The Chartist

Systematic Portfolios – A Guidebook

2023 Edition

Next 1000 trades.

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Introduction

An investment or trading strategy refers to a plan of action, like a road map, designed to achieve a particular goal, obviously in our context, profitability. However, here at The Chartist, our plan is more than just generating a profit. It involves an element of research, an understanding of the required mathematical edge, some kind of entry trigger, an exit criteria and ongoing position management criteria.

We use a systematic approach.

A system encompasses a set of rules that can be hard wired into a computer and by doing so allows us to 'back-test' the strategy on historical data. If done correctly, we can gain valuable insights into not only the viability of the strategy, but also how the journey to profitability is made.

Using a systematic approach to buy, sell and manage positions ensures nothing is left to chance, specifically leaving our emotions out of the decision-making processes, especially during critical points of market activity or personal performance. Understanding what the strategy can and can't do before it's applied with real money can remove a significant amount of angst for investors. The benefits for a systematic approach include:

1. A map of how the strategy has performed in the past and therefore a better indication of how it may perform in the future.

2. An understanding of what the strategy can and can't do, as well as understanding what the journey to successful implementation entails.

3. Removal of much of the emotion from the decision-making process

4. Set guidelines which enable the strategy to be replicated in the future without discretion or deviation.

5. Time each day to implement tends to be lower as the computer will usually spit out the required orders and automatically manage positions.

"What makes a good strategy?" isn't as straightforward as we'd like to think. There are three core tenets to measuring performance – the three "R's" if you like:

Return

Risk

Reliability

Ideally, we want a strategy that makes an exceptional return, has minimal risk, has minimal volatility, is easily implemented and is robust enough to be useful in the future.

Easier said than done. Some of these factors don't go hand-in-hand, indeed some totally oppose each other.

We will attempt to address each of the three "R's" here and will focus on:

Compound Annual Growth Rate (CAGR)

The CAGR is a pro forma number that tells you what an investment yields on an annually compounded basis. It essentially provides a 'smoothed' rate of return. Whilst CAGR is the best measure to compare two investments it does not necessarily compare the inherent risks of those two investments. As investment returns tend to be volatile using a smoothed annual return can show an illusion of a steady rate of return when in fact the truth could be quite different.

Market Exposure

This measures how often the investor will be invested or exposed to the market during any given period of time. A buy and hold investor will have 100% exposure and therefore be required to endure all market events, both good and bad, during the investment period. The goal of an active investor is to be exposed to positive market events, such as bull markets and less to negative market events, such as bear markets. An investor with a 50% market exposure that achieves the same return of an investor with a 100% exposure is using capital a lot more conservatively.

Maximum Drawdown (maxDD)

Maximum Drawdown measures the maximum depth of an equity peak to an equity trough. If account capital falls from $100,000 to $80,000 at any time during the investment period, the drawdown is -20%. If this is the largest percentage decline in equity, then we define it as the Maximum Drawdown. Any strategy will have equity declines of some degree during its life. When simulating strategies, we need to be cognizant of not only how bad that equity decline could get but also how long it takes for the strategy to recover. In the ideal situation we'd like equity declines to be minimal and recovery quick.

Win/Loss Ratio

Sometimes known as the Payoff Ratio it's calculated by dividing the average win by the average loss. As a rule of thumb, the longer term the holding period, the higher the W/L Ratio. A trend follower would ideally want to have a ratio exceeding 2.0. A shorter-term trader would more likely have a ratio closer to 1.0

MAR[1] Ratio

Perhaps the easiest risk adjusted performance measure for the layman is dividing the Compounded Annual Growth Return (CAGR) by the Maximum Drawdown (maxDD). This ratio offers a more robust guide to risk adjusted return. Using Commonwealth Bank (CBA) as an example, it has a 10-year annualized return of 11.8%[2] yet during the GFC its share price dropped from $61.87 to a dividend adjusted low of $27.82, or -55%. Its CAR/maxDD is therefore 0.21. The higher this ratio the better and a reading over 0.50 is good and over 1.0 is considered excellent.

Sharpe Ratio[3]

The Sharpe ratio is a risk-adjusted measure of return that is often used to evaluate the performance of a portfolio. The ratio attempts to compare the performance of one portfolio to another portfolio by making an adjustment for risk. The Sharpe

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[1] Developed by Managed Account Reports. Source: www.marhedge.com

[2] Source: Huntleys' Investment Information Pty. Limited

[3] Developed by William Forsyth Sharpe in 1966 and revised in 1994

ratio is calculated by subtracting the risk-free rate - such as Australian 90-day Bank Bill Rate - from the portfolio return and dividing the result by the standard deviation of the annualized returns.

For example, if Strategy-A returns 20% while Strategy-B returns 15%, it would appear that Strategy-A is the better choice. However, if Strategy-A takes larger risks and has higher volatility than Strategy-B, then Strategy-B will be shown to have a better risk-adjusted return.

Backtesting Considerations

All backtest data in the following pages starts in January 2005.

All data include dividends and commissions.

Backtests assume starting capital of $100,000

Full strategy descriptions and implementation guidelines can be found within the specific portfolio areas in the Member secure area.

SECTION 1 – INDIVIDUAL PORTFOLIOS

Growth Portfolio

The Growth Portfolio is an intermediate-term (6 – 8 months) active investment strategy that attempts to keep users fully invested when the market is rising and automatically revert to cash during sustained bearish markets such as witnessed during the GFC.

The strategy is systematic meaning that it does not rely on human opinion or any type of discretionary analysis. It derives its buy and sell signals using non-disclosed mathematical algorithms which have been tested over many years of data and market conditions.

Whilst the exact rules of the Growth Portfolio are non-disclosed, the strategy is loosely based on the Bollinger Band Breakout strategy discussed on page 118 of Unholy Grails. This book provides a strong foundation for this style of active investing and is recommended reading for all users.

Members have two strategy choices, the Growth Portfolio v2.0 and the Growth Portfolio Defensive.

v2.0 uses our traditional trailing stop allowing the stock price room to move during broader bullish market conditions, yet tightening up to protect profits when the broader market trend reverses. The Defensive also uses our traditional trailing stop mechanism. However, the Defensive will exit all positions immediately when the broader market trend reverses.

Growth Portfolio v2.0

Summary Statistics

	Benchmark*	GP_V2
Periods	4,626	4,626
NetProfit	$122,239	$2,598,186
Comp	True	True
ROR	4.47%	19.75%
MaxDD	-62.52%	-20.64%
Trades	1	474
PctWins	100.00%	46.84%
AvgWin	127.55%	28.27%
AvgLoss	0.00%	10.12%
WinLen	4,624.00	102.85
LossLen	0.00	37.75
Expectancy	127.55%	7.86%
ProfitFactor	0.00	1.97
MAR	0.07	0.96
Sharpe	0.34	1.22
SelBias	0.00%	0.00%
AvgExp	99.96%	70.56%
MaxExp	100.00%	100.00%
AvgUse	99.98%	70.63%
MaxUse	100.00%	100.00%

Growth Portfolio v2.0 Equity Growth

Growth Portfolio v2.0 Underwater Equity
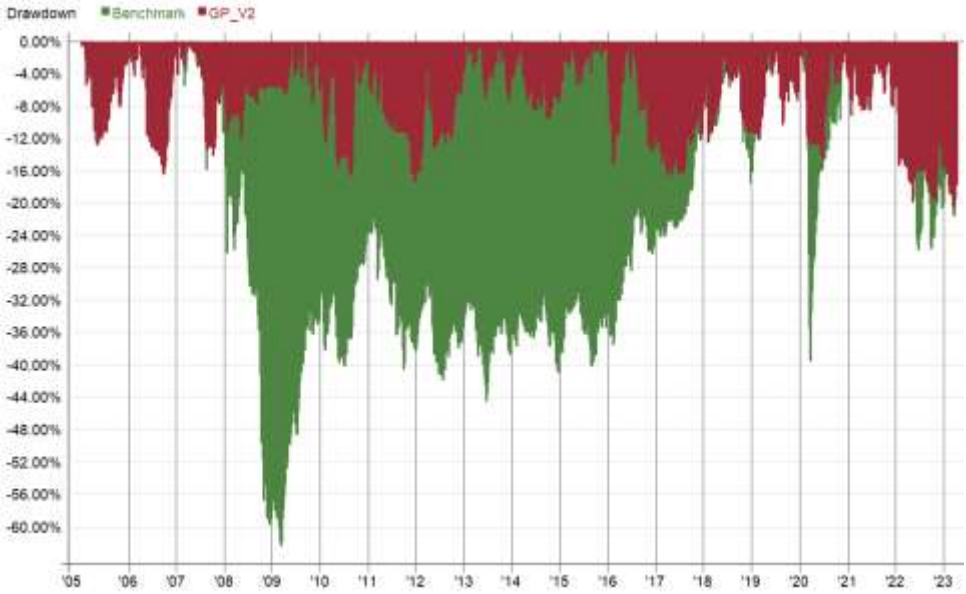
Growth Portfolio v2.0 Monthly Summary

YEAR	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	TOTAL	MaxDD
2005	5.0%	-2.0%	-3.9%	-3.4%	-1.7%	3.2%	0.3%	3.6%	5.2%	-4.8%	6.9%	12.8%	21.8%	-13.0%
2006	4.8%	6.6%	15.6%	-3.2%	-4.5%	-2.0%	-0.9%	-0.1%	-1.8%	8.2%	4.5%	7.0%	37.6%	-16.7%
2007	5.0%	5.0%	4.5%	6.0%	6.0%	9.3%	-1.5%	-8.4%	1.4%	6.5%	0.6%	3.7%	43.8%	-14.3%
2008	-8.3%	1.3%	-0.1%	-0.1%	3.5%	4.0%	-4.5%	-0.7%	1.7%	0.1%	-0.2%	0.0%	-3.8%	-10.2%
2009	0.0%	0.0%	0.6%	0.1%	7.2%	0.5%	7.9%	4.9%	11.1%	-0.7%	9.4%	-2.3%	44.8%	-7.8%
2010	-5.8%	1.1%	5.0%	0.4%	-9.1%	0.9%	-0.7%	-1.1%	19.4%	-5.0%	2.2%	13.0%	18.7%	-16.8%
2011	-5.1%	7.0%	3.1%	-6.4%	2.8%	-4.5%	0.2%	-1.2%	0.0%	0.1%	-4.9%	-1.1%	-10.3%	-17.5%
2012	1.0%	8.9%	8.8%	-4.9%	-7.3%	1.4%	0.3%	-0.5%	0.2%	6.3%	-1.4%	3.6%	16.1%	-13.3%
2013	5.7%	4.1%	1.2%	6.9%	-1.5%	-0.6%	0.5%	2.5%	5.0%	6.4%	-3.6%	4.7%	35.3%	-7.5%
2014	-1.1%	3.5%	3.5%	-3.3%	2.2%	-2.1%	0.8%	2.6%	-4.9%	2.0%	1.0%	0.2%	4.0%	-9.7%
2015	7.9%	0.3%	0.8%	-0.2%	-0.7%	1.0%	2.1%	2.2%	0.9%	3.8%	3.9%	12.1%	39.1%	-5.6%
2016	-6.9%	-4.9%	4.0%	4.6%	8.4%	6.8%	17.0%	-5.1%	0.1%	-3.9%	-3.7%	2.0%	17.0%	-13.8%
2017	-0.6%	-0.8%	-3.5%	1.0%	1.9%	-2.9%	0.5%	7.1%	-2.1%	1.8%	1.8%	0.4%	4.0%	-6.7%
2018	3.9%	-2.7%	-1.3%	0.8%	11.9%	4.6%	-0.9%	5.1%	3.8%	-8.4%	-1.4%	0.0%	14.7%	-11.4%
2019	0.0%	-0.7%	5.1%	9.2%	2.0%	2.5%	4.3%	-6.4%	4.6%	2.7%	-2.1%	2.2%	25.1%	-10.4%
2020	7.7%	-8.7%	-1.9%	0.0%	-0.2%	-0.3%	9.1%	7.3%	6.3%	-0.0%	9.7%	0.8%	32.2%	-14.8%
2021	2.9%	11.0%	-5.5%	4.1%	-2.2%	2.4%	2.5%	3.8%	7.5%	2.7%	7.8%	15.6%	64.4%	-8.3%
2022	-12.9%	0.2%	-1.1%	1.7%	-2.5%	0.2%	0.0%	-0.8%	-2.8%	-0.3%	8.4%	-2.6%	-12.9%	-20.1%
2023	-1.6%	-2.5%	-0.5%	5.4%	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0.5%	-6.6%

