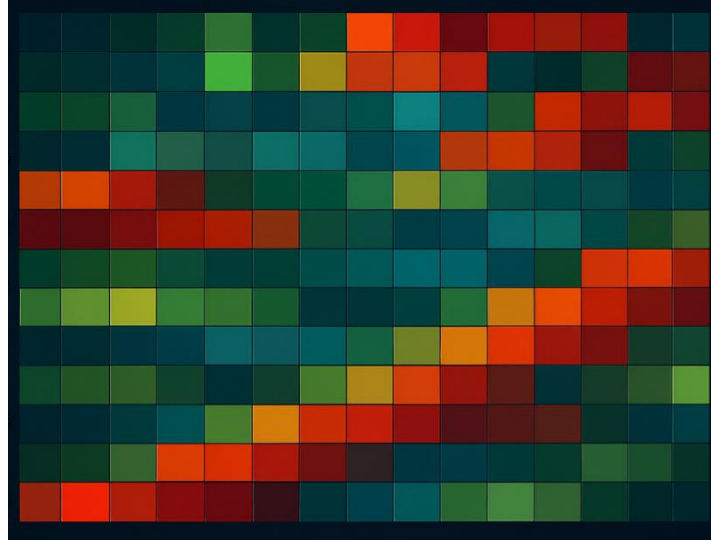# Equity Sector Rotation with Momentum

Does it work?

By Dr Steven Bates and John Bennett

Don't look for the needle in the haystack. Just buy the haystack! Said John C. Bogle, founder of Vanguard in his 2007 book[1]. Meaning stock picking is hard, so just buy the market and own all stocks. Whilst we agree that passive investing is probably the best investment strategy in the long run[2], there are two key challenges with the approach.

First. It requires immense discipline and patience not to interfere. Market portfolios, especially in equities, can exhibit large drawdowns and significant periods under water. Investors being human, driven by fear and greed, can be all too tempted to intervene, selling or buying at the wrong moments. For the vast majority, this is not a recipe for success.

Second. Buying the *haystack* means owning a lot of sub-optimal stocks. It has long been the case that behind aggregate index total returns lie a surprisingly small number of successful companies and many more average or worse enterprises. This is especially the case today with the S&P500 dominated by a handful of technology companies. It's fine when they continue going up, but asset managers as well as private investors are asking themselves what a timely exit strategy looks like.

So, what is the answer? We still believe that a buy-and-hold strategy should sit at the centre of your portfolio, but surround it with dynamic strategies which provide diversification of process. In other words, don't just look for outperformance or

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[1] Bogle, John C., *The Little Book of Common Sense Investing: The Only Way to Guarantee Your Fair Share of Stock Market Returns.* Hoboken, NJ: John Wiley & Sons, 2007.
[2] Passive Investing is Best, Isn't It? Article by Steven Bates.

alpha, but also look for different approaches to investing. Diversification across asset classes is well known and works well, but diversification across investment styles is equally important.

This article does not claim that any single style is universally superior. However, we see strong merit in focusing on sectors rather than individual stocks, and in using disciplined, rules-based signals to rotate as market conditions evolve. By applying relative momentum to guide sector allocations, Future Index Partners aims to capture shifting market leadership while avoiding the challenges of forecasting and stock picking.

The Momentum Force is With You

Broadly speaking, momentum is the tendency of assets that have performed well in the recent past to continue outperforming in the near future, and vice versa for laggards. It is widely researched and heavily used across hedge-fund and quantitative strategies, yet remains far less adopted in traditional equity portfolios, despite strong evidence of its effectiveness.

Future Index Partners focuses specifically on cross-sectional, or relative, momentum which is distinct from time-series momentum or trend following. We believe relative momentum captures a persistent behavioural pattern. When investors want to remain invested but lose confidence in a stock, sector, or asset class, they rotate their capital elsewhere, creating identifiable shifts in market leadership.

