Bertram Solutions LLC
1525 4th Street
Kirkland, WA 98033
(425) 616-2755
http://www.bertram.solutions
info@bertram.solutions

Travis Cook

RIDGELINE ASSET MANAGEMENT
5 Cowboys Way, Suite 300
Frisco, TX 75034

tcook@ridgelineam.com

Kirkland, October 29, 2024

Hello Travis,

Please find our latest research report attached.

Thank you,
Best regards.

Felix Bertram

Introduction

In a previous report, we described the successful implementation of *ESG on the Loose*, an adaption of *TuringTrader's Stocks on the Loose* strategy to trade stocks from an ESG universe. In this report, we are expanding upon that by adapting *Quick Change* and *Easy Peasy* to trade ESG assets. This is required, so that we can create an ESG-aware meta strategy.

Further, we are looking to implement an aggressive trend-following strategy trading AI assets, as a thematic add-on to existing portfolios.

ESG Strategies

Mean-Reversion

TuringTrader's Quick Change strategy is a mean-reversion strategy that aims to by stocks after temporary pullbacks. Unlike other mean-reversion strategies, *Quick Change* aims to hold on to its assets, as long as certain performance and stop-loss criteria are met.

To adapt the strategy to use our ESG-aware universe, we first had to migrate the existing code to *TuringTrader*'s v2 simulation engine. This is because a previous version of *Norgate*'s API, as used in the v1 engine, seems to have bugs related to the ESG universe.

We have been able to migrate the strategy code without much trouble. However, we observed some deviations in performance when comparing the v1 and the v2 results. Upon further inspection, we found that the assumed trading commissions were to blame for this. While the v1 code assumed $0.015 per share traded, the v2 code assumes 0.05% of the order value. The latter scheme is preferred, because it performs consistently in the light of stock splits, or the use of synthetic asset backfills.

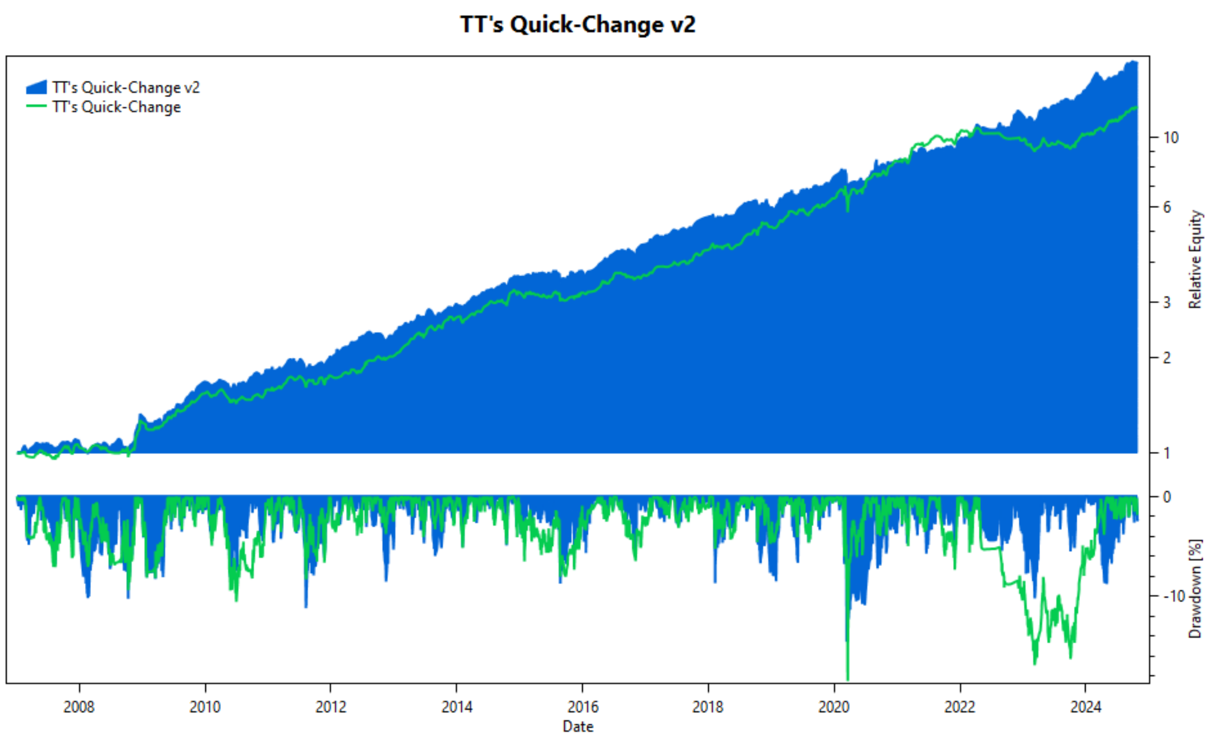
After sorting this out, we progressed to replacing the strategy's universe. Unfortunately, we found that the strategy was highly dependent on the universe, and no longer performed in acceptable ways. To remedy this, we re-optimized the strategy's parameter set for the original S&P-100 universe:

