Rivkin Momentum Strategy

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Overview

Starting from 1 April, Rivkin will be introducing a new systematic equity strategy based on the concept of relative momentum. This investment strategy will trade in US stocks that are contained within the S&P500 Index. In parts, this approach differs to what Global Members have experienced previously, in that instead of each trade having a stop loss level, potential target, and regular trade management, this approach involves rebalancing a portfolio of top momentum stocks once a month. At times, based on an index filter, the portfolio will be 100% in cash. During such times, this strategy will be complemented with a shorter-term trading approach.

What is relative momentum?

A relative momentum strategy buys the strongest performing stocks within an index. Put another way, it buys strength and avoids weakness. There are many different ways to measure the price momentum of a stock; however, ultimately, price movement is at the core of the strategy.

When a security has been trending up over a period of time, empirical evidence suggests that it will continue to rise, at least over the short term; or put another way, trends in stock prices tend to persist. This phenomenon is known as the momentum effect. It is a market anomaly that has been thoroughly researched over the past 2-3 decades by not only academics, but investors and traders alike.

The ***reasons*** why trends persist is less understood and agreed upon. However, some common explanations of why momentum exists draw upon many of the behavioural biases evident within financial markets. One of these is the bandwagon effect, whereby professional fund managers want to own stocks that have been recently performing well, thus buy strong performing stocks coming into the end of month or quarter, when performance is updated to their investors. Another explanation is that positive information, such as improved earnings, is not as rapidly assimilated into prices as academic research suggests. In short, financial markets are not completely efficient.

Buying the strongest stocks may seem counter-intuitive to some; however in this case we benefit from our research where the logic can be back tested, and results examined. Before we look at the back tested results, a little more background information is required.

Trading Universe

We have chosen to implement our momentum strategy on the constituents of the S&P500, one of the major stock indices in the US. Part of our reasoning is that the S&P500 includes a wide array of different companies from different sectors, and thus is well diversified. Furthermore, as it is comprised of the 500 largest stocks by market capitalisation, liquidity is not a problem.

As the S&P500 covers both the NYSE and the NASDAQ stock exchanges, it encompasses a broad range of company types. The chart below shows the sector weightings as of late 2015, with well dispersed coverage across the technology, financials, health care, consumer discretionary, industrials, and consumer sectors. This differs greatly to the ASX200, which as of the same time has a disproportionately large weighting to financials at 47.7%, followed by materials at 13.80%.

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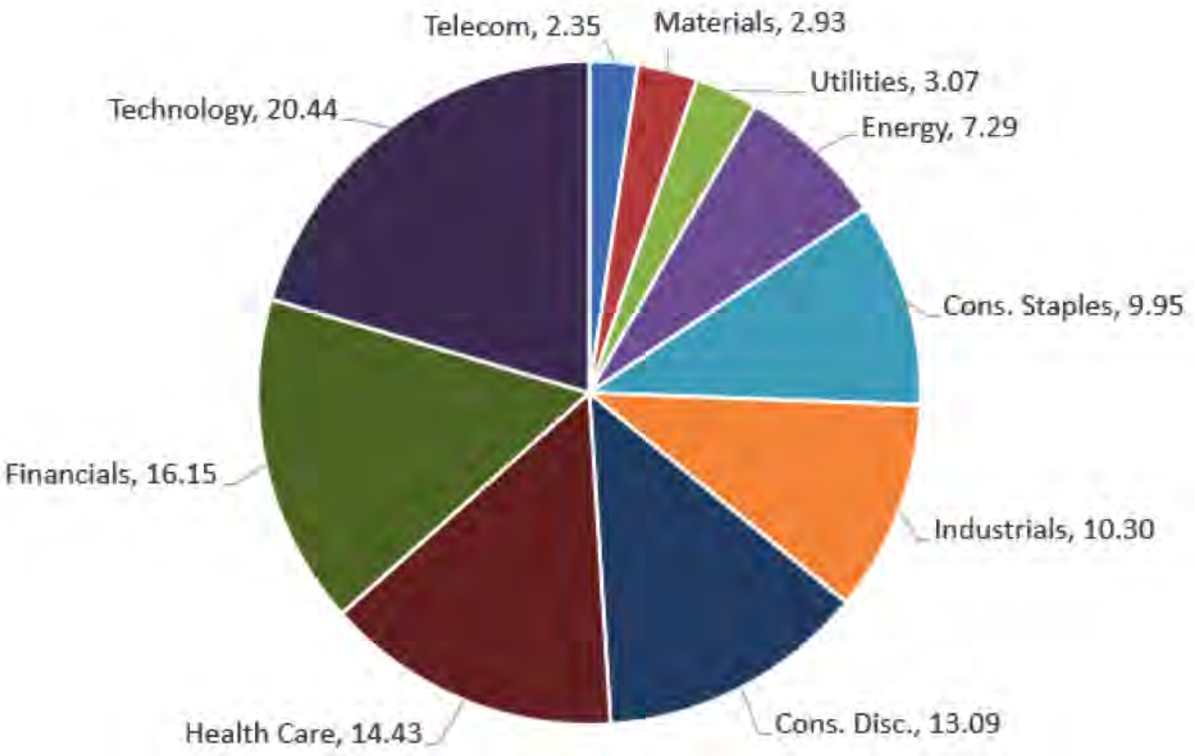
Figure 01. S&P 500 Current sector weightings (%)



