Market Trend Analysis

Managing Beta to Improve Alpha

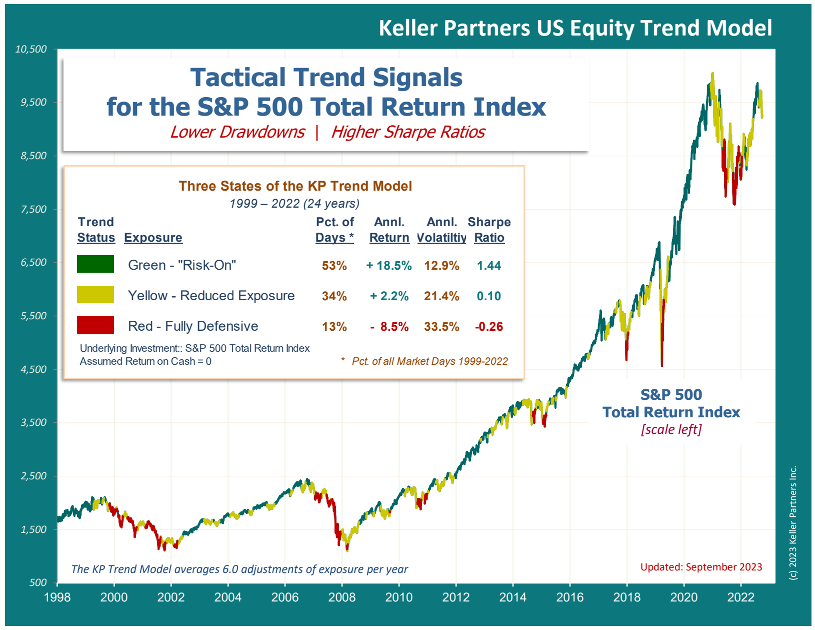
Fact Sheet 2

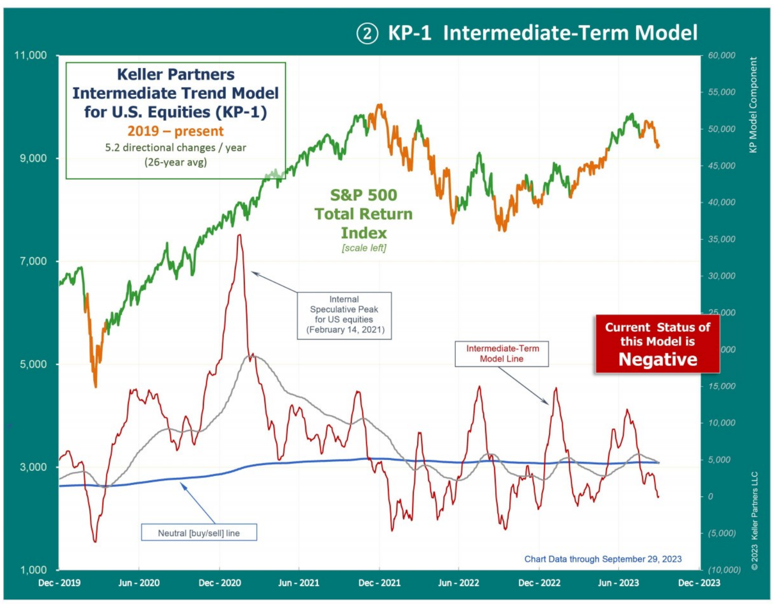
The KP Trend Model combines two independent market trend identification systems to generate signals that can significantly enhance the risk-adjusted performance of a passive index investment.

Both elements are trend studies for US equity markets: a slower-moving *Long-Term Model* that changes direction less than once a year, and a more sensitive *Intermediate-Term Model* that shifts direction about five times a year.

Both components are calculated solely from technical market data – there are no fundamental or economic inputs.

Over the 24 years through December 2022, the *KP Trend Model* significantly improved risk-adjusted returns of an investment in the *S&P 500 Total Return Index*. In 2022, the Model adjusted exposure seven times, a bit above the long-term average of 6.0.





The Intermediate-Term Trend Model is constructed entirely with *non-price* internal market data. Over the past 24 years, it has produced more effective trend signals than those generated more conventionally by price (TS) momentum.

As the key component of the *KP Trend Model*, this volume-based study has averaged 5.2 changes of direction a year (24 years), and has been issuing signals in real time since 2006.

On the chart: after an extended period in positive territory following the March 2020 "Covid" low, the Model shifted to negative on Dec. 6, 2021. Given its defensive orientation, it added considerable value navigating a challenging 2022.

Here's a historical *chart* that illustrates how these (mathematically identical) algorithms managed the chaotic 2007-08 market environment.