Parameter	**Description**	**Value v1**	**Value v2**
MKT_FLT_RNK	Percentage rank of weekly SPX price versus prices in past 52 weeks. Used as market filter.	15	10
RSI_ENTRY	Entry condition: RSI value (weekly RSI(2))	30	20
DOWN_LB		5	n/a
DOWN_STREAK	Entry condition: length of down-streak (weekly)	1	2
VOL_LB	Volatility lookback (weeks)	47	26
NUM_POS	Max number of positions to hold	6	5
ENTRY_HOLDOFF	Entry condition: holdoff since hitting a stop exit	28	28
PRE_FLT	Pre-filter of entry	8	10

	candidates: consider NUM_POS * PRE_FLT assets		
TRAIL_STOP	Stop condition: exit when asset price hits percentage of peak	95	85
PERF_STOP	Stop condition: exit when asset price hits percentage of target price	95	85
PERF_STOP_ADJ	Stop condition: annual return to calculate target price	15	25
TRADE_RISK		400	400

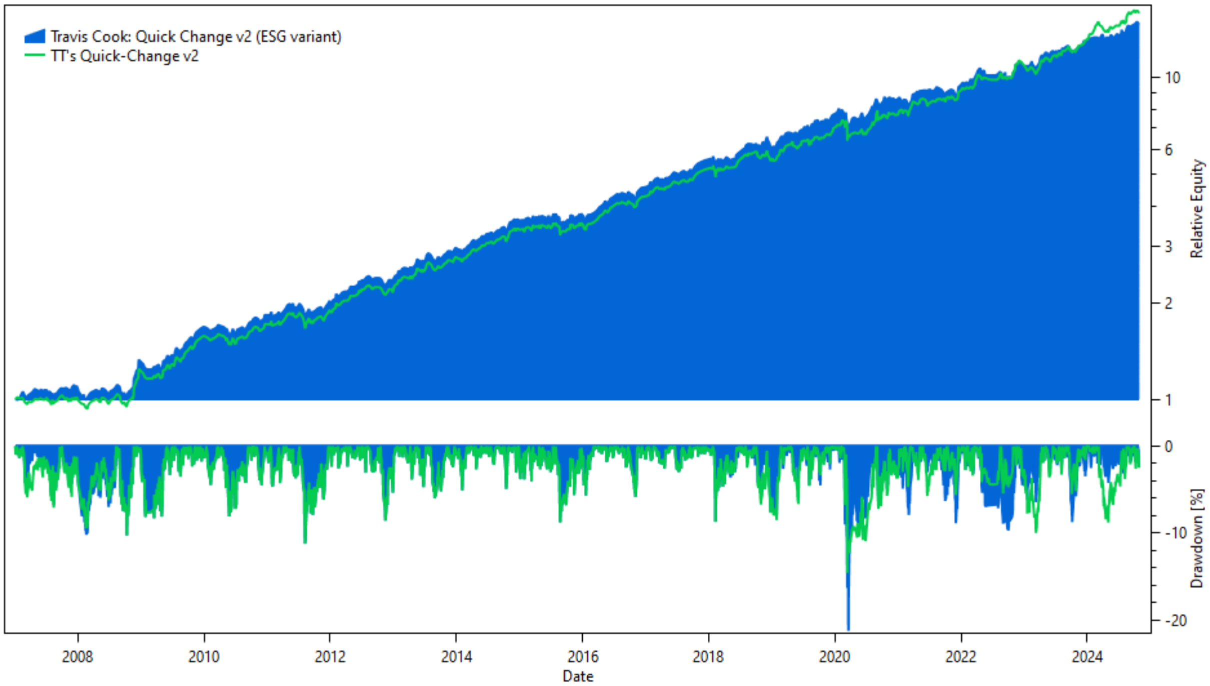
We can summarize these changes as follows:

- *Quick-Change* v2 requires a higher degree of asset weakness before entering new positions. This is reflected in the much lower *RSI_ENTRY* value for new entries.
- *Quick-Change* v2 has much higher annual returns targets, as reflected in the *PERF_STOP_ADJ* parameter. This results in v2 exiting assets more frequently for not hitting these performance targets
- *Quick-Change* v2 has more relaxed stop parameters, as reflected in the *TRAIL_STOP* and *PERF_STOP* parameters. As a result, v2 gives stocks a bit more time to develop before exiting.



The results of these changes are profound. As the chart above shows, v2 provides significantly steadier returns, significantly reducing the slumps the v1 strategy had in 2015, and 2022.

Travis Cook: Quick Change v2 (ESG variant)



With these changes in place, we adapted the strategy to use the ESG universe without making any additional adjustments. The chart above shows how the performance is virtually identical.

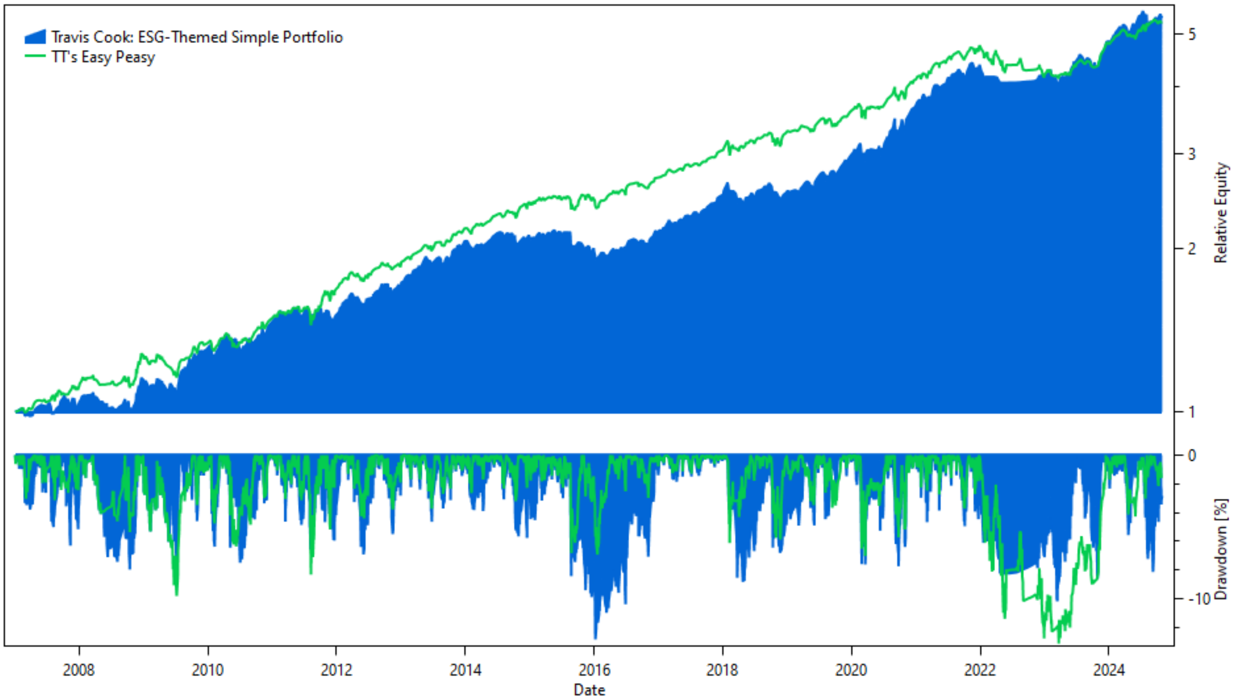
This new strategy is accessible via https://www.turingtrader.com/priv-cook-quick-change-esg/