Source: S&P Indices

How does it work?

Following the close of the last trading day of each month, our model will rank the entire S&P500 universe by a measure of price momentum. We use a combination of price momentum over approximately the past 6 and 12 month periods. When members begin the strategy, we will recommend to buy the top 10 ranked stocks at an equal weighting, meaning you buy 10 stocks each using 10% of the capital you allocate to this strategy. The ranking process occurs at the end of every month. Any stock that has dropped out of the top 10 will be sold, while new inclusions in the top 10 will be bought.

Positions are held without a stop loss or a target. Furthermore, we will not recommend any buying or selling outside of the end of month rebalance.

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Index Filter

As part of the strategy, we have included an index filter, which simply compares the S&P500 Index to its long-term moving average. If the S&P500 Index is below this average at the end of the month, we will recommend that all holdings are sold, and no new buys occur. Having an index filter is essential to avoiding holding stocks through major bear markets, and thus improves the results dramatically.

Assumptions and Considerations

Below is a list of assumptions and considerations from our back testing process

- Our back tested results are from a 15 year period from 1 Jan 2001 up until 31 Dec 2015.
- As we are trading US stocks, the below results are all in US dollars. We have not accounted for, whether adversely or favourable, the effects of the AUD/USD exchange rate changes.
- We have eliminated survivorship bias by accounting for previously delisted stocks and only testing on current constituents from the time they were actually included in the S&P500 Index.
- Our starting account balance was US$50,000
- Brokerage rates of US$20 per trade or US$0.03 per share have been applied.
- The below results do not include the cost of financing, should members choose to implement this strategy with CFDs rather than equities.
- The below results do not include the dividends which may have been received.

Back tested results

Over our back testing period, our momentum model has produced a compounded annual return of 16.64%. It is important to note that there has been two major bear markets over this time, during 2001-2003 and again from 2008 to early 2009, during which the model was largely in cash. As such, the model has been invested 66.50% of the time of the past 15 years. The risk adjusted annual return, which accounts for the amount of time the model is actually invested, equates to a compounded annual return of 25.03%.

Over the course of 15 years, there have been 542 trades, with a win% of 53.51 %, meaning that slightly more than half of all trades are profitable. Profitable trades have averaged a return of 15.86% over a holding period of 58 days, while unprofitable trades have averaged a loss of 8.03% over a holding period of 34 days.

The maximum daily drawdown is 26.86%.

The below table shows the monthly returns over the testing period.

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Figure 02. Monthly returns over testing period

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year%
2001	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
2002	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%
2003	0.0%	0.0%	0.0%	0.0%	12.0%	0.6%	5.8%	6.6%	-1.8%	10.9%	5.8%	-3.1%	41.7%
2004	5.2%	-3.8%	-1.6%	-10.2%	7.1%	4.7%	-7.7%	-0.3%	0.0%	0.0%	8.0%	1.1%	0.8%
2005	1.5%	10.9%	-3.7%	-4.0%	2.4%	5.6%	4.6%	5.5%	5.9%	-5.7%	3.5%	3.2%	32.4%
2006	17.0%	-5.6%	11.7%	-1.7%	-8.7%	1.4%	-8.0%	-0.6%	-1.2%	4.5%	-0.5%	0.0%	5.5%
2007	2.2%	-3.8%	9.5%	2.3%	5.9%	-1.0%	1.8%	-0.6%	9.4%	3.5%	-8.0%	-0.1%	21.6%
2008	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
2009	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	11.9%	8.4%	6.0%	-6.8%	4.6%	12.4%	41.0%
2010	-4.1%	5.3%	13.8%	-5.9%	-11.3%	-1.8%	0.0%	0.0%	0.0%	-1.1%	3.4%	4.2%	0.4%
2011	-0.1%	9.5%	2.4%	-0.3%	-1.3%	-3.2%	1.0%	-5.4%	0.0%	0.0%	0.0%	0.0%	2.0%
2012	0.0%	4.4%	4.3%	0.5%	-4.3%	4.0%	-2.7%	6.4%	6.0%	1.1%	2.8%	2.8%	27.6%
2013	7.1%	2.5%	7.2%	-2.6%	8.6%	-2.4%	8.7%	-0.5%	8.0%	3.6%	5.4%	-0.3%	54.5%
2014	2.4%	7.9%	-2.1%	3.0%	3.8%	5.7%	-3.8%	6.6%	-0.2%	2.1%	5.3%	0.0%	34.5%
2015	3.0%	7.9%	3.4%	-5.1%	5.5%	-0.4%	2.4%	-6.1%	-2.0%	0.0%	1.9%	-1.7%	8.3%
Avg	**2.3%**	**2.4%**	**3.0%**	**-1.6%**	**1.3%**	**0.9%**	**0.9%**	**1.3%**	**2.0%**	**0.8%**	**2.2%**	**1.2%**	