KP Trend Model Heat Map

Conceptually, active portfolio managers hope to exchange somewhat reduced returns in positive years for meaningful reductions of portfolio volatility and portfolio drawdown, especially in difficult years such as 2000, 2008, and 2022.

However, they expect that Sharpe and Sortino Ratios – measures of risk-adjusted returns – will move dramatically higher. That is the case for these KP Model strategies. High Sharpe and Sortino ratios are critical measures of client comfort and, ultimately, the likelihood of client retention.

The KP Trend Model — Managing Exposure to the S&P 500 Total Return Index — Active Portfolio

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Jan	4.2%	-5.0%	1.4%	-1.4%	-1.3%	1.8%	-2.3%	2.6%	1.5%	-1.7%	-4.2%	-3.6%
Feb	-3.1%	-1.9%	0.3%	0.0%	0.3%	1.5%	1.1%	0.3%	-2.0%	0.0%	-3.0%	2.1%
Mar	4.0%	9.8%	0.0%	0.0%	-1.4%	-0.7%	-0.9%	1.2%	-0.1%	0.0%	1.6%	6.0%
Apr	3.9%	-1.2%	0.5%	0.0%	4.1%	-1.3%	-0.9%	1.3%	3.7%	0.6%	4.8%	1.6%
May	-2.4%	-1.0%	0.4%	0.0%	4.3%	0.7%	2.7%	-0.9%	3.5%	0.7%	2.8%	-7.1%
Jun	5.5%	0.5%	-1.6%	0.0%	1.3%	2.1%	0.1%	0.1%	-1.7%	-2.3%	0.1%	-2.6%
Jul	-3.1%	-0.9%	0.0%	0.0%	1.8%	-2.6%	3.7%	0.3%	-2.2%	0.0%	3.8%	3.5%
Aug	-0.5%	3.8%	0.0%	-0.7%	2.0%	0.2%	-0.9%	2.0%	0.8%	1.6%	2.7%	-1.4%
Sep	-2.7%	-4.8%	0.0%	-4.5%	-1.1%	0.5%	0.0%	2.6%	2.1%	0.0%	3.7%	4.4%
Oct	6.3%	-2.4%	-1.4%	0.3%	5.7%	1.5%	-0.8%	3.3%	1.6%	0.0%	-0.4%	3.8%
Nov	2.0%	0.0%	3.8%	3.0%	0.9%	4.0%	3.2%	1.9%	-3.0%	0.0%	3.4%	0.0%
Dec	5.9%	0.0%	0.5%	-2.9%	5.2%	3.4%	0.0%	1.4%	-0.3%	1.0%	1.9%	6.7%
Annual	21.0%	-3.9%	3.6%	-6.3%	23.5%	11.5%	5.0%	17.2%	3.9%	-0.2%	18.2%	13.2%

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Jan	2.4%	3.6%	5.2%	-3.5%	-2.3%	-3.8%	1.9%	5.7%	2.1%	0.0%	-1.0%	-2.6%
Feb	3.4%	4.3%	1.4%	3.3%	4.0%	-0.5%	4.0%	-3.7%	1.5%	-7.9%	2.8%	-1.5%
Mar	-0.2%	3.3%	3.8%	0.3%	-1.6%	3.4%	0.1%	-2.2%	1.9%	-9.2%	4.4%	2.1%
Apr	2.5%	-1.0%	1.9%	0.4%	1.0%	0.4%	1.0%	0.2%	4.0%	1.2%	5.3%	-5.6%
May	-1.2%	-3.0%	2.3%	1.2%	1.2%	0.7%	1.4%	1.0%	-4.5%	2.4%	0.7%	2.0%
Jun	-0.8%	3.3%	-1.3%	1.9%	-0.9%	-1.2%	0.6%	0.6%	4.5%	-1.0%	2.3%	-1.6%
Jul	-2.2%	0.4%	5.1%	-1.4%	1.1%	3.9%	2.1%	3.5%	1.4%	5.6%	2.4%	4.5%
Aug	-5.8%	1.3%	-2.9%	2.8%	-3.0%	0.1%	-0.4%	1.7%	-1.8%	7.2%	3.0%	-2.0%
Sep	0.0%	2.6%	3.1%	-0.8%	-1.3%	0.0%	2.1%	0.6%	1.1%	-3.8%	-4.7%	-0.6%
Oct	2.5%	-0.2%	4.6%	1.3%	1.6%	-1.7%	2.3%	-3.4%	1.6%	-2.7%	7.0%	0.0%
Nov	-2.3%	0.3%	3.1%	2.7%	-0.7%	2.3%	3.1%	1.0%	3.6%	10.9%	-0.7%	1.6%
Dec	0.2%	0.9%	2.5%	-0.3%	-1.1%	2.0%	1.1%	-2.9%	3.0%	3.8%	1.7%	-2.6%
Annual	-1.9%	16.8%	32.5%	8.1%	-2.3%	5.6%	20.9%	1.7%	19.8%	4.8%	25.3%	-6.4%