Trend-Following

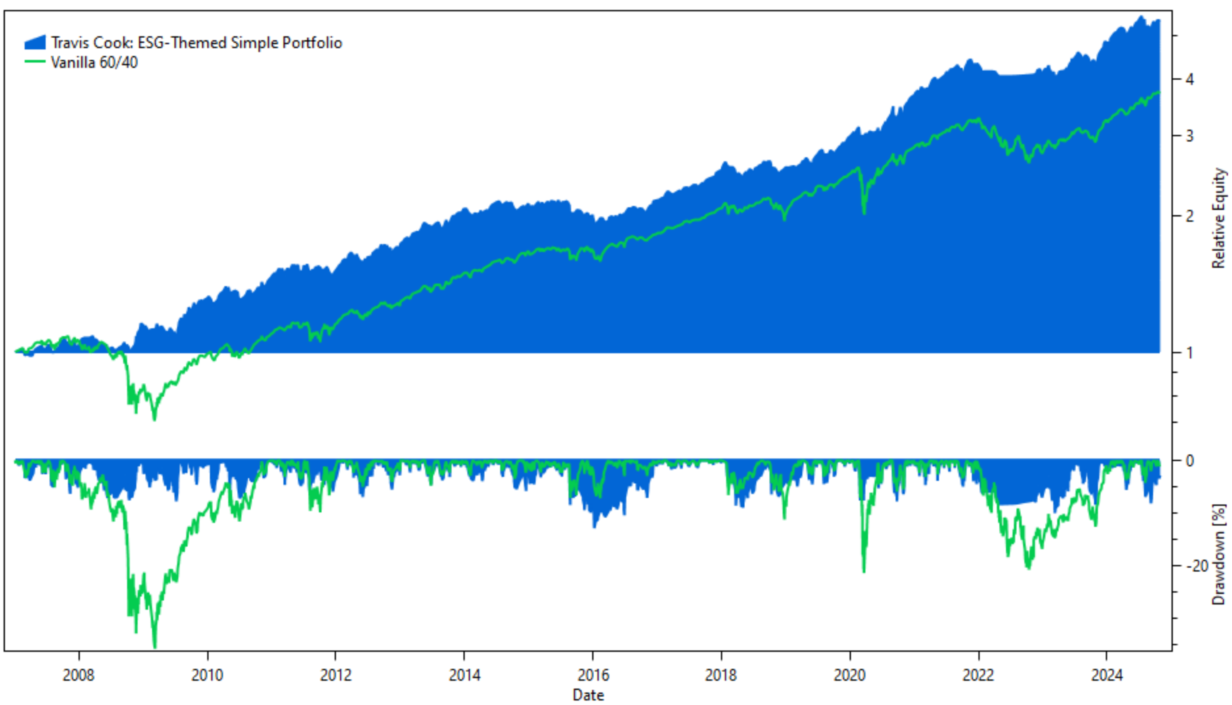
As a third ESG-themed strategy, we implemented a simple trend following strategy based on our *Risk-Aware Trend Following* concept, where correlations to common risk factors including yield spreads, industry sector dispersion, unemployment claims, and breakeven inflation rates are used to size positions, while entries and exits are solely driven by price action.

The strategy can be summarized as follows:

- Invest up to 80% in ESGV, Vanguard's ESG index of US stocks, based on trend-following and risk-based position-sizing
- Use SPY as an alternative asset, if ESGV indicates bearish conditions. Use the same mechanism for trend-following and position-sizing as before.
- Invest any remaining capital in IEF or BIL, based on *Heine's Bond Model*.



Looking at the equity chart, it becomes immediately clear that *Easy Peasy* outperforms the ESG-themed strategy. However, if ESG-aware investing is the goal, we still recommend the new strategy over using *Easy Peasy*'s SPY-based rules to trade ESGV. It is also worth noting that, after a slump in 2015, the ESG-themed strategy has done a great job in catching up to *Easy Peasy*, effectively outperforming it over the past 8 years.