Growth Portfolio Defensive

Summary Statistics

	Benchmark*	GP_Defensive
Periods	4,626	4,626
NetProfit	$122,239	$1,392,032
Comp	True	True
ROR	4.47%	15.93%
MaxDD	-62.52%	-15.57%
Trades	1	772
PctWins	100.00%	48.32%
AvgWin	127.55%	15.28%
AvgLoss	0.00%	6.79%
WinLen	4,624.00	36.24
LossLen	0.00	16.74
Expectancy	127.55%	3.88%
ProfitFactor	0.00	1.87
MAR	0.07	1.02
Sharpe	0.34	1.14
SelBias	0.00%	0.00%
AvgExp	99.96%	44.03%
MaxExp	100.00%	100.00%
AvgUse	99.98%	44.06%
MaxUse	100.00%	100.00%

Growth Portfolio Defensive Equity Growth

Growth Portfolio Defensive Underwater Equity
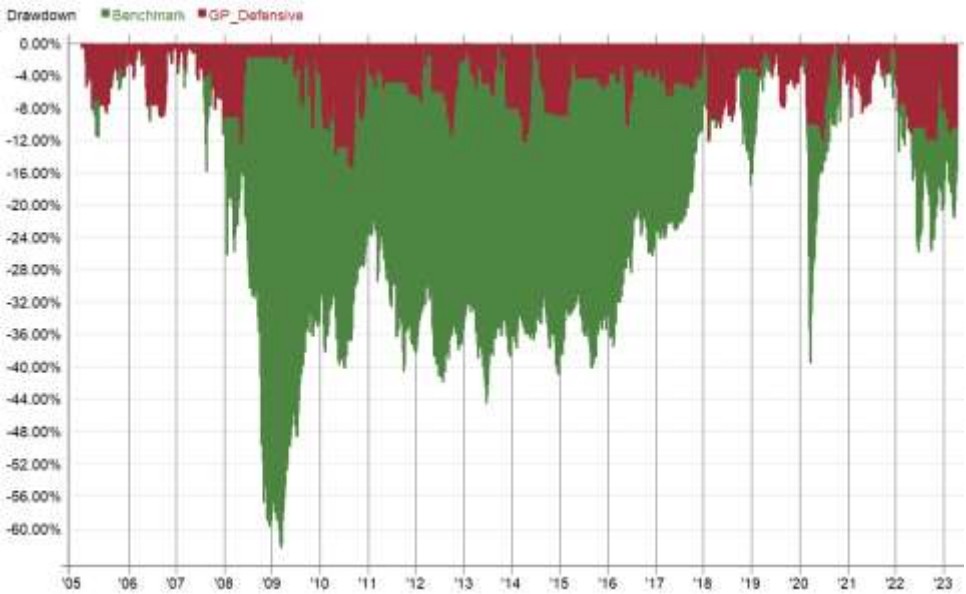
Growth Portfolio Defensive Monthly Summary

YEAR	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	TOTAL	MaxDD
2005	5.0%	-2.0%	-3.4%	-0.1%	-0.7%	0.8%	0.2%	2.1%	4.7%	-2.3%	-0.6%	11.5%	15.4%	-8.9%
2006	-0.0%	3.1%	11.3%	3.0%	0.2%	-0.1%	0.0%	-1.6%	1.0%	14.5%	3.4%	8.6%	51.3%	-9.3%
2007	-0.0%	5.6%	4.4%	7.3%	4.9%	-0.8%	-3.5%	0.1%	-0.4%	4.3%	-2.4%	-3.6%	16.3%	-9.3%
2008	0.0%	0.0%	0.0%	-0.2%	6.3%	2.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	8.2%	-4.7%
2009	0.0%	0.0%	0.6%	0.1%	7.2%	0.5%	-1.1%	1.7%	14.3%	-4.5%	8.5%	-1.8%	26.9%	-10.7%
2010	-7.0%	-0.2%	0.9%	-2.0%	-1.6%	0.0%	0.0%	-2.6%	14.7%	-2.6%	2.5%	12.4%	13.2%	-13.0%
2011	-1.5%	0.7%	4.7%	-2.3%	0.8%	0.0%	0.0%	0.0%	0.0%	-0.6%	-1.0%	-0.1%	0.4%	-6.7%
2012	0.5%	6.4%	6.6%	1.2%	-4.9%	0.0%	0.0%	-2.7%	-2.0%	6.7%	2.4%	0.2%	14.5%	-11.6%
2013	8.5%	4.4%	-0.4%	0.2%	-2.2%	0.0%	-1.3%	3.3%	6.5%	7.9%	-3.3%	0.2%	25.5%	-8.3%
2014	-1.0%	0.4%	-3.6%	-0.2%	11.6%	8.5%	0.7%	-3.1%	-3.6%	0.0%	-0.3%	0.9%	9.6%	-9.1%
2015	-0.2%	4.8%	3.7%	-2.2%	-1.3%	0.0%	0.0%	-0.0%	0.0%	-0.9%	-0.1%	2.2%	6.0%	-6.0%
2016	-0.6%	0.0%	0.9%	4.7%	-7.6%	5.3%	5.5%	2.4%	-0.4%	0.0%	-0.8%	1.5%	10.8%	-10.3%
2017	-0.8%	0.9%	-3.5%	1.0%	0.3%	-0.1%	0.1%	0.1%	-1.0%	2.5%	0.6%	4.8%	4.7%	-5.2%
2018	2.7%	-6.8%	-0.3%	0.0%	1.5%	3.0%	-2.6%	6.9%	-2.0%	0.3%	0.0%	0.0%	2.2%	-12.0%
2019	0.0%	-0.7%	5.1%	9.2%	2.0%	2.5%	4.3%	-5.8%	5.6%	-1.2%	0.4%	0.6%	23.4%	-8.2%
2020	5.9%	-8.4%	0.0%	0.0%	-0.2%	-0.3%	9.1%	7.3%	9.5%	-3.7%	9.7%	-0.3%	30.3%	-12.1%
2021	2.5%	19.8%	-3.2%	2.1%	-3.2%	3.8%	2.1%	5.8%	2.0%	1.0%	2.6%	11.0%	54.6%	-8.9%
2022	-5.1%	0.0%	-1.7%	-1.7%	0.0%	0.0%	0.0%	-0.8%	-0.7%	0.0%	7.9%	-2.8%	-5.2%	-12.2%
2023	-1.7%	-1.6%	0.2%	4.1%	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0.9%	-3.9%

ASX Momentum Portfolio

The ASX Momentum Portfolio is an active investment strategy that attempts to keep users fully invested when the market is rising and automatically revert to cash during sustained bearish markets such as witnessed during the GFC.

The strategy is systematic meaning that it does not rely on human opinion or any type of discretionary analysis. It derives its buy and sell signals using non-disclosed mathematical algorithms which have been tested over many years of data and market conditions.

Whilst the exact rules of the ASX Momentum Portfolio are non-disclosed, the strategy is loosely based on the principles outlined by various academic research papers and authors such as Mebane Faber, Gary Antonacci and Andreas Clenow. The concept of momentum is now a widely studied phenomenon across the academic world.

The ASX Momentum Portfolio is a 'long beta' strategy meaning that it is designed to profit during upward market environments and defend capital during downward environments. To generate above-market returns using the ASX Momentum Portfolio, it is recommended the user apply the strategy for a minimum of 3 years to gain exposure to a full investment cycle.

ASX Momentum Portfolio Summary Statistics

	Benchmark*	ASX_Momentum
Periods	4,626	4,626
NetProfit	$300,450	$2,880,894
Comp	True	True
ROR	7.88%	20.41%
MaxDD	-48.21%	-29.05%
Trades	1	236
PctWins	100.00%	65.68%
AvgWin	314.31%	17.04%
AvgLoss	0.00%	8.74%
WinLen	4,624.00	76.12
LossLen	0.00	46.48
Expectancy	314.31%	8.19%
ProfitFactor	0.00	2.36
MAR	0.16	0.70
Sharpe	0.54	0.98
SelBias	0.00%	0.00%
AvgExp	99.96%	67.36%
MaxExp	100.00%	100.00%
AvgUse	99.98%	67.38%
MaxUse	100.00%	100.00%

