18.1%	26.3%	25%

2024* TTM



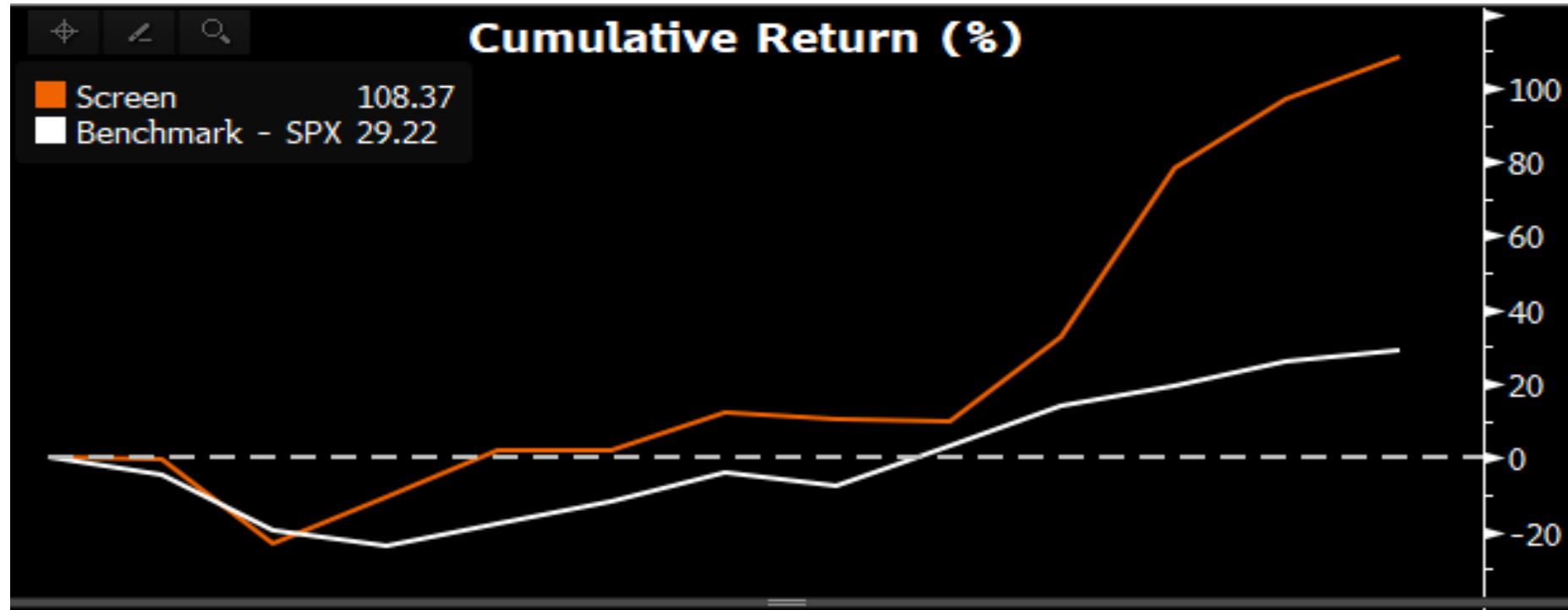
Backtesting Results – Performance



<u>Period</u>	<u>Return</u>	α^*	β^*	σ^*	<u>Max DD*</u>	<u>Sharpe*</u>	<u>Info Ratio*</u>
1yr TD	90.07%	+64.81%	1.49	33.97%	5.75%	2.84	2.08
1yr SPY	25%	-	1.00	17.6%	-8.4%	2.15	-
10yr TD	486.22%	+10.94%	1.01	30.32%	-27.17%	0.78	0.39
10yr SPY	242.05%	-	1.00	16.2%	-38.8%	0.76	-