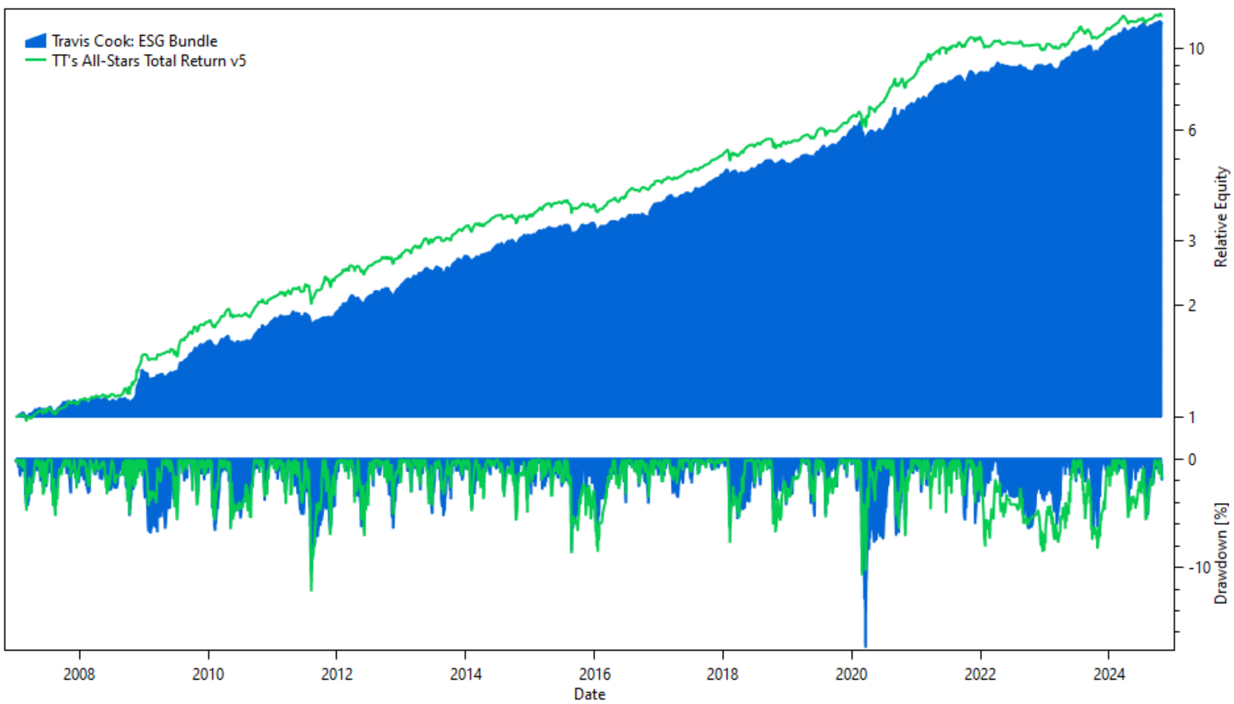
A comparison between the strategy and a 60/40 shows that the strategy adds significant value by outperforming the benchmark at a lower risk level.

This new strategy is available at https://www.turingtrader.com/portfolios/priv-cook-simple-esg/