ASX Momentum Portfolio Equity Growth
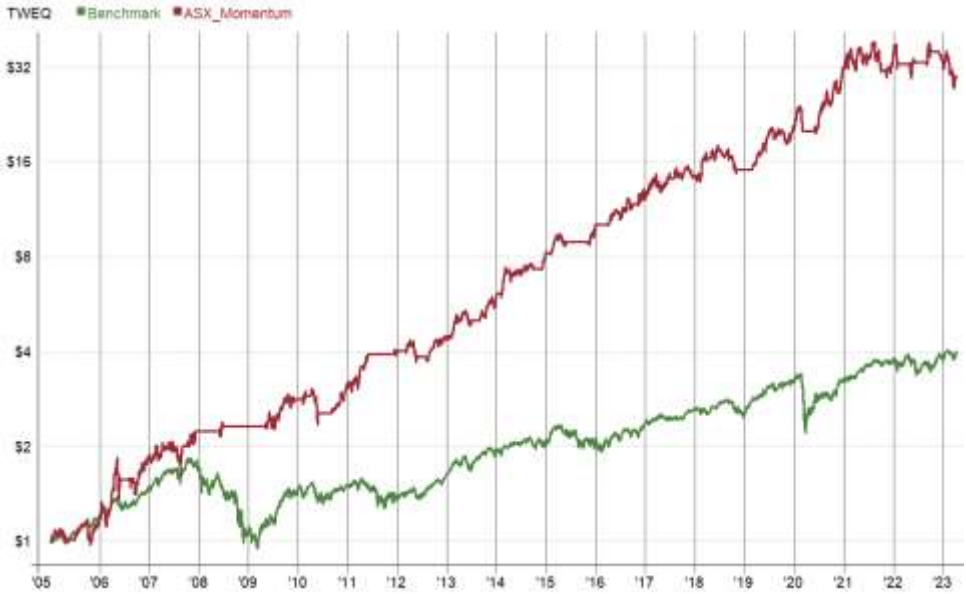
ASX Momentum Portfolio Underwater Equity
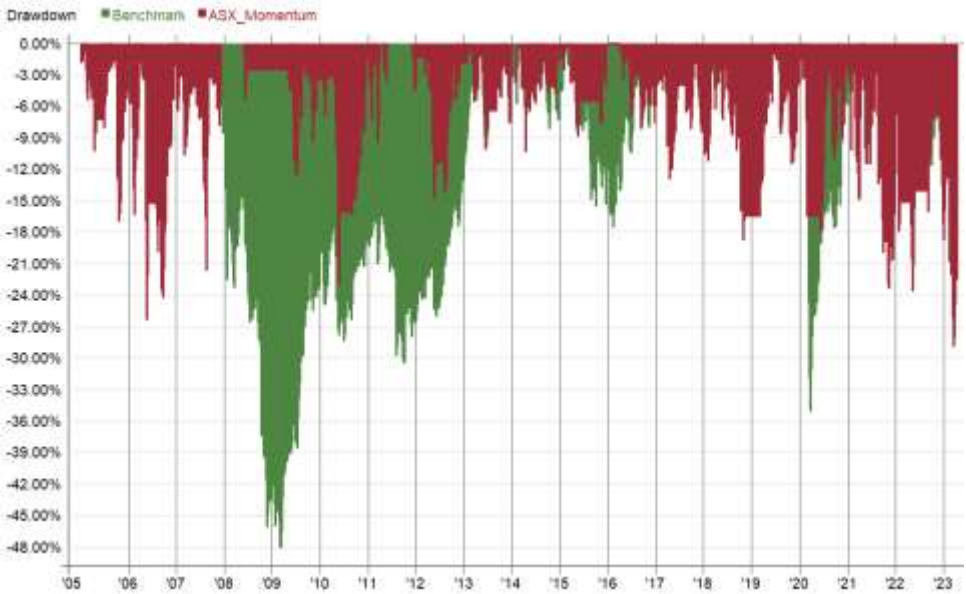
ASX Momentum Portfolio Monthly Summary

YEAR	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	TOTAL	MaxDD
2005	5.8%	0.5%	-1.1%	-4.7%	1.4%	0.0%	8.4%	1.2%	4.2%	-12.9%	12.6%	2.6%	16.9%	-17.1%
2006	9.9%	-6.9%	20.9%	12.5%	-4.8%	1.0%	0.0%	-1.1%	-1.1%	9.6%	7.1%	4.7%	60.8%	-26.4%
2007	-2.8%	4.5%	-0.6%	4.7%	0.5%	-3.1%	-3.4%	5.3%	1.7%	7.5%	2.8%	0.7%	18.6%	-21.8%
2008	0.0%	0.0%	0.0%	0.0%	0.0%	5.5%	-1.3%	0.0%	0.0%	0.0%	0.0%	0.0%	4.2%	-5.5%
2009	0.0%	0.0%	0.0%	0.0%	4.2%	2.7%	1.7%	6.3%	5.6%	-2.9%	1.4%	1.1%	21.8%	-12.7%
2010	0.0%	1.9%	0.4%	-0.2%	-10.9%	-0.6%	0.0%	0.0%	3.0%	3.4%	2.5%	13.1%	11.5%	-23.0%
2011	-5.4%	11.3%	6.7%	1.3%	9.4%	-0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-0.4%	24.1%	-9.6%
2012	2.4%	0.0%	7.6%	-1.2%	-9.2%	-0.7%	0.0%	4.4%	6.2%	-0.2%	3.5%	-0.5%	12.0%	-14.9%
2013	2.0%	12.1%	2.6%	3.2%	-1.6%	-3.8%	0.1%	0.0%	2.5%	9.8%	2.0%	4.8%	38.1%	-10.2%
2014	1.2%	15.8%	1.7%	-2.3%	1.4%	-2.4%	7.6%	-1.1%	-2.1%	0.5%	0.0%	12.1%	35.3%	-10.5%
2015	-0.2%	8.3%	3.1%	-2.3%	-0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	4.4%	8.6%	23.5%	-9.0%
2016	0.1%	0.0%	0.0%	4.2%	6.4%	-4.8%	7.2%	4.6%	-3.5%	1.6%	3.1%	1.3%	21.3%	-8.3%
2017	7.5%	3.3%	-0.3%	-1.7%	1.4%	5.8%	-1.3%	2.5%	-1.2%	5.8%	-3.9%	-2.1%	16.2%	-13.0%
2018	0.1%	15.0%	-2.7%	2.7%	1.4%	5.0%	-4.9%	5.1%	-6.0%	-8.6%	0.4%	0.0%	5.5%	-18.9%
2019	0.0%	0.0%	8.7%	3.5%	4.9%	8.6%	4.7%	-2.0%	1.1%	-7.8%	6.1%	2.7%	33.5%	-11.7%
2020	15.8%	-13.5%	-0.6%	0.0%	0.0%	5.3%	12.3%	10.7%	-5.6%	10.5%	-2.5%	18.5%	56.9%	-18.3%
2021	-0.2%	7.9%	-8.3%	15.5%	-6.0%	1.4%	10.9%	-7.2%	-10.5%	-1.3%	1.5%	12.0%	12.3%	-23.5%
2022	-9.2%	1.5%	0.0%	0.0%	4.0%	-2.7%	0.0%	0.0%	8.9%	-0.6%	0.0%	-10.2%	-9.3%	-22.2%
2023	6.2%	-11.2%	-3.3%	1.7%	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	-7.3%	-24.2%

US Momentum Portfolio

The US Momentum Portfolio is an active investment strategy that attempts to keep users fully invested when the market is rising and automatically revert to cash during sustained bearish markets such as witnessed during the GFC. The strategy is systematic meaning that it does not rely on human opinion or any type of discretionary analysis. It derives its buy and sell signals using non-disclosed mathematical algorithms which have been tested over many years of data and market conditions.

Whilst the exact rules of the US Momentum Portfolio are non-disclosed, the strategy is loosely based on the principles outlined by various academic research papers and authors such as Mebane Faber, Gary Antonacci and Andreas Clenow. The concept of momentum is now a widely studied phenomenon across the academic world.

The US Momentum Portfolio is a 'long beta' strategy meaning that it is designed to profit during upward market environments and defend capital during downward environments. To generate above-market returns using the US Momentum Portfolio, it is recommended the user apply the strategy for a minimum of 3 years to gain exposure to a full investment cycle.

US Momentum Portfolio Summary Statistics

	Benchmark*	US_Momentum
Periods	4,602	4,602
NetProfit	$398,833	$5,317,666
Comp	True	True
ROR	9.19%	24.41%
MaxDD	-55.33%	-33.46%
Trades	1	659
PctWins	100.00%	55.84%
AvgWin	399.70%	20.84%
AvgLoss	0.00%	10.14%
WinLen	4,600.00	62.32
LossLen	0.00	34.20
Expectancy	399.70%	7.16%
ProfitFactor	0.00	1.83
MAR	0.17	0.73
Sharpe	0.54	0.98
SelBias	0.00%	0.00%
AvgExp	99.98%	71.46%
MaxExp	100.00%	100.00%
AvgUse	100.00%	71.50%
MaxUse	100.00%	100.00%

US Momentum Portfolio Equity Growth
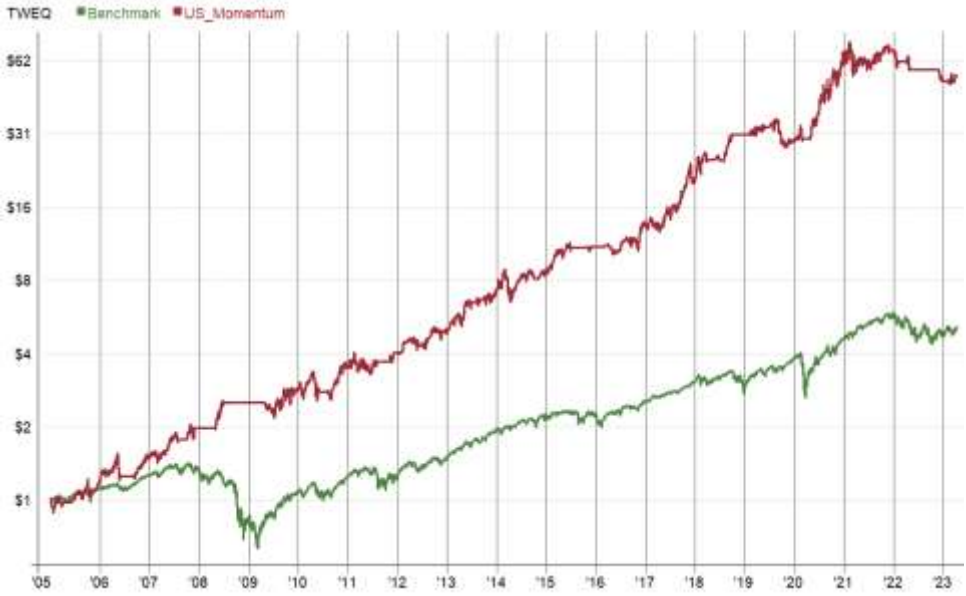
US Momentum Portfolio Underwater Equity
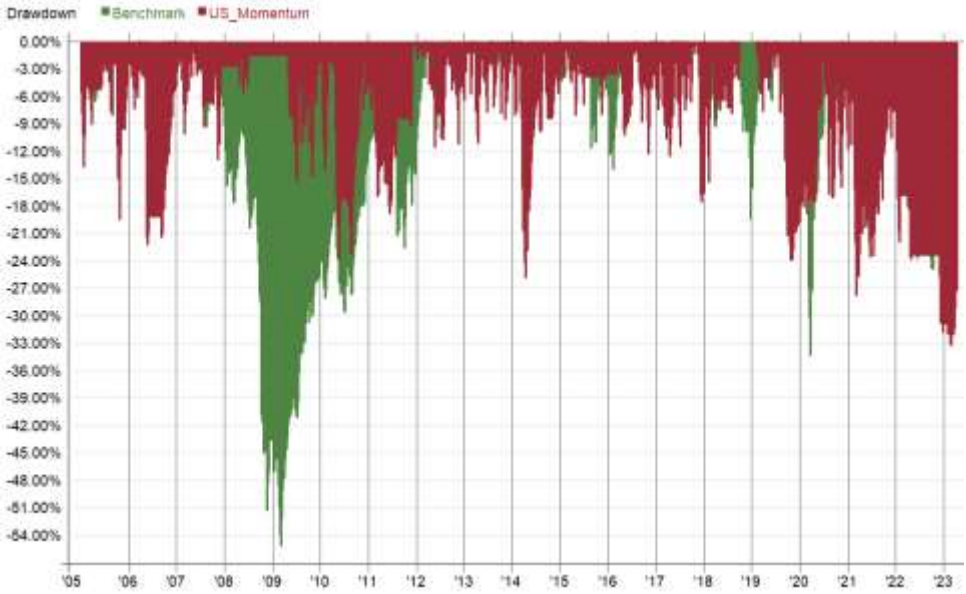
US Momentum Portfolio Monthly Summary