Avg. Annual Return 9.13% *Sharpe Ratio* 0.96 *Sortino Ratio* 0.49 *MDD* -16.4%

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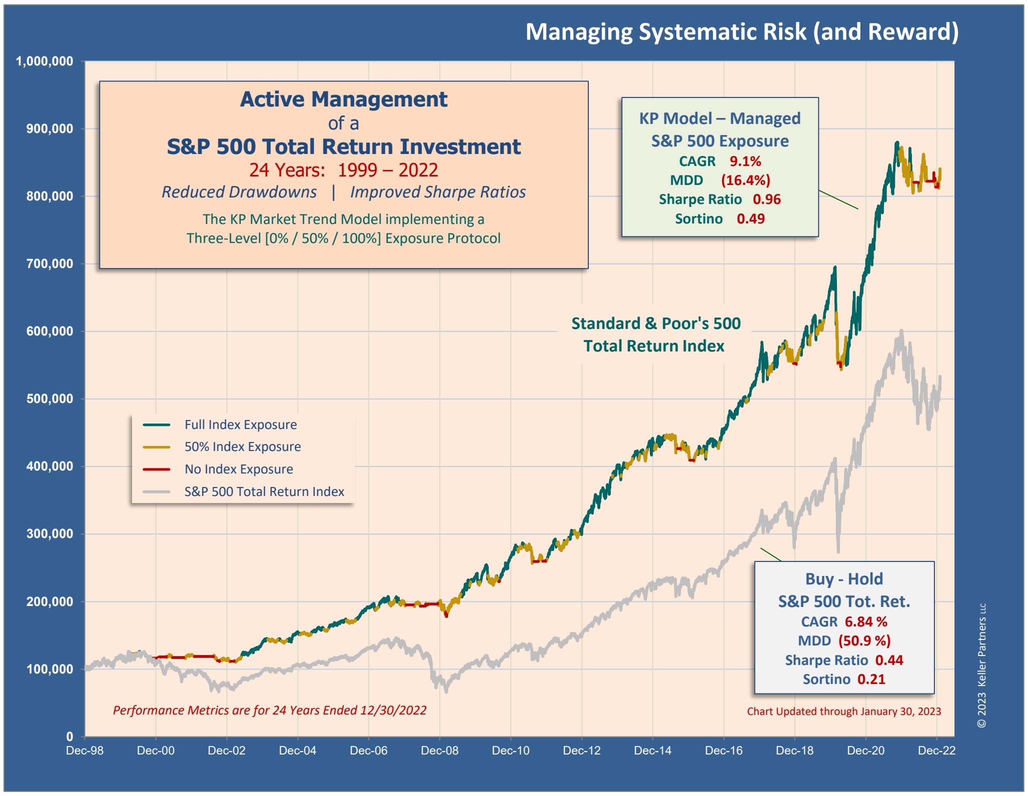
Actively-Managed, Resilient Index Investments

The chart to the right illustrates a hypothetical investment in the *Standard and Poor's 500 Total Return Index,* actively managed by the exposure signals of the *KP Market Trend Model*.



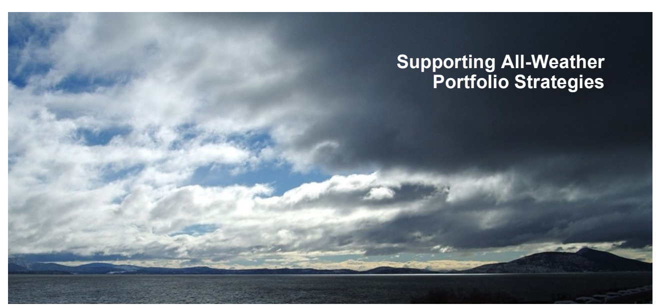
The KP Model is a synergistic combination of two technical studies, both driven by data generated from the financial markets. There are no fundamental or economic inputs.

We believe that reliance on such technical factors helps the Model generate the significant risk-adjusted returns and reduced drawdowns reported on the chart.

Although financial markets have evolved dramatically over the last two decades (e.g., the collapse of transaction costs), the value contributed by these trend signals has persisted over several decades.

Returns include dividends but assume no interest on the significant tactical cash balances which have averaged 30% of portfolio value during red and yellow periods. These additional returns more than offset portfolio transaction costs and the internal expenses of the S&P SPDR Total Return ETF (SPY).

The SPY ETF offers a very high level of daily liquidity and excellent tracking.



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