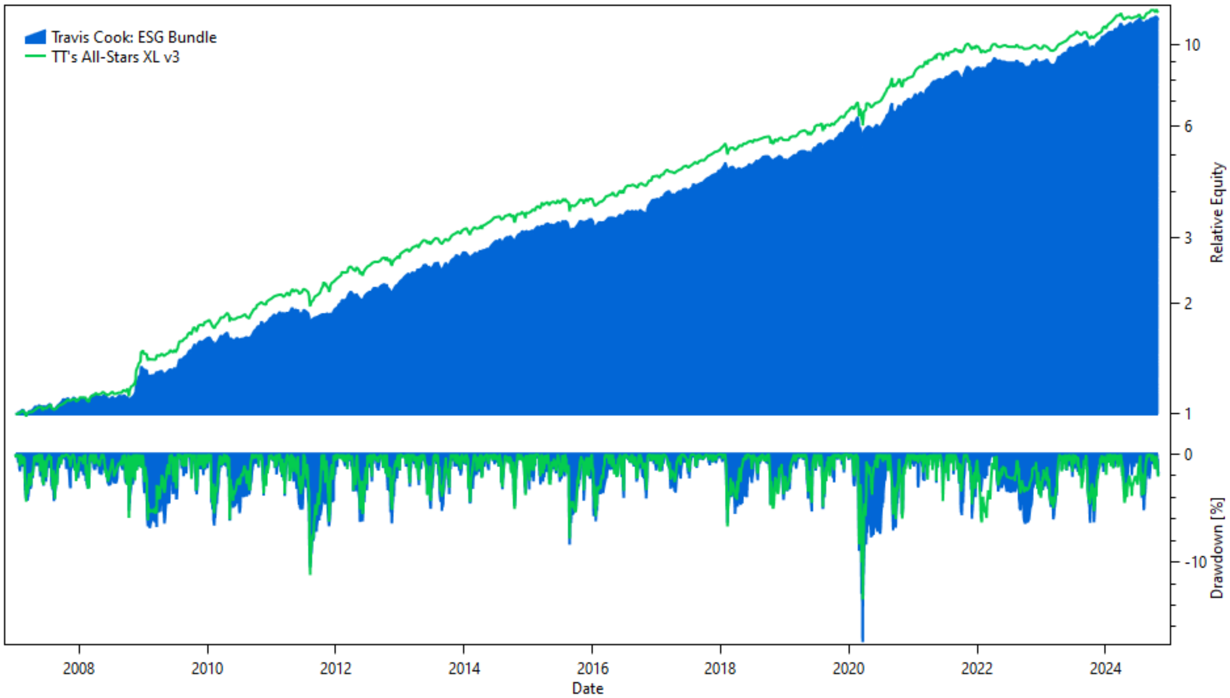
Meta Portfolio

With the three ESG-aware strategies in place, we create a meta portfolio as follows:

- 33% *ESG on the Loose*
- 33% *Quick-Change v2 (ESG Variant)*
- 33% *ESG-Themed Simple Portfolio*



The chart above compares the ESG-themed meta portfolio versus *TuringTrader*'s *All-Stars Total Return v5*. Without doubt, the ESG-themed portfolio is preferred. This is mostly owed to the performance of *Quick-Change v2*, which has much preferred behavior over *Mean Kitty*. In contrast, *All-Stars Total Return* uses ETF-based strategies to limit the portfolio's minimal capital requirements.

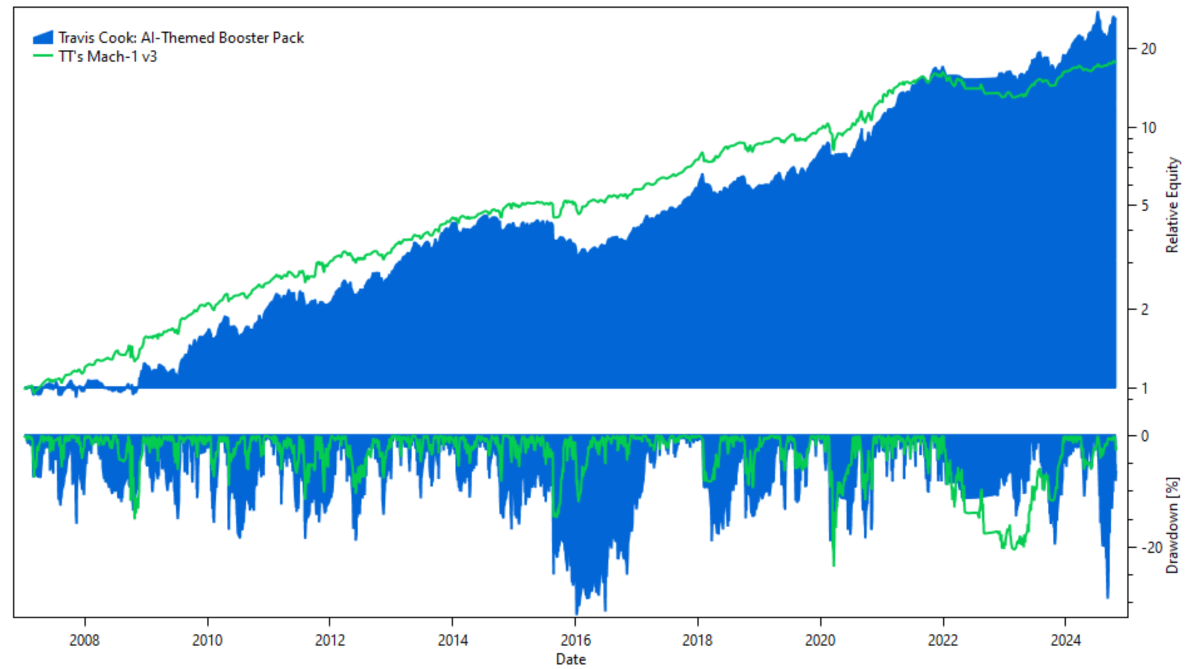


For a better comparison, we benchmarked the ESG-themed meta portfolio versus *All-Stars XL*. We find that the ESG-themed portfolio of three strategies can rival the benchmark of six with similar performance and only slightly elevated risk.