YEAR	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	TOTAL	MaxDD
2005	-8.2%	7.6%	-4.6%	1.6%	0.0%	3.4%	5.7%	1.5%	8.9%	-6.2%	-0.9%	7.9%	16.0%	-19.6%
2006	10.9%	-3.7%	2.7%	7.6%	-10.6%	0.2%	0.0%	0.0%	4.1%	5.4%	6.4%	1.1%	24.6%	-22.4%
2007	3.9%	-2.9%	0.2%	2.7%	14.0%	2.0%	-0.4%	-0.6%	0.0%	14.8%	-2.5%	-0.1%	33.8%	-13.1%
2008	0.0%	0.0%	0.0%	0.0%	14.2%	11.8%	-0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	27.0%	-5.9%
2009	0.0%	0.0%	0.0%	0.0%	-4.4%	-2.3%	7.5%	-0.5%	7.4%	-7.5%	7.1%	4.9%	11.7%	-14.9%
2010	-5.0%	10.6%	5.1%	-1.9%	-7.0%	-1.8%	0.0%	-6.1%	16.4%	11.0%	6.2%	-3.1%	23.7%	-24.2%
2011	3.0%	3.5%	0.1%	-0.1%	-2.9%	-0.7%	1.3%	2.1%	0.0%	0.0%	9.2%	-0.3%	15.7%	-19.0%
2012	0.1%	10.2%	2.8%	1.4%	-4.9%	-2.2%	3.3%	7.5%	4.0%	-2.9%	2.8%	-2.1%	21.0%	-11.4%
2013	8.5%	3.5%	6.9%	-3.6%	15.2%	-1.2%	0.7%	2.0%	1.6%	0.7%	1.8%	5.0%	47.9%	-11.4%
2014	7.9%	10.3%	-15.6%	-1.7%	10.1%	6.3%	-4.2%	10.3%	-7.7%	-0.3%	8.3%	-1.7%	19.3%	-26.0%
2015	5.8%	7.8%	6.4%	-5.6%	13.6%	-3.9%	1.4%	0.0%	0.0%	0.0%	-0.1%	0.4%	27.2%	-8.2%
2016	0.0%	0.0%	1.8%	-4.6%	-2.6%	6.1%	7.3%	-2.8%	4.3%	-8.6%	24.6%	-2.5%	21.2%	-12.5%
2017	3.4%	-0.7%	0.8%	-4.6%	15.0%	-3.2%	7.7%	6.0%	8.2%	15.2%	6.4%	-8.4%	52.2%	-17.8%
2018	26.3%	-2.3%	0.6%	-0.4%	0.0%	0.2%	-1.0%	18.0%	8.2%	0.6%	0.0%	0.0%	57.6%	-15.6%
2019	0.0%	3.7%	-1.7%	4.7%	-0.5%	1.0%	1.6%	2.8%	-16.9%	-1.9%	3.8%	-1.7%	-6.9%	-24.1%
2020	1.8%	0.8%	0.2%	0.0%	18.5%	8.5%	20.8%	2.6%	5.0%	0.1%	16.9%	4.1%	109.2%	-16.2%
2021	4.1%	3.6%	-8.4%	2.4%	3.2%	-1.2%	0.6%	5.3%	-1.3%	5.2%	-2.9%	3.3%	13.8%	-28.0%
2022	-11.1%	1.2%	0.0%	-7.1%	-0.8%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-9.4%	-24.9%	-26.2%
2023	-0.5%	-1.8%	6.9%	0.4%	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	4.9%	-8.2%

US High Frequency Portfolio

The US HFT strategy is for advanced traders only. This is a short term, long only, mean reversion strategy with an average hold period of 4 days. It is designed to provide a high level of consistency by doing large amounts of transactions with minimal holding times to exploit its edge. The strategy trades the Russell 1000 universe.

This portfolio attempts to buy stocks in strong uptrends that have experienced temporary weakness. It measures a specific level of weakness at which a near term bounce becomes more probable. When the desired bounce occurs, the strategy will exit positions quickly to lower exposure. This strategy will only ever have a maximum of 20 open positions.

The default setting for the portfolio is 20 positions each of which is allocated 10% of capital. This means that leverage of 50% is being used.

Unfortunately, recent regulatory changes by ASIC limit the use of leverage for some retail traders. As such, a summary of return profiles using different position sizing without leverage can be downloaded HERE.

US High Frequency Portfolio Summary Statistics

	Benchmark*	HFT
Periods	4,602	4,602
NetProfit	$398,833	$10,175,895
Comp	True	True
ROR	9.19%	28.85%
MaxDD	-55.33%	-18.26%
Trades	1	11,758
PctWins	100.00%	61.57%
AvgWin	399.70%	2.16%
AvgLoss	0.00%	2.39%
WinLen	4,600.00	2.09
LossLen	0.00	2.97
Expectancy	399.70%	0.41%
ProfitFactor	0.00	1.24
MAR	0.17	1.58
Sharpe	0.54	1.49
SelBias	0.00%	0.00%
AvgExp	99.98%	62.00%
MaxExp	100.00%	200.00%
AvgUse	100.00%	62.01%
MaxUse	100.00%	200.00%

US High Frequency Portfolio Equity Growth
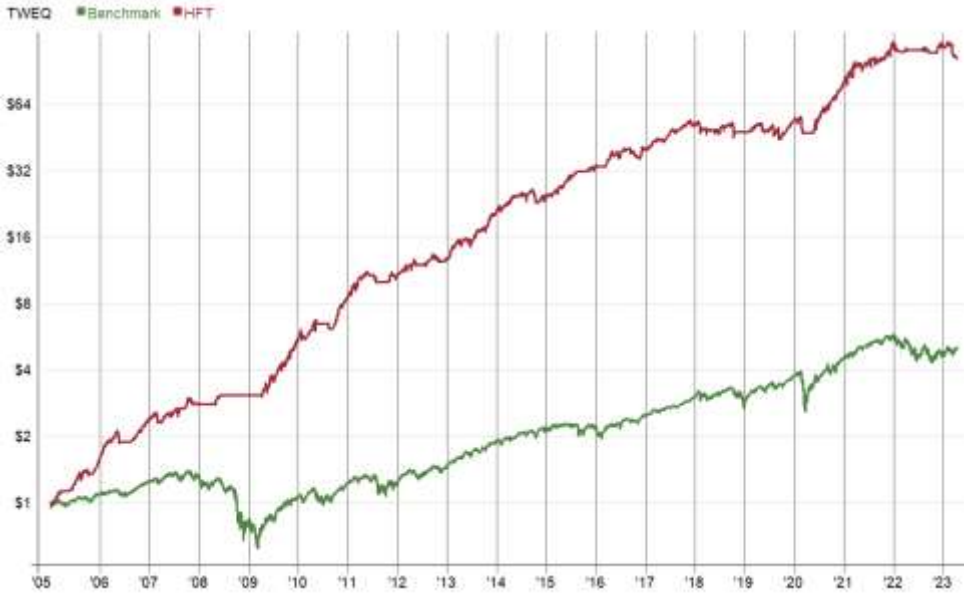
US High Frequency Portfolio Underwater Equity
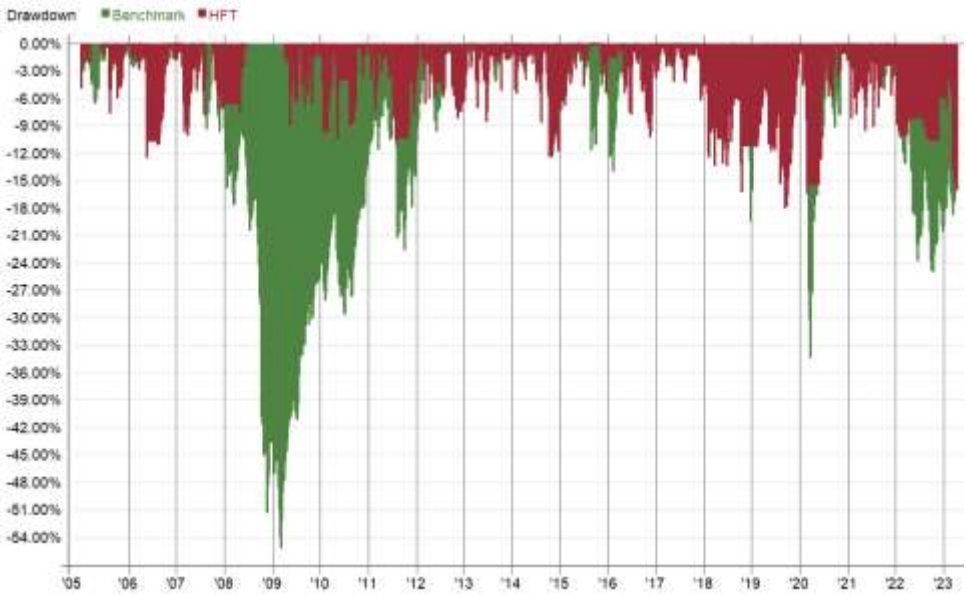
US High Frequency Portfolio Monthly Summary

YEAR	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	TOTAL	MaxDD
2005	2.1%	6.7%	3.1%	0.0%	1.5%	7.3%	9.6%	3.2%	1.6%	-4.5%	6.1%	10.8%	**58.0%**	-7.8%
2006	14.8%	2.1%	4.4%	5.4%	-7.7%	0.0%	0.0%	2.6%	5.4%	4.9%	6.7%	6.0%	**52.4%**	-12.6%
2007	3.8%	-3.7%	-4.1%	4.8%	4.9%	2.1%	-0.4%	2.9%	3.4%	7.4%	-4.7%	-0.3%	**16.3%**	-10.3%
2008	-0.6%	0.0%	0.0%	0.0%	8.0%	1.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	**8.9%**	-2.8%
2009	0.0%	0.0%	0.0%	7.7%	2.0%	10.6%	6.7%	5.2%	5.4%	6.7%	6.9%	8.6%	**77.9%**	-6.9%
2010	0.6%	1.9%	6.8%	8.4%	-0.3%	0.0%	0.0%	-4.8%	6.3%	17.0%	4.8%	7.5%	**57.8%**	-10.5%
2011	9.3%	0.7%	11.4%	1.5%	2.7%	-2.5%	-7.5%	0.6%	0.0%	3.1%	3.8%	1.3%	**25.6%**	-11.1%
2012	4.1%	3.4%	2.4%	5.1%	-4.2%	0.0%	-0.4%	7.1%	1.3%	-2.2%	-1.6%	1.5%	**17.0%**	-8.4%
2013	9.4%	6.3%	5.5%	-0.9%	-0.9%	-1.0%	8.8%	3.2%	2.6%	6.3%	9.9%	2.4%	**64.6%**	-8.7%
2014	4.2%	1.5%	4.3%	6.4%	0.3%	3.4%	-4.3%	5.3%	-1.1%	-8.4%	3.4%	2.7%	**17.8%**	-12.6%
2015	0.7%	3.2%	4.2%	0.1%	7.1%	4.3%	3.5%	3.0%	0.0%	0.5%	3.4%	1.5%	**36.3%**	-5.6%
2016	-0.3%	0.0%	7.0%	8.5%	-1.0%	0.1%	4.7%	-0.7%	-1.7%	-6.1%	9.6%	-2.4%	**17.8%**	-10.4%
2017	3.6%	4.6%	4.6%	-1.8%	0.8%	7.7%	1.1%	2.0%	3.3%	1.5%	3.0%	-1.4%	**32.7%**	-6.4%
2018	-2.2%	-4.2%	-0.0%	-1.1%	-1.6%	1.2%	1.3%	5.9%	1.5%	-8.9%	0.0%	0.0%	**-8.4%**	-15.6%
2019	0.0%	3.6%	3.6%	0.5%	-7.1%	1.8%	3.2%	-2.4%	-6.4%	3.7%	6.6%	6.2%	**13.0%**	-15.8%
2020	-2.9%	-10.5%	1.2%	0.0%	7.3%	7.4%	12.0%	0.5%	6.7%	2.4%	8.3%	10.1%	**48.7%**	-16.6%
2021	4.6%	4.9%	7.5%	3.2%	-2.1%	2.6%	2.6%	0.7%	-0.2%	1.8%	4.4%	12.8%	**51.4%**	-9.7%
2022	-8.2%	-1.2%	3.0%	-0.9%	0.0%	0.0%	0.0%	0.2%	-2.8%	0.0%	7.7%	-1.8%	**-4.8%**	-10.9%
2023	4.1%	-3.1%	-10.8%	-1.1%	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	**-11.0%**	-16.0%

SECTION 2 – MIXED PORTFOLIOS

Introduction

Here at The Chartist, we are firmly believe in strategy diversification. Rather than hold a portfolio of shares, we prefer to hold a portfolio of strategies.