**Past performance is no guarantee to future returns*

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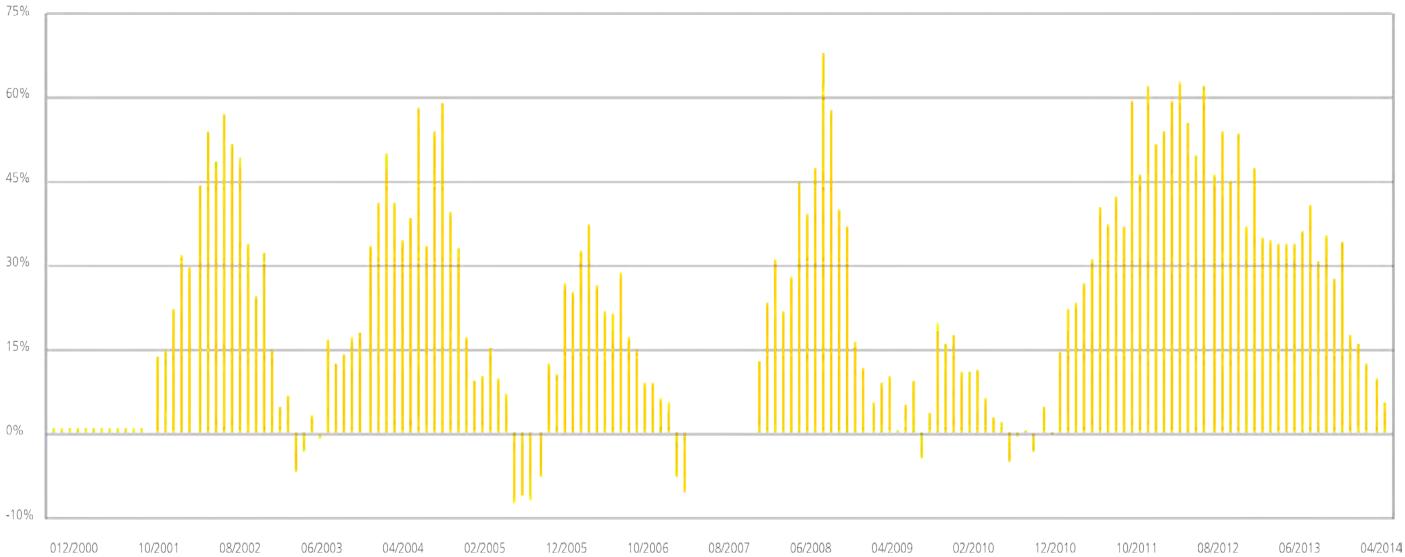
Rolling Window Analysis

Rolling window analysis looks at the returns over discreet periods throughout our sample. As this is a longer-term style of active investing, below, we present the results from each 12 month sample across our testing period. The below histogram shows the returns achieved over each 12 month period beginning from 1 Jan 2001 to 31 December 2001 and ending at 1 Jan 2015 to 31 Dec 2015, 169 samples in total. As you can see, the returns are not completely smooth, but we would not expect them to be with an end of day trading system which takes around 36 trades every 12 months. Encouragingly, 84.02% of the sample yielded positive results, with only 8.28% being negative, leaving 7.69% at 0% or uninvested.

Figure 03. 12-month rolling returns (%) 2001-2015



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Concluding Remarks

The concept of relative momentum is a well-trodden path, in that the robustness of such an approach has been verified by many over recent decades. While the future will never mirror the past, we are confident our relative momentum strategy will produce vastly superior risk adjusted returns to buy and hold.

This is a proprietary strategy created and operated by Rivkin.

Contact us

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