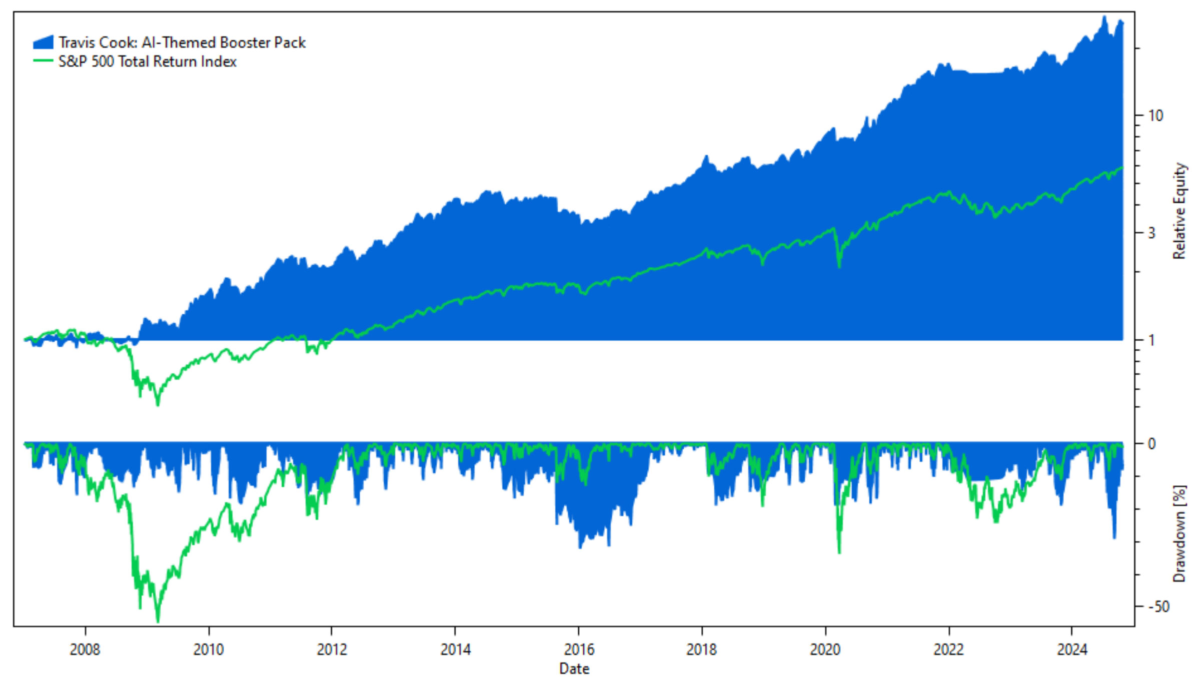
AI-Themed Strategy

For investors seeking to slightly tilt their portfolio toward AI-themed stocks, we developed a trend-following strategy trading the 2x leveraged AIBU ETF. The strategy operation can be summarized as follows:

- Trade AIBU using our *Risk-Aware Trend-Following* approach.
- When AIBU is bearish, trade SPY using the same *Risk-Aware Trend-Following* approach.
- Invest any remaining capital in UST or BIL, based on *Heine's Bond Model*



The chart above shows the AI-themed strategy benchmarked against *TuringTrader's Mach-1*. While the performance is about on-par, the AI-themed strategy offers significantly lower volatility.



Benchmarked against an investment in the S&P 500, the strategy clearly outperforms at typically lower drawdowns, despite a notable slump in 2015. More research is required to further smoothen the equity curve.

This new strategy is available at https://www.turingtrader.com/portfolios/priv-cook-booster-ai/