

# The Ups and Downs of Sector Rotation

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Investors have used sector rotation strategies for many years. These strategies have become even more popular recently with the rise of exchange traded funds (ETFs), which have made getting sector exposure much more efficient. Sector rotation strategies do away with stock picking and seek to capitalize on broad industry trends. While some sector strategies use valuation or economic data in order to allocate to the different sectors, one of the most popular ways to analyze sectors is using momentum.

Momentum strategies overweight areas of the market that have performed well in the recent past. Many investors will use a simple moving price window (six or 12 months for example) and rank their potential investments from best to worst over that time period. This approach is very objective, and doesn't require an extensive knowledge of each sector in the universe. In 1999, Moskowitz and Grinblatt showed in an academic paper<sup>1</sup> that there was significant momentum at the industry group level. Even since this anomaly was published many years ago, it continues to deliver outperformance.