Strategy diversification can help smooth long-term equity growth, lower drawdowns and also dilute signal luck and market risk. A 2023 presentation by Nick Radge to the Society of Technical Analysts UK outlines the various benefits for diversification across strategies, markets, timeframes, and instruments. That presentation can be viewed HERE

There is a myriad of combinations possible, but even combining two strategies can greatly enhance the investing experience. The level of diversification will be dependent on available capital., time and workload.

The following are several common examples that could be considered by Members.

All examples assume each strategy is allocated 50% of capital and that the portfolio is rebalanced on a regular basis.

Growth Portfolio v2.0 + ASX Momentum

Summary Statistics

	Benchmark*	GP_v2	ASXMomo	Combined
Periods	4,626	4,626	4,626	4,626
NetProfit	$270,460	$1,848,127	$1,523,076	$3,371,203
Comp	True	True	True	True
ROR	7.43%	9.78%	10.96%	21.41%
MaxDD	-48.85%	-10.82%	-15.15%	-23.25%
Trades	1	475	230	705
PctWins	100.00%	46.74%	66.09%	53.05%
AvgWin	297.43%	28.33%	18.36%	24.28%
AvgLoss	0.00%	10.08%	8.96%	9.82%
WinLen	4,624.00	103.02	76.09	92.07
LossLen	0.00	37.83	50.79	40.89
Expectancy	297.43%	7.87%	9.09%	8.27%
ProfitFactor	0.00	2.01	2.39	2.15
MAR	0.15	0.90	0.72	0.92
Sharpe	0.53	1.21	1.02	1.32
TharpSQN	0	5.39	5.54	7.38
SelBias	0.00%	0.00%	0.00%	0.00%
AvgExp	99.96%	35.38%	33.61%	68.99%
MaxExp	100.00%	50.00%	50.00%	100.00%
AvgUse	99.98%	35.42%	33.63%	69.04%
MaxUse	100.00%	50.00%	50.00%	100.00%

Growth Portfolio v2.0 + ASX Momentum Equity Growth
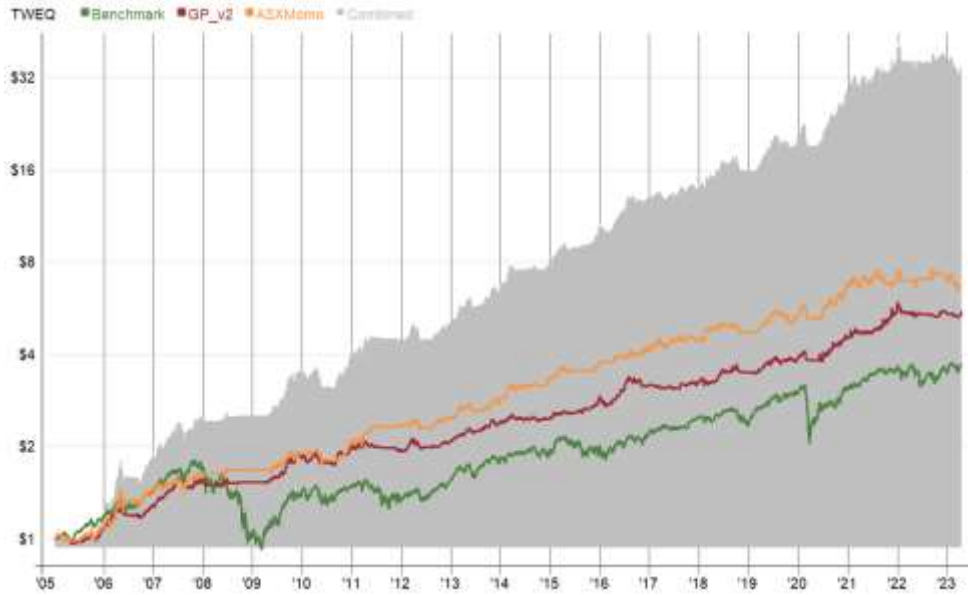
Growth Portfolio v2.0 + ASX Momentum Underwater Equity
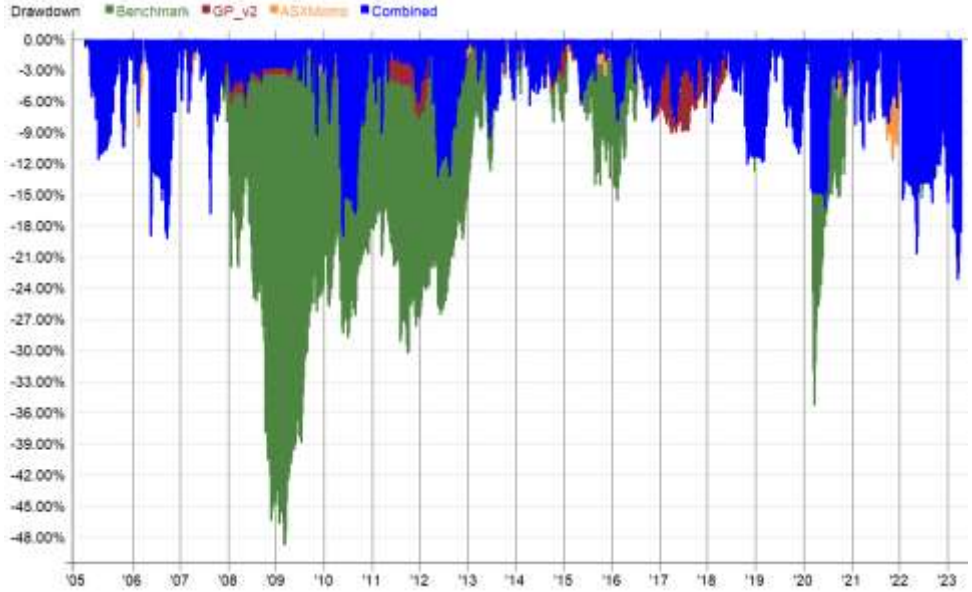
Growth Portfolio v2.0 + ASX Momentum Monthly Summary

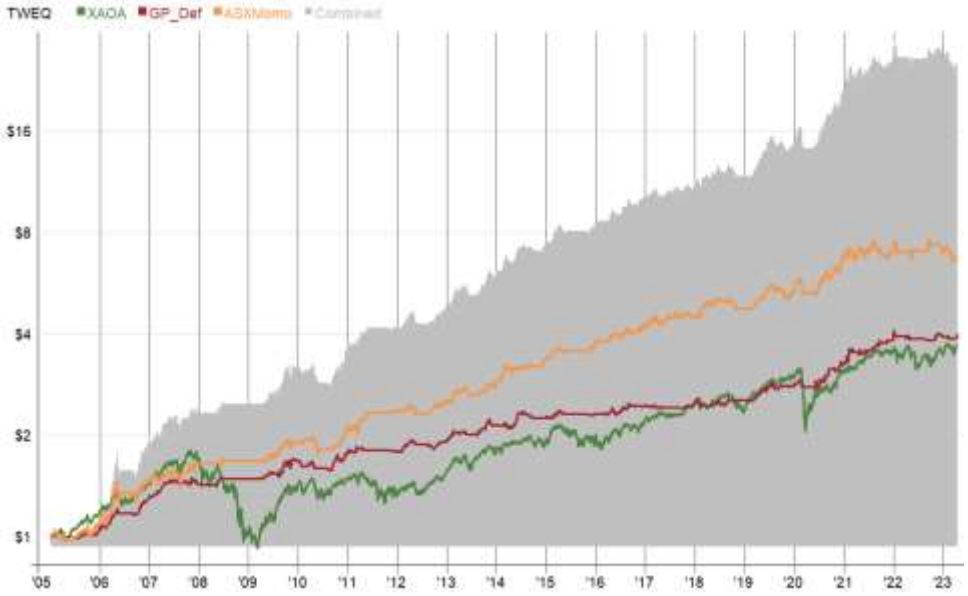| YEAR	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	TOTAL	MaxDD
2005	5.4%	-3.0%	-2.7%	-4.1%	-0.2%	1.6%	4.3%	2.4%	5.9%	-7.0%	9.8%	8.4%	21.2%	-11.7%
2006	7.7%	-0.3%	20.0%	5.6%	-3.7%	-0.2%	-0.4%	-0.7%	-1.5%	9.2%	6.1%	6.7%	57.4%	-19.3%
2007	0.7%	3.3%	1.7%	5.7%	5.0%	4.6%	-2.6%	-2.5%	1.4%	7.0%	1.7%	2.2%	31.4%	-16.9%
2008	-4.2%	0.6%	-0.0%	-0.1%	1.8%	4.8%	-2.9%	-0.3%	0.8%	0.1%	-0.1%	0.0%	0.1%	-5.2%
2009	0.0%	0.0%	0.3%	0.0%	5.7%	2.6%	5.5%	5.6%	9.2%	-3.3%	7.5%	-0.7%	36.6%	-9.3%
2010	-2.9%	1.5%	2.7%	0.1%	-10.0%	-0.0%	-0.3%	-0.9%	11.2%	-1.1%	5.3%	14.8%	19.5%	-19.1%
2011	-5.4%	6.9%	6.9%	-1.8%	5.8%	-2.0%	0.1%	-0.5%	0.0%	0.1%	-2.4%	-0.7%	6.3%	-9.2%
2012	1.7%	4.4%	8.2%	-3.0%	-8.4%	0.5%	0.2%	2.0%	3.2%	2.9%	1.1%	1.9%	14.7%	-13.4%
2013	3.8%	8.2%	2.0%	5.0%	-1.5%	-3.5%	0.3%	1.3%	3.8%	8.1%	-0.8%	5.0%	35.7%	-9.7%
2014	0.1%	9.6%	2.5%	-2.9%	1.8%	-2.1%	2.6%	1.0%	-2.9%	1.3%	0.5%	6.2%	18.5%	-6.5%
2015	3.8%	4.3%	2.1%	-1.2%	0.3%	0.4%	1.0%	1.1%	0.5%	2.0%	4.2%	10.5%	32.4%	-6.5%
2016	-3.5%	-2.5%	1.9%	4.4%	7.5%	1.1%	12.4%	-1.5%	-2.0%	-1.3%	-0.4%	1.7%	18.0%	-8.0%
2017	3.5%	1.3%	-2.0%	-0.6%	1.6%	1.7%	-0.4%	4.9%	-1.8%	3.0%	-0.7%	0.5%	11.3%	-8.2%
2018	2.1%	5.9%	-2.1%	1.9%	6.6%	4.8%	-1.5%	4.6%	0.9%	-10.4%	0.2%	0.0%	12.6%	-12.2%
2019	0.0%	-0.4%	6.9%	6.3%	3.4%	6.2%	4.8%	-5.5%	1.4%	-3.9%	1.7%	2.5%	24.9%	-11.2%
2020	11.7%	-11.9%	-1.2%	0.0%	-0.1%	2.5%	10.7%	9.2%	0.2%	5.2%	3.4%	10.7%	45.2%	-16.3%
2021	1.3%	7.6%	-6.9%	10.2%	-4.4%	3.8%	7.2%	-2.9%	0.2%	0.7%	5.3%	13.9%	40.0%	-10.7%
2022	-11.2%	0.8%	-0.5%	0.9%	0.8%	-1.3%	0.0%	-0.4%	3.0%	-0.4%	4.1%	-6.6%	-11.3%	-20.8%
2023	2.3%	-6.6%	-1.8%	4.3%	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	-2.1%	-15.0%