Asset rotation is well documented and reflects how investors respond to macro news, business-cycle shifts, changing risk premia and crucially also behavioural forces such as herding, fear and FOMO. The relentless push into technology and AI illustrates this dynamic clearly.

A common critique of momentum is that it can pull investors into overpriced assets and leave them exposed when reversals occur, potentially creating a "buy high, sell low" cycle. We aim to show that with a carefully defined investment universe, disciplined momentum rules and thoughtful portfolio construction, these risks can be managed effectively.

Research and Discipline are Your Friends

A common question we hear is: If momentum works, why doesn't everyone use it? The answer is that doing it well is far from easy. It requires deep research, decades of market data, rigorous testing, and significant time and cost. It also demands strict rules to prevent human interference, which is always tempting. And of course, every backtest looks good, so the real challenge is understanding why a strategy should keep working. This is where we focus our attention.

Rules-based investing is not new, and many large firms have been built on its foundations. But that success also reflects survivorship bias. Countless other strategies have failed and there are clear principles for developing robust systematic strategies. Some obvious, others less so. Three stand out.

Use in-sample and out-of-sample testing. Building a model on part of the data and validating it on the remainder is essential, but far from sufficient on its own.

Avoid parameter tuning. Over-calibrating to historical data leads to curve-fitting. Models do require parameters, but these should be chosen for sound economic or behavioural reasons, not because they maximise backtest performance.

Be aware of regime dependence. Some strategies unintentionally benefit from past market conditions that may not recur. For example, the 30-year decline in U.S. interest rates or the nature of crises like the GFC. Future environments may look very different.

We follow the principles above but also apply additional, rigorous rules to strengthen robustness.

Choose parameters based on a clear hypothesis. For example, look-back windows should reflect rational behaviours, such as the attention investors pay to regular periodic reporting, rather than being derived from data mining.

Understand why the backtest works. Strong and weak periods should both make sense, and the rationale must be explainable to investors (see dispersion discussion below).

Stress-test thoroughly. History only happens once and if future patterns differ, results may change. We apply multiple stress tests, some proprietary or NDA-protected, to validate the model. Systematic processes allow extensive re-running across decades of data in a way discretionary approaches cannot.

Review real-world stress events. Analysing performance during periods such as 2020 (COVID shock) and 2023 (bank stress and AI rally) provides insight into short-term behaviour and resilience.

Test parameter sensitivity. Even when parameters are grounded in fundamentals, they must not be fragile. Small changes should not lead to disproportionately large differences in outcomes.

Evaluate more than outperformance. Drawdowns, time under water, and recovery drivers matter. Alpha is useful, but excessive downside risk will quickly erode investor confidence.

Monitor portfolio turnover. Some systematic models need high turnover to achieve their risk/return profile, but trading costs and spreads must be well understood. Ultimately, alpha must materially exceed these costs.

A Model in Action

The rest of this article is based on research and model development done during 2010-2015. We recently revisited an established equity sector rotation model and put it to the above tests.

The investment universe consists of the 11 MSCI GICS primary global equity sectors covering the developed markets. We use total-return indices net of withholding taxes to reflect realistic passive performance, with MSCI World (developed markets, total return, net) as the benchmark. Each month, the model selects the top six sectors (five before real estate became a standalone sector) using our proprietary relative momentum measure and weights them in proportion to their momentum strength. The portfolio remains fully invested in equities at all times.

Before reviewing results, it is helpful to see the asset allocation in action. Figure 1 illustrates price development and portfolio exposure for two sectors. On the left, Technology over the past eight years shows strong long-term growth, with some calling the sector stretched. The model maintained a high allocation for most of this period because Technology consistently ranked among the top performers. During short bouts of volatility and corrections, however, the model reduced or removed exposure entirely.

On the right, Industrials from 1996 to 2004 demonstrates the opposite effect. Although the sector performed well overall, the model held no exposure in the first three years because other sectors displayed stronger relative momentum.