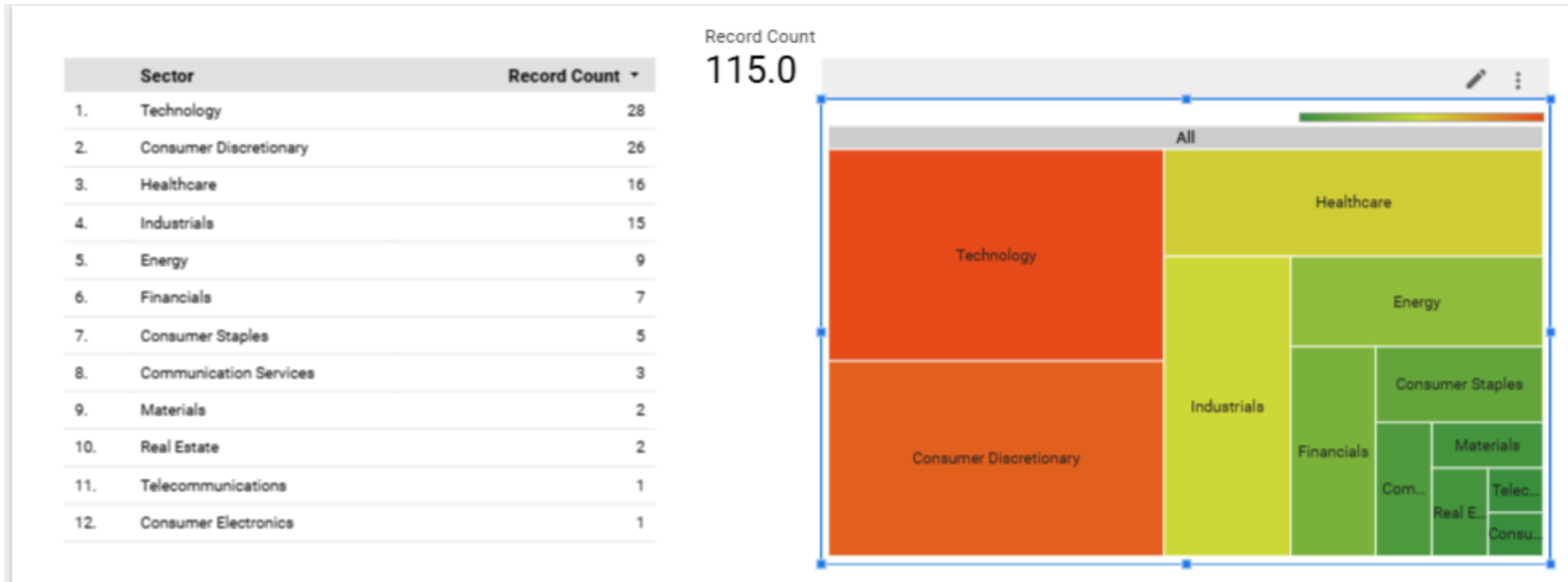


Backtesting Results – 3 Years Performance



Period	Return (C)	α^*	β^*	σ^*	Max DD*	Sharpe*	Correl
3yr TD	108.37%	+28.81%	0.94	31%	-22.81%	1.07	0.53
3yr SPY	29.22%	-	1.00	17.6%	-33.7%	0.36	1.00

Backtesting Results – Sector Analysis-Done



The 10-year correlation was 0.61, and YTD correlation is 0.62.