Growth Portfolio Defensive + ASX Momentum

Summary Statistics

	XAOA*	GP_Def	ASXMomo	Combined
Periods	4,626	4,626	4,626	4,626
NetProfit	$270,460	$1,226,657	$1,252,421	$2,479,077
Comp	True	True	True	True
ROR	7.43%	7.86%	11.01%	19.46%
MaxDD	-48.85%	-8.12%	-15.28%	-18.63%
Trades	1	775	230	1,005
PctWins	100.00%	48.39%	66.09%	52.44%
AvgWin	297.43%	15.25%	18.35%	16.14%
AvgLoss	0.00%	6.81%	8.96%	7.16%
WinLen	4,624.00	36.06	76.09	47.60
LossLen	0.00	16.63	50.79	22.21
Expectancy	297.43%	3.86%	9.09%	5.06%
ProfitFactor	0.00	1.89	2.49	2.12
MAR	0.15	0.97	0.72	1.04
Sharpe	0.53	1.12	1.01	1.30
TharpSQN	0	5.25	5.54	7.39
SelBias	0.00%	0.00%	0.00%	0.00%
AvgExp	99.96%	21.99%	33.61%	55.60%
MaxExp	100.00%	50.00%	50.00%	100.00%
AvgUse	99.98%	22.00%	33.63%	55.63%
MaxUse	100.00%	50.00%	50.00%	100.00%

Growth Portfolio Defensive + ASX Momentum Equity Growth

Growth Portfolio Defensive + ASX Momentum Underwater Equity
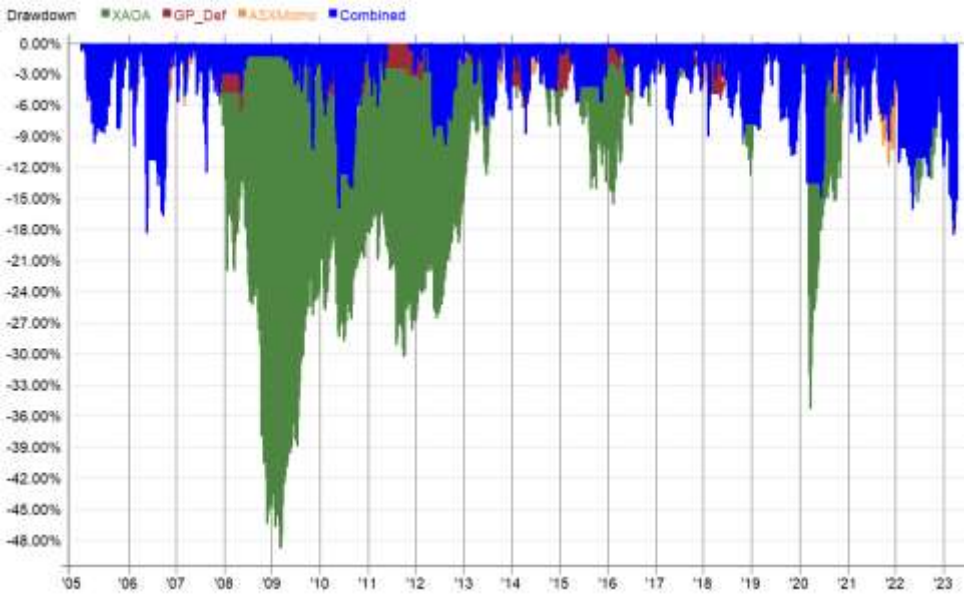
Growth Portfolio Defensive + ASX Momentum Monthly Summary

YEAR	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	TOTAL	MaxDD
2005	5.4%	-3.0%	-2.4%	-2.4%	0.3%	0.4%	4.3%	1.6%	5.7%	-5.8%	5.9%	7.8%	18.1%	-9.7%
2006	5.4%	-2.4%	19.3%	9.3%	-1.5%	0.6%	0.0%	-1.4%	-0.1%	12.2%	5.5%	7.5%	66.6%	-18.4%
2007	-1.7%	3.7%	1.7%	6.3%	4.5%	-0.5%	-3.8%	2.3%	0.5%	6.0%	0.2%	-1.4%	18.6%	-12.6%
2008	0.0%	0.0%	0.0%	-0.1%	3.1%	3.7%	-0.7%	0.0%	0.0%	0.0%	0.0%	0.0%	6.2%	-2.8%
2009	0.0%	0.0%	0.3%	0.0%	5.7%	2.6%	1.0%	3.9%	10.7%	-5.3%	6.9%	-0.4%	27.7%	-10.4%
2010	-3.5%	0.8%	0.6%	-1.1%	-6.3%	-0.3%	0.0%	-1.3%	8.8%	0.2%	5.4%	14.5%	17.5%	-16.1%
2011	-3.7%	3.7%	7.6%	-0.9%	5.1%	-0.0%	0.0%	0.0%	0.0%	-0.3%	-0.5%	-0.3%	10.9%	-6.2%
2012	1.5%	3.2%	7.1%	-0.0%	-7.1%	-0.2%	0.0%	0.8%	2.2%	3.1%	2.9%	0.2%	14.0%	-10.0%
2013	5.2%	8.4%	1.2%	1.7%	-1.9%	-3.3%	-0.6%	1.6%	4.6%	8.9%	-0.6%	2.7%	30.6%	-8.1%
2014	0.2%	8.1%	-0.9%	-1.4%	6.5%	3.5%	2.4%	-1.7%	-2.2%	0.3%	-0.2%	6.5%	22.3%	-8.9%
2015	-0.2%	6.6%	3.5%	-2.1%	0.0%	-0.1%	0.0%	-0.0%	0.0%	-0.4%	2.1%	5.5%	15.5%	-5.9%
2016	-0.3%	0.0%	0.5%	4.5%	-0.7%	-0.1%	6.4%	2.8%	-2.4%	0.8%	1.1%	1.4%	14.7%	-5.4%
2017	3.4%	2.2%	-2.0%	-0.5%	0.8%	3.0%	-0.6%	1.3%	-1.3%	3.4%	-1.3%	2.7%	11.5%	-8.0%
2018	1.6%	3.8%	-1.6%	1.5%	1.5%	4.1%	-2.4%	5.5%	-2.1%	-6.1%	0.9%	0.0%	6.3%	-9.3%
2019	0.0%	-0.4%	6.9%	6.3%	3.4%	6.2%	4.8%	-5.2%	1.9%	-6.0%	3.1%	1.7%	24.1%	-11.0%
2020	11.0%	-12.0%	-0.2%	0.0%	-0.1%	2.5%	10.7%	9.2%	1.7%	3.2%	3.4%	10.2%	44.4%	-14.9%
2021	1.1%	12.1%	-5.6%	9.0%	-4.9%	4.6%	7.1%	-2.0%	-2.6%	-0.2%	2.0%	11.7%	34.9%	-9.6%
2022	-7.2%	0.7%	-0.9%	-0.8%	2.0%	-1.4%	0.0%	-0.4%	4.1%	-0.3%	3.8%	-6.4%	-7.1%	-16.1%
2023	2.1%	-6.4%	-1.5%	3.6%	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	-2.4%	-13.4%

ASX Momentum + US Momentum (domiciled in AUD)

Summary Statistics

	Benchmark*	US_Momo	ASX_Momo	Combined
Periods	4,765	4,765	4,765	4,765
NetProfit	$271,356	$2,846,533	$1,905,799	$4,752,331
Comp	True	True	True	True
ROR	7.44%	12.06%	10.43%	23.66%
MaxDD	-48.85%	-15.19%	-16.48%	-24.08%
Trades	1	666	230	896
PctWins	100.00%	54.35%	65.65%	57.25%
AvgWin	298.42%	20.53%	18.43%	19.91%
AvgLoss	0.00%	9.75%	8.93%	9.58%
WinLen	4,625.00	60.33	76.44	65.08
LossLen	0.00	36.33	50.43	39.23
Expectancy	298.42%	6.71%	9.03%	7.30%
ProfitFactor	0.00	2.15	2.26	2.19
MAR	0.15	0.79	0.63	0.98
Sharpe	0.53	0.91	0.95	1.28
TharpSQN	0	5.29	5.50	7.07
SelBias	0.00%	0.00%	0.00%	0.00%
AvgExp	99.96%	35.75%	33.63%	69.38%
MaxExp	100.00%	50.00%	50.00%	100.00%
AvgUse	99.98%	35.77%	33.65%	69.41%
MaxUse	100.00%	50.00%	50.00%	100.00%

