10x10 Portfolio Process 23-Year Daily Simulation Results



Introduction

This Chart Book

The Keller Partners 10x10 Portfolio is an active, disciplined approach to managing investment-grade equity portfolios

- Portfolios are highly liquid and scalable
- Process is a 100% rules-based, repeatable system and can operate autonomously
- Long-term return patterns are designed to be aligned with the risk profile of the final client
- Long-term tests suggest attractive Sharpe and Sortino ratios

Cornerstones of The Process

- Algorithmic evaluation of intermediate-term performance potential (12-18 month horizon), both long and short
- Disciplined management of portfolio volatility and drawdown

Portfolio Construction

- Bottom-up portfolio selection no diversification constraints Position-based risk management
- Prototype portfolios are structured with ten sleeves of 9.5% each and a 5% allocation to cash. Whenever insufficient issues qualify for ownership, unused sleeves hold cash
- Number of portfolio positions determined by client Eligible securities list specified by client

Mechanics

- Engine: MS Excel / Data: ICE, Dow Jones, CBOE
- Long-term simulations: Python 3
- Eligible securities universe: defined by manager
- The Keller Partners large-cap universe (KP-120) represents over 65% of market cap of the US equity market

Charts in this Report illustrate a two-decade portfolio simulation, sub-divided into two-year segments. This period includes two "Class 4" bear market episodes with lifealtering drawdowns (2001-02, and 2007-08), as well as many unconstrained "risk-on" bull environments. It also included lesser, but still attention-getting, downside events (e.g., 1998, 2011, 2016, 2018, 2020, and 2022) where the presence of a risk management protocol became important

The portfolio selection and construction process remained constant throughout — applying the identical investment universe, algorithms and parameters we use today

Start Date and Rebalancing. The simulated portfolios were evaluated daily, based on closing prices and other metrics. We began these simulations at year-end 1997 and took them forward two years at a time, in effect re-starting the portfolio formally every two years

The simulation process assumes daily rebalancing. This knowingly understated the impact of winning positions, as discussed in Performance Notes at the end

Daily Review. The portfolio was priced every day at the close, identifying issues (if any) that needed to be replaced. Required sales and purchases were assumed to take place the following day at the market opening



















150 -							
KP 10x10 Large-Cap Portfolio							
		KP 10x10 Portfolio	S&P500 Total Return				
		[95%% Invested]	[100% Invested]				
140	start	12/29/2011	12/29/2011				
140	end	12/31/2013	12/31/2013				
	total_return	52.94%	52.95%				
	cagr	23.58%	23.58%				
130 -	max_drawdown	-6.65%	-9.58%				
	avg_drawdown	-1.62%	-1.21%				
	avg_drawdown_days	18	11				
	monthly_sharpe	2.47	2.31				
	monthly_sortino	9.84	4.64				
120 -							

2012.07

2012.10

2013.01

2013.04

2013.07

110

100

2012.01

2012.04

2012-2013

2013.10

2014.01







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	KP S&P500 Total Return			marti
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120 -	when a work	MWW		
		KP 10x10 Ac	tive Large-Cap I	Portfolio
	MAN NOW MANY		KP 10x10 Portfolio	S&P500 Total Return
100 -	AND NAN A MAN		[95%% Invested]	[100% Invested]
		start	12/30/2019	12/30/2019
	A Married Ma	end	12/31/2021	12/31/2021
	NV NV	total_return	50.40%	53.13%
		cagr	22.58%	23.69%
		max_drawdown	-12.77%	-33.79%
80 -		avg_drawdown	-2.55%	-1.95%
		avg_drawdown_days	21	9
	l ų	monthly_sharpe	1.17	0.86
		monthly_sortino	1.98	1.40
	2020.01 2020.04 2020.01 2020.10 2021.0	1 2021.04	2021-10	2022.01

Portfolio Structure. When fully invested, the 10x10 portfolio rules impose a 5% cash holding. In the strongly upward-biased price environment that prevailed over the simulation period, this practice understated returns versus the benchmark.

Rebalancing. Portfolios presented in this chart book were rebalanced daily — a programming convenience for the benefit of the long-term simulation process. This understated portfolio returns considerably, as it underweighted the return contribution of significant (trending) winning positions. Real-world portfolios are rebalanced less frequently.

Interest on Cash. The simulations assume no interest on cash balances. Since the management protocol periodically generates significant cash balances in "risk-off" environments, we estimate this omission understates these simulated returns by perhaps 25 basis points annually.

Dividends. Dividends are included for both the portfolio and the benchmark.

Transaction Costs. The simulations do not include a provision for transaction costs. Our current real-world experience suggests these would amount to no more than 150 basis points annually for the portfolio, less for larger portfolios. These costs are a part of our active / protective mandate. Given the significant excess returns

suggested by this long-term simulation project, transaction cost can even be assumed to be higher.

Survivorship Bias. These simulations theoretically benefit from the fact that Enron and Eastman Kodak, for example, are not in today's 120-stock database — therefore the system could not have (theoretically) purchased them 20 years ago. However, as we have experienced in recent years with Alibaba, General Electric or Wells Fargo — all issues that experienced significant downward *repricings* (before more recent recoveries) — the 10x10 analysis process, focused as it is on detecting and following by the activities of informed participants, is likely to have avoided owning them altogether.

Systematic Risk Management. Our firm has several decades' experience with top-down risk management overlays (market trend models). These overlays can be shown to add significant value, evidenced by improved Sharpe Ratios vs. the unmanaged index ETF.

However, the charts and statistics in this report examine only the performance of the algorithmic 10x10 portfolio process without any modification / enhancement by market overlays.

The addition of a trend model will improve Sharpe and Sortino ratios further. It would also also generate investable cash balances during the models' periodic "reduced exposure" and "risk-off" periods.