This behaviour is both intuitive and high conviction. Strong relative performance leads to sustained high allocation, while weaker sectors may be excluded for extended periods. This high-conviction positioning differentiates systematic sector rotation from conventional discretionary approaches that remain close to the benchmark. Crucially, it also provides a clear exit path from leading sectors when corrections inevitably occur.
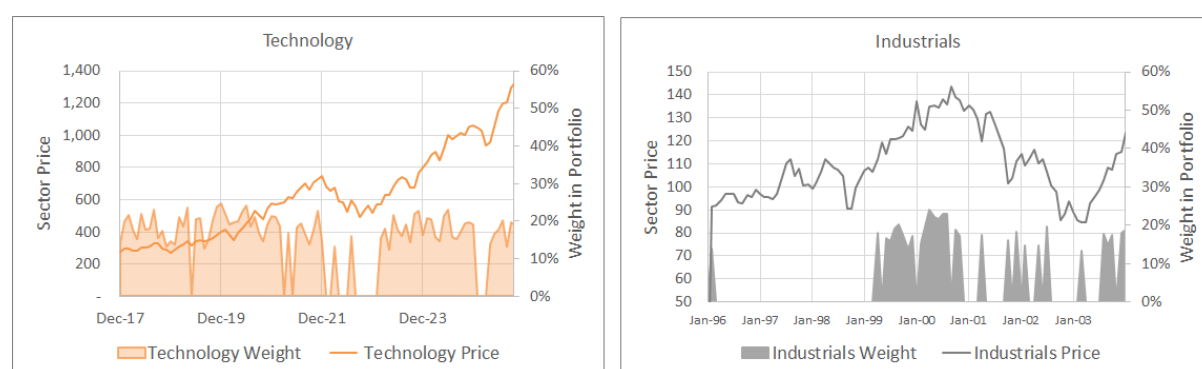

Figure 1: Sector price and weights over time

Table 1 reports model and benchmark (BM) statistics over a 30-year period and over the most recent 10 years. The shorter period can be viewed as a useful out-of-sample

test of robustness, although both periods remain backtests and should be interpreted with the usual caveats. All figures are shown gross of trading and product fees; trading costs are estimated not to exceed 0.25% per year.

Over the full 30 years, the model delivers solid outperformance, with a beta-adjusted average alpha of 4%. This is achieved with a tracking error of 5% and benchmark-like volatility, producing an information ratio of 0.8. Drawdowns are meaningfully lower, as discussed later. Other distribution metrics (skewness and excess kurtosis) are similar to the benchmark, which is expected given the 100% equity exposure.

The 10-year period also shows outperformance, albeit more modest. Other statistics remain broadly in line, and drawdowns are still noticeably smaller.

At first glance, the lower recent alpha might raise concerns about deterioration or curve fitting. However, further analysis shows this is not the case.

Table 1: The long and short backtest statistics

30Y TEST	MODEL	BM
ANNUAL RETURN	11.51%	8.49%
VOLATILITY	14.27%	15.25%
SKEW	-0.61	-0.65
KURTOSIS	1.12	1.35
MAX. DRAWDOWN	-44.46%	-53.64%
R-SQUARED	0.89	
TRACKING ERROR	5.12%	
BETA	0.88	
ALPHA	4.02%	
INFORMATION RATIO	0.79	

10Y TEST	MODEL	BM
ANNUAL RETURN	13.41%	12.25%
VOLATILITY	13.68%	14.74%
SKEW	-0.45	-0.46
KURTOSIS	0.95	0.97
MAX. DRAWDOWN	-18.69%	-25.13%
R-SQUARED	0.91	
TRACKING ERROR	4.55%	
BETA	0.88	
ALPHA	2.59%	
INFORMATION RATIO	0.57	