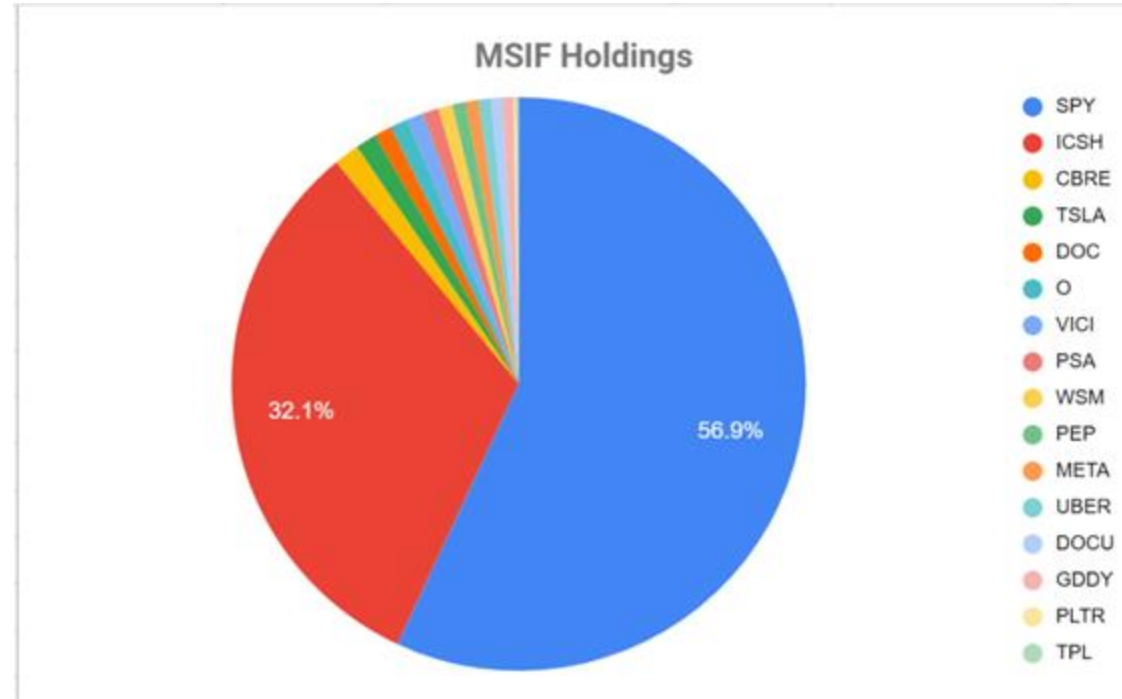
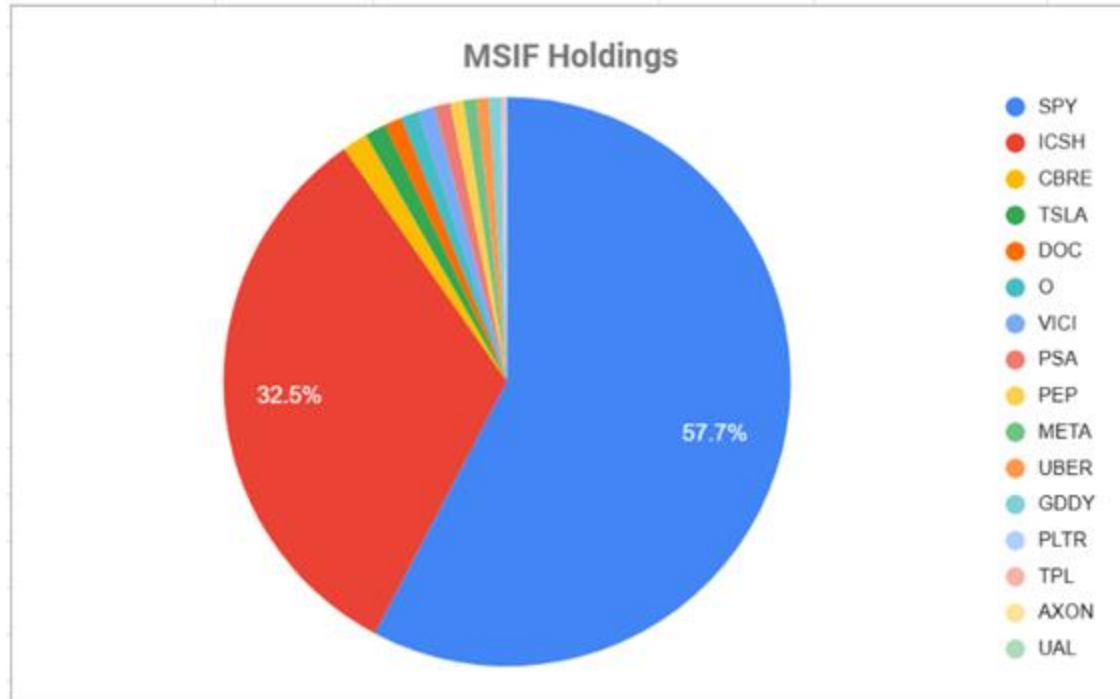