ASX Momentum + US Momentum (domiciled in AUD) Equity Growth

ASX Momentum + US Momentum (domiciled in AUD) Underwater Equity
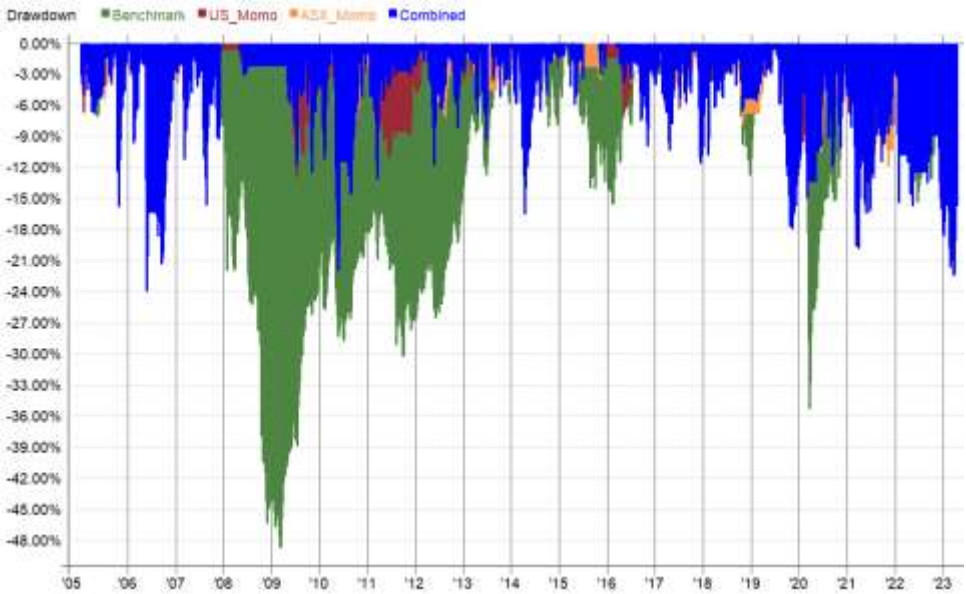
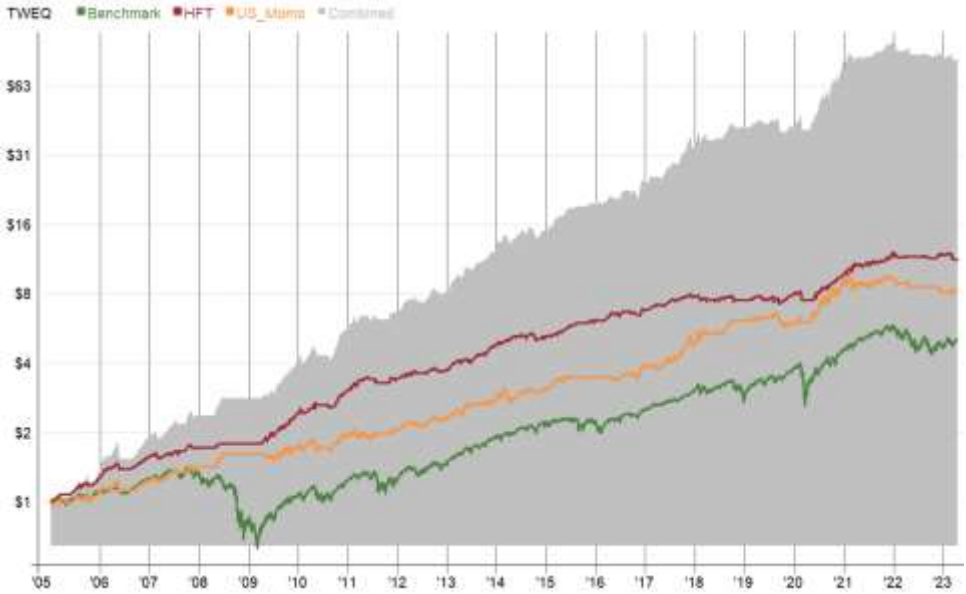## ASX Momentum + US Momentum (domiciled in AUD) Monthly Summary

YEAR	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	TOTAL	MaxDD
2005	-1.2%	1.7%	-3.2%	-1.0%	0.7%	1.5%	7.0%	1.1%	7.5%	-7.8%	7.0%	6.1%	19.7%	-15.9%
2006	12.1%	-6.6%	13.8%	12.1%	-6.4%	0.1%	0.0%	-0.6%	1.5%	7.9%	6.0%	3.4%	49.6%	-24.1%
2007	-0.6%	-0.7%	-1.0%	3.1%	8.7%	0.9%	-3.2%	-0.5%	0.7%	11.1%	-0.1%	1.2%	20.2%	-15.8%
2008	0.0%	0.0%	0.0%	0.0%	7.1%	8.7%	-1.8%	0.0%	0.0%	0.0%	0.0%	0.0%	14.2%	-3.1%
2009	0.0%	0.0%	0.0%	0.0%	-0.1%	-1.1%	3.6%	0.9%	6.8%	-7.0%	5.6%	2.0%	10.5%	-12.6%
2010	-4.6%	6.1%	2.8%	-2.0%	-9.3%	4.8%	0.0%	-3.1%	9.2%	7.0%	6.7%	6.1%	24.2%	-22.1%
2011	-2.6%	4.5%	4.4%	0.1%	2.6%	-0.8%	-0.2%	-0.7%	0.0%	0.0%	4.6%	0.1%	12.3%	-13.2%
2012	1.3%	4.8%	4.7%	0.5%	-6.8%	2.9%	1.7%	5.3%	5.2%	-1.8%	2.4%	-0.2%	21.0%	-11.9%
2013	4.1%	8.1%	4.9%	-0.3%	3.2%	-4.1%	6.7%	1.0%	1.3%	5.3%	1.5%	6.4%	44.4%	-9.5%
2014	2.3%	13.6%	-6.5%	-2.3%	4.9%	1.5%	0.1%	5.0%	-3.8%	3.4%	4.1%	5.6%	30.1%	-16.7%
2015	3.5%	8.5%	4.9%	-2.4%	7.4%	-1.6%	3.3%	0.0%	0.0%	0.0%	2.1%	3.4%	32.6%	-6.0%
2016	0.0%	0.0%	0.9%	-1.2%	1.2%	0.7%	6.9%	-0.8%	-0.1%	-4.7%	12.2%	-0.5%	14.4%	-10.1%
2017	6.3%	0.4%	-0.7%	-3.1%	8.1%	1.4%	3.0%	3.5%	3.7%	10.5%	2.3%	-4.4%	34.5%	-11.8%
2018	14.3%	5.1%	-2.3%	1.7%	0.7%	2.6%	-0.1%	11.0%	3.5%	-4.6%	0.8%	0.0%	36.4%	-11.0%
2019	0.0%	1.9%	3.8%	4.3%	2.3%	7.1%	3.5%	-0.6%	-9.4%	-5.8%	4.5%	0.9%	12.0%	-18.0%
2020	8.5%	-7.7%	1.9%	0.0%	7.0%	5.1%	15.2%	5.3%	-1.2%	5.0%	7.8%	12.6%	75.4%	-15.1%
2021	1.9%	3.1%	-8.0%	8.6%	-2.9%	2.1%	7.0%	-0.1%	-4.5%	2.6%	-0.9%	10.5%	19.4%	-19.9%
2022	-10.4%	1.8%	0.0%	-3.6%	3.7%	-1.9%	0.0%	0.0%	4.4%	-0.3%	0.0%	-9.8%	-15.9%	-18.4%
2023	3.4%	-6.6%	3.0%	3.1%	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	2.6%	-11.4%

US Momentum + US High Frequency (Default)

Summary Statistics

	Benchmark*	HFT	US_Momo	Combined
Periods	4,603	4,603	4,603	4,603
NetProfit	$400,592	$4,050,877	$3,976,769	$8,027,646
Comp	True	True	True	True
ROR	9.21%	14.07%	12.21%	27.19%
MaxDD	-55.33%	-8.65%	-17.65%	-19.50%
Trades	1	11,764	659	12,423
PctWins	100.00%	61.61%	55.84%	61.31%
AvgWin	401.46%	2.16%	20.84%	3.06%
AvgLoss	0.00%	2.39%	10.14%	2.86%
WinLen	4,601.00	2.09	62.32	5.00
LossLen	0.00	2.97	34.20	4.86
Expectancy	401.46%	0.41%	7.16%	0.77%
ProfitFactor	0.00	1.25	1.87	1.38
MAR	0.17	1.63	0.69	1.39
Sharpe	0.54	1.50	0.96	1.35
TharpSQN	0	13.77	5.25	9.79
SelBias	0.00%	0.00%	0.00%	0.00%
AvgExp	99.98%	31.02%	35.72%	66.74%
MaxExp	100.00%	100.00%	50.00%	150.00%
AvgUse	100.00%	31.02%	35.74%	66.76%
MaxUse	100.00%	100.00%	50.00%	150.00%

US Momentum + US High Frequency (Default) Equity Growth

US Momentum + US High Frequency (Default) Underwater Equity
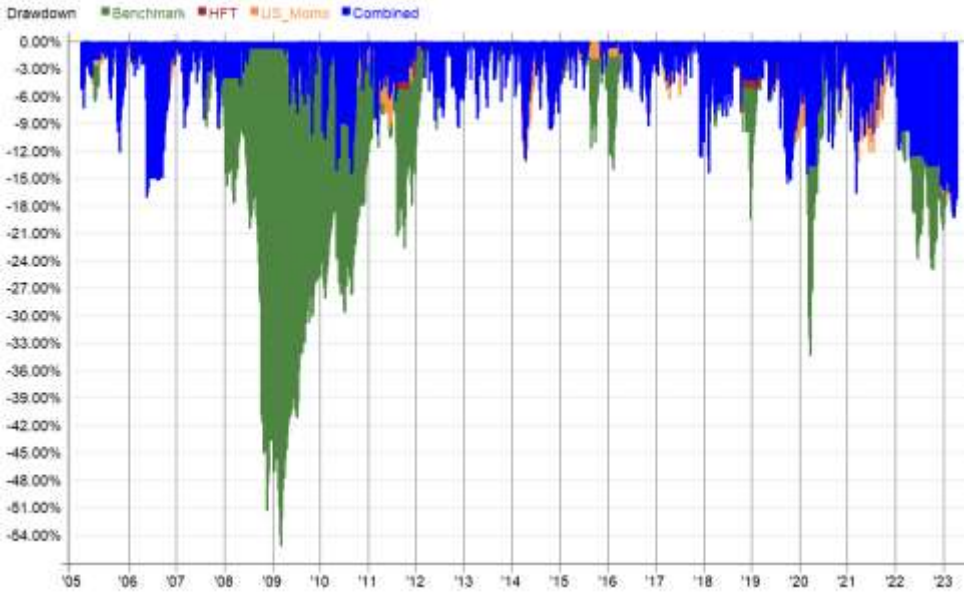
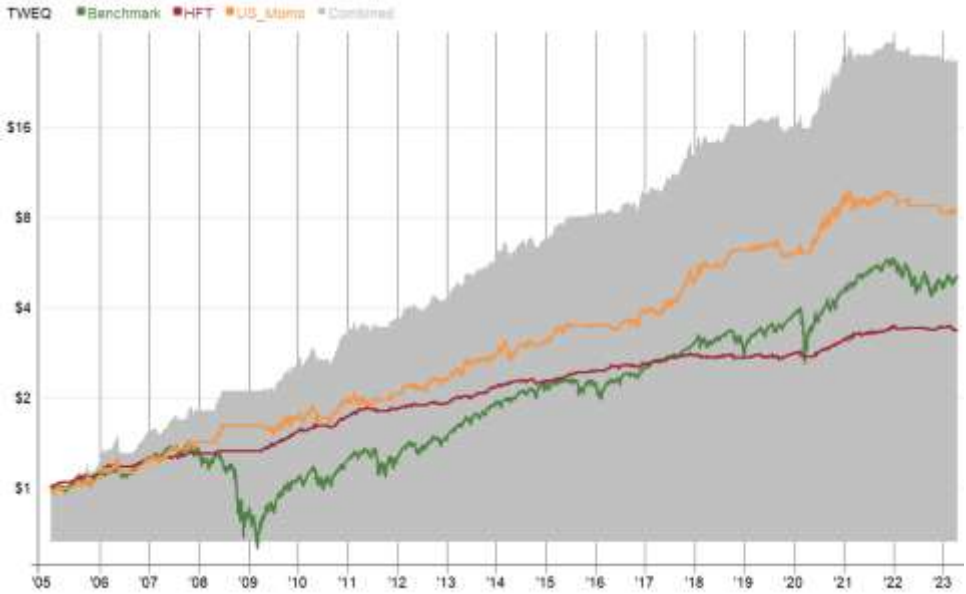## US Momentum + US High Frequency (Default) Monthly Summary