Figure 2 shows the rolling 3-year excess return of the model versus the benchmark for both the 30-year and 10-year tests. The variation in excess return over time is clear, including periods of relatively low performance. Notably, the distribution is asymmetric and skewed to the upside. Positive excess returns tend to be larger, as shown by the green average line, while negative periods are smaller in magnitude, indicated by the red line. This "skewed alpha," if we can call it that, is an appealing feature that we will examine shortly. First, we address why rolling excess returns vary so widely.
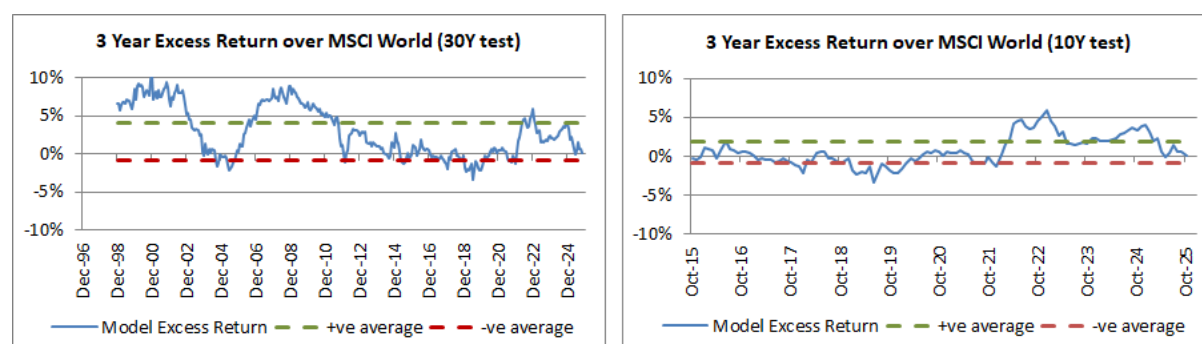

Figure 2: The rolling 3-year excess return of the model over benchmark

Dispersion is Also Your Friend

The key to understanding the variation in excess returns, both over time and between the long and short tests, is dispersion. When sector performance diverges, dispersion is high. When sectors move together, dispersion is low.

Because the model is long-only, fully invested, and selects only a subset of sectors, outperformance is only possible when dispersion exists. If dispersion is low, sector choices make little difference and performance naturally aligns with the benchmark.

Figure 3 shows year-end dispersion over time. While not a perfect measure of intra-year dynamics, it illustrates the relationship clearly. Periods of higher dispersion coincide with stronger excess returns (notably 1996–2000 and post-2020), and lower dispersion with weaker excess returns. High dispersion allows the model to rotate into stronger sectors. Low dispersion keeps performance closer to the benchmark but not materially negative. This is what drives the model's attractive, positively skewed alpha profile.
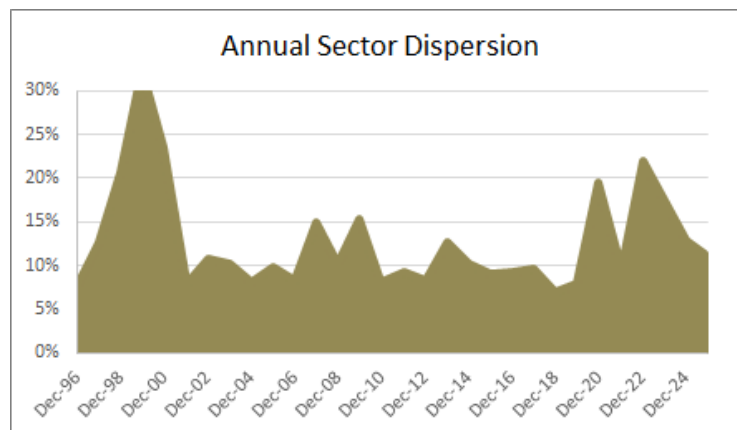