Recommended Action Plan - Purchases

Name	Ticker	P/E Ratio	Trading Volume	Market Cap (In billions)	Share Price	# of Shares	\$ Allocated	Weight
Docusign Inc	DOCU	91.95	22,53,063	\$18.16	\$91.60	68	\$6228.8	44.1%
Williams Sonoma	WSM	25.13	11,76,921	\$22.79	\$213.60	37	\$7903.2	55.9%
Total							\$14,132	100%



Effect on the Portfolio



Portfolio	Exp. Return	St. Dev*	Beta*	Sharpe Ratio*	Idio. Risk*	Info. Ratio*
Existing		6.3%	0.69	-0.14	0.4%	-1.63
Adjusted		6.5%	0.72	-0.13	0.4%	-1.63



Sell Proposal – Performance Comparison

	SPDR S&P 500 ETF Trust (SPY)	iShares Ultra Short-Term Bond Active ETF (ICSH)	LDHR
Date Adopted	1/27/25	1/27/25	TBD
Profile	Large Cap	Fixed-Income	Systematic
% of Overall Fund	57.21%	32.45%	1.5%
\$ Allocated	\$562,372.25	\$317,071.65	\$14,120
Return (10 yr)	239.0%	23.1%	486.22%
β (10 yr)	1.00	0.05	1.01
σ (10 yr)	16.2%	0.8%	30.32%
Sharpe (10 yr)	0.76	0.63	.78

Proposal: Sell off \$14,648 of ICSH ETF, leave SPY as is



Summary & Recommendation

Strategy Merits



- Performance in the SR (Returns, Sharpe)
- Good alphas



- Opportunity cost due to rebalancing (quarterly)

Action Plan



Recommendation: **Invest \$14,648** in LDHR Strategy, rebalancing every quarter



Appendix



Key Terms

Performance Metrics

- **Alpha (α):** Measures a strategy's performance relative to a benchmark. Positive alpha indicates outperformance.
- **Sharpe Ratio:** Risk-adjusted return based on total risk (Return - Risk-Free Rate) / Standard Deviation.
- **Sortino Ratio:** Similar to Sharpe, but only considers downside risk, ignoring positive volatility.
- **Information Ratio:** Measures returns above a benchmark relative to the tracking error.
- **Treynor Ratio:** Risk-adjusted performance based on beta (Return - Risk-Free Rate) / Beta.

Parameters

- **Market Cap:** Total value of a company's shares (Share Price \times Total Shares Outstanding).
- **P/E Ratio:** Price-to-Earnings Ratio. Measures how much investors pay per dollar of earnings.
- **Rebalance:** Adjusting portfolio holdings to match the desired allocation (e.g., quarterly).

Risk Measures

- **Beta (β):** Measures sensitivity to market movements. A beta of 1 means the stock moves with the market.
- **Idiosyncratic Risk:** Risk unique to a specific asset, not due to market movements (e.g., company-specific events).
- **Systematic Risk:** Market-wide risk that affects all securities (e.g., interest rate changes).
- **Standard Deviation (σ):** Measures volatility by showing how much returns deviate from the average.
- **Max Drawdown:** The maximum observed loss from peak to trough during a specific period.
- **SML (Small Minus Large):** Measures the excess return of small-cap stocks over large-cap stocks.
- **HMB (High Minus Low):** Measures the excess return of high book-to-market stocks over low book-to-market stocks.