YEAR	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	TOTAL	MaxDD
2005	-3.1%	7.2%	-0.7%	0.7%	0.8%	5.4%	7.6%	2.2%	5.3%	-5.5%	2.3%	9.4%	34.9%	-12.3%
2006	12.8%	-0.8%	3.4%	6.4%	-9.2%	0.1%	0.0%	1.3%	4.8%	5.1%	6.5%	3.7%	37.8%	-17.2%
2007	3.8%	-3.3%	-1.9%	3.8%	9.6%	2.1%	-0.5%	1.2%	1.7%	11.6%	-3.6%	-0.2%	25.7%	-9.6%
2008	-0.3%	0.0%	0.0%	0.0%	11.1%	6.8%	-0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	18.0%	-3.5%
2009	0.0%	0.0%	0.0%	3.8%	-1.1%	4.1%	6.9%	2.4%	6.5%	-0.4%	6.8%	6.6%	41.2%	-10.3%
2010	-2.0%	6.0%	5.9%	3.4%	-3.5%	-0.8%	0.0%	-5.5%	11.5%	14.0%	5.5%	2.1%	40.7%	-14.6%
2011	6.0%	2.0%	5.5%	0.7%	-0.1%	-1.6%	-3.3%	1.4%	0.0%	1.6%	6.5%	0.5%	20.4%	-10.3%
2012	2.1%	6.8%	2.6%	3.3%	-4.5%	-1.1%	1.5%	7.4%	2.7%	-2.6%	0.6%	-0.4%	19.3%	-9.6%
2013	9.1%	4.9%	6.2%	-2.2%	7.0%	-1.2%	4.9%	2.7%	2.0%	3.5%	5.7%	3.8%	56.6%	-8.7%
2014	6.2%	5.9%	-6.0%	1.9%	4.9%	4.8%	-4.2%	7.9%	-4.5%	-4.6%	5.9%	0.5%	18.8%	-13.1%
2015	3.2%	5.6%	5.4%	-2.8%	10.4%	0.4%	2.5%	1.5%	0.0%	0.2%	2.2%	1.0%	33.2%	-5.4%
2016	-0.4%	0.0%	4.4%	1.9%	-2.0%	2.8%	5.9%	-1.7%	1.5%	-6.8%	17.4%	-2.4%	20.5%	-9.4%
2017	3.5%	2.0%	2.6%	-3.1%	7.5%	2.3%	4.3%	4.1%	5.9%	8.3%	5.1%	-5.3%	43.2%	-12.9%
2018	12.7%	-3.5%	0.2%	-0.8%	-0.8%	0.9%	0.2%	12.0%	5.1%	-4.0%	0.0%	0.0%	22.5%	-14.6%
2019	0.0%	3.3%	0.9%	2.5%	-3.8%	1.4%	2.7%	0.3%	-11.8%	0.8%	5.4%	1.7%	2.4%	-15.7%
2020	-0.3%	-5.1%	0.7%	0.0%	13.1%	7.7%	16.2%	1.6%	5.7%	1.7%	12.5%	7.1%	77.4%	-11.8%
2021	4.0%	3.9%	-0.6%	2.8%	0.5%	0.8%	1.6%	3.1%	-1.0%	3.7%	0.5%	8.1%	30.6%	-16.8%
2022	-9.6%	-0.0%	1.4%	-4.0%	-0.4%	0.0%	0.0%	0.1%	-1.4%	0.0%	3.6%	-5.6%	-15.4%	-16.4%
2023	1.8%	-2.4%	-1.2%	0.2%	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	-1.7%	-8.8%

US Momentum + US High Frequency (Non-Leveraged)

Summary Statistics

	Benchmark*	HFT	US_Momo	Combined
Periods	4,603	4,603	4,603	4,603
NetProfit	$400,592	$825,450	$1,688,314	$2,513,764
Comp	True	True	True	True
ROR	9.21%	6.76%	12.33%	19.54%
MaxDD	-55.33%	-4.34%	-18.29%	-16.62%
Trades	1	11,764	659	12,423
PctWins	100.00%	61.55%	55.84%	61.25%
AvgWin	401.46%	2.16%	20.84%	3.06%
AvgLoss	0.00%	2.39%	10.14%	2.86%
WinLen	4,601.00	2.09	62.32	5.00
LossLen	0.00	2.97	34.20	4.86
Expectancy	401.46%	0.41%	7.16%	0.77%
ProfitFactor	0.00	1.28	2.02	1.54
MAR	0.17	1.56	0.67	1.18
Sharpe	0.54	1.47	0.95	1.20
TharpSQN	0	13.56	5.25	9.71
SelBias	0.00%	0.00%	0.00%	0.00%
AvgExp	99.98%	15.51%	35.72%	51.23%
MaxExp	100.00%	50.00%	50.00%	100.00%
AvgUse	100.00%	15.51%	35.74%	51.25%
MaxUse	100.00%	50.00%	50.00%	100.00%

US Momentum + US High Frequency (Non-Leveraged) Equity Growth

US Momentum + US High Frequency (Non-Leveraged) Underwater Equity
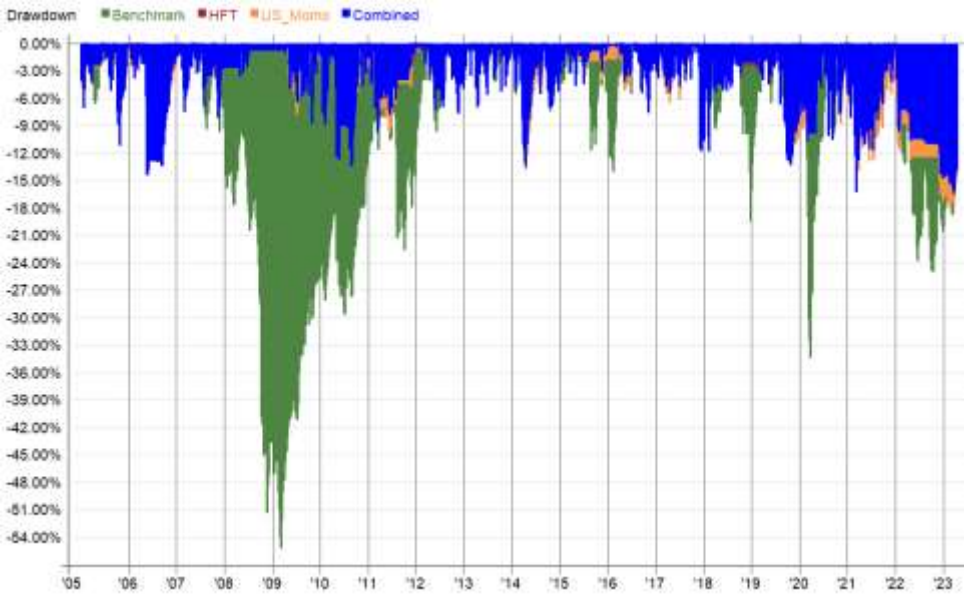
US Momentum + US High Frequency (Non-Leveraged) Monthly Summary

YEAR	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	TOTAL	MaxDD
2005	-3.7%	5.4%	-1.6%	0.7%	0.4%	3.4%	5.1%	1.4%	4.8%	-4.4%	0.9%	6.6%	20.0%	-11.3%
2006	9.0%	-1.5%	2.3%	5.0%	-7.4%	0.1%	0.0%	0.6%	3.4%	3.9%	4.8%	2.1%	23.7%	-14.6%
2007	2.9%	-2.5%	-0.9%	2.5%	8.3%	1.5%	-0.4%	0.4%	0.8%	9.4%	-2.5%	-0.2%	20.2%	-8.2%
2008	-0.2%	0.0%	0.0%	-0.0%	9.1%	6.5%	-0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	15.7%	-3.3%
2009	0.0%	0.0%	0.0%	1.9%	-1.7%	1.4%	5.3%	1.0%	5.1%	-2.1%	5.2%	4.6%	22.2%	-8.9%
2010	-2.3%	5.6%	4.3%	1.2%	-3.5%	-0.9%	0.0%	-4.3%	9.7%	9.8%	4.4%	0.1%	25.6%	-13.6%
2011	3.8%	1.9%	2.8%	0.3%	-0.8%	-0.9%	-1.3%	1.2%	0.0%	0.8%	5.5%	0.1%	13.9%	-9.8%
2012	1.0%	6.0%	2.1%	2.0%	-3.5%	-1.1%	1.6%	5.6%	2.4%	-2.1%	1.0%	-0.7%	14.8%	-7.8%
2013	6.7%	3.3%	4.9%	-2.1%	7.3%	-0.9%	2.6%	1.8%	1.4%	1.9%	3.3%	3.2%	38.4%	-7.1%
2014	5.1%	5.6%	-7.3%	0.5%	5.0%	4.0%	-3.2%	6.6%	-4.2%	-2.4%	5.0%	-0.2%	14.2%	-13.7%
2015	3.1%	4.8%	4.4%	-2.9%	8.7%	-0.8%	1.6%	0.8%	0.0%	0.1%	1.1%	0.6%	23.0%	-4.6%
2016	-0.2%	0.0%	2.6%	-0.2%	-1.7%	2.9%	4.8%	-1.5%	1.9%	-5.6%	14.7%	-1.8%	15.7%	-7.8%
2017	2.6%	0.8%	1.5%	-2.8%	7.7%	0.3%	4.2%	3.7%	5.2%	8.5%	4.3%	-5.1%	34.7%	-12.0%
2018	13.9%	-2.4%	0.3%	-0.5%	-0.4%	0.5%	-0.2%	10.5%	4.7%	-1.8%	0.0%	0.0%	25.9%	-12.0%
2019	0.0%	2.6%	0.0%	2.5%	-2.1%	1.0%	1.7%	0.9%	-10.2%	-0.0%	3.6%	0.4%	-0.3%	-13.5%
2020	0.3%	-2.3%	0.4%	0.0%	11.2%	6.1%	13.5%	1.5%	4.2%	0.8%	10.7%	4.9%	62.9%	-10.7%
2021	3.1%	2.8%	-2.5%	1.9%	1.0%	0.1%	1.0%	2.9%	-0.8%	3.2%	-0.5%	4.9%	18.2%	-16.5%
2022	-7.6%	0.3%	0.7%	-3.8%	-0.4%	0.0%	0.0%	0.1%	-0.7%	0.0%	1.8%	-5.1%	-14.2%	-14.9%
2023	0.8%	-1.7%	1.1%	0.2%	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0.4%	-6.5%