Figure 3: Annual sector dispersion measured at end of calendar year

Figure 4 provides a more robust statistical view of dispersion's impact. It plots the rolling 3-year excess return against rolling annual dispersion, showing a strong positive relationship: high dispersion aligns with strong model performance, while low dispersion brings results closer to the benchmark. The chart also shows that when dispersion is very high (above about 23%), excess returns are consistently strong. These episodes of exceptional performance, as well as the few cases where dispersion was moderate to high but excess returns were weaker, have been analysed in detail and are available subject to NDA
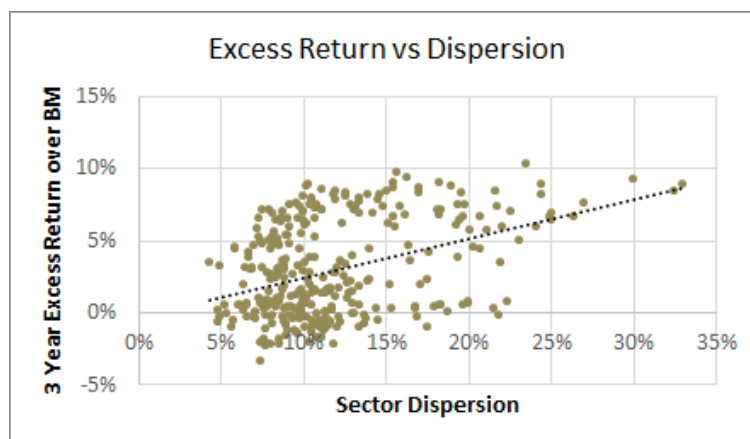
Figure 4: Rolling 3-year excess return versus dispersion

Drawdown, Recovery and Crisis Alpha

We now turn to drawdowns, defined as the loss from peak to trough, and time under water (TUW), the period required to recover to a new high. As noted earlier, the model exhibits a lower maximum drawdown than the benchmark, but the full picture is more informative.

Figure 5 compares the three largest drawdowns over the 30-year backtest. Benchmark losses were −54%, −45% and −25%. In all three cases, the model's drawdowns were smaller by 7% to 10% in absolute terms, and TUW was shorter by 5 to 11 months.

Lower drawdowns and faster recovery provide meaningful reassurance to investors and help them stay invested which is an essential ingredient for long-term success.

There is, however, another important feature not obvious from drawdown charts. Because these charts only show performance below the high-water mark, they obscure how the model performs relative to the benchmark over the entire drawdown period.

Figure 5 includes total returns for each episode. Benchmark returns are close to zero, which is expected since they cover the period from peak to new peak (small positive values occur when the drawdown ends mid-month). In contrast, the model delivers much stronger returns over the same windows, ranging from 12% to 29%.

Statistics of the 3 largest drawdowns in the 30 year backtest

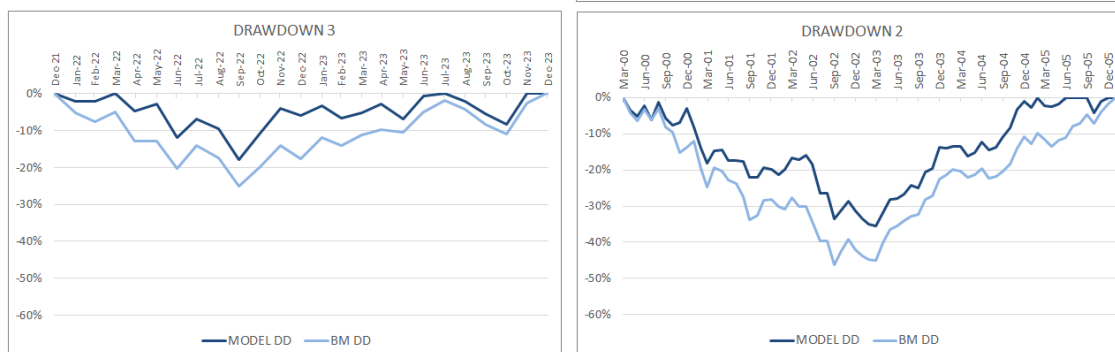|	START	DRAWDOWN		TUW (M)	RETURN
DRAWDOWN 1	31-May-07	BM	-54%	66	2%
		MODEL	-44%	59	29%
DRAWDOWN 2	31-Mar-00	BM	-45%	70	3%
		MODEL	-36%	59	25%
DRAWDOWN 3	31-Dec-21	BM	-25%	24	2%
		MODEL	-18%	19	12%

Figure 5: Analysis of the 3 largest drawdowns

The source of this strong outperformance or crisis alpha, becomes clear when we return to a standard performance chart, as shown in Figure 6. The model's drawdown was 9% smaller than the benchmark's, giving it an immediate head start on the recovery. It then outperformed during the rebound as well, resulting in a 22% excess return over the five-year period.

This outcome reflects two features of the sector-rotation model. The drawdown corresponds to the Tech Wreck starting in 2000, when Technology, Communication Services and Consumer Discretionary all suffered severe declines. The model exited Communication Services early in 2000, reduced Technology later that year and held no Discretionary exposure throughout 2000, generating outperformance during the downturn.

During the 2003 recovery, leadership shifted to Energy, Industrials and Materials, fuelled by a China-driven commodity supercycle. The model increased exposure to these sectors and maintained high-conviction weights through 2004–2005, producing further outperformance.

This ability to fully exit weak sectors and rotate decisively into stronger ones underpins the significant excess returns seen across the drawdown episodes and is one of the most powerful features of the rotation model.
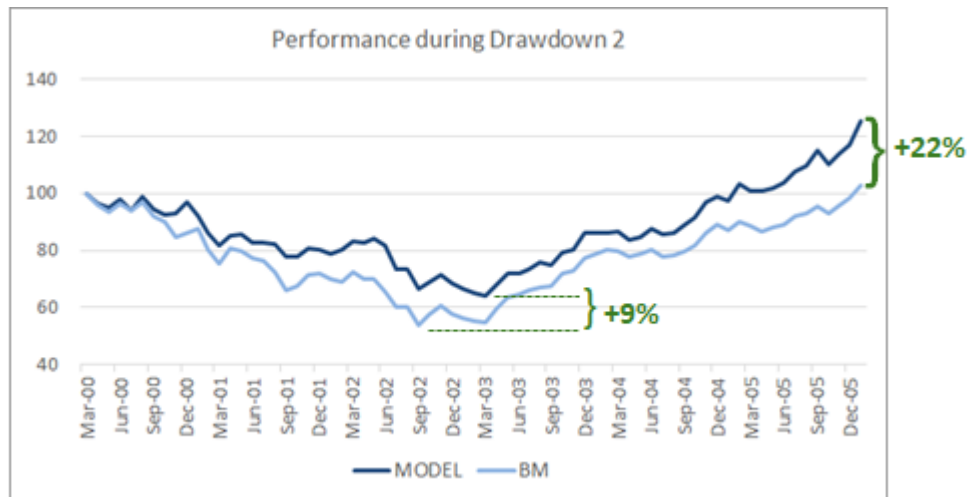
Figure 6: Performance of the model and benchmark during drawdown 2

Conclusion and Portfolio Applications

We have tested a ten-year-old equity sector rotation model over a long history and subjected it to a wide range of stress tests. We are confident that sector rotation based on relative momentum is a robust way to build an equity portfolio and provides a clear alternative to buy-and-hold and more traditional discretionary approaches.

This article focuses on global equity sectors. Future Index Partners is now developing European and US sector rotation strategies that will soon be available as replicable indexes with our index calculation and market-infrastructure partner, to be announced shortly. These strategies can be replicated using direct equities, sector futures or total return swaps and can be delivered in various product wrappers such as ETFs, mutual funds or AMCs.

Tracking error is moderate and outperformance is skewed to the upside. Drawdowns are lower, recovery times are quicker and relative performance during crises can be surprisingly strong.

We therefore believe these solutions are attractive to allocators seeking a differentiated building block for global, European or US equity exposure.

Future Index Partners is also developing variations with greater drawdown protection through a tactical cash component, as well as absolute return multi-asset strategies. For further information, please visit our website, follow us on LinkedIn or contact us directly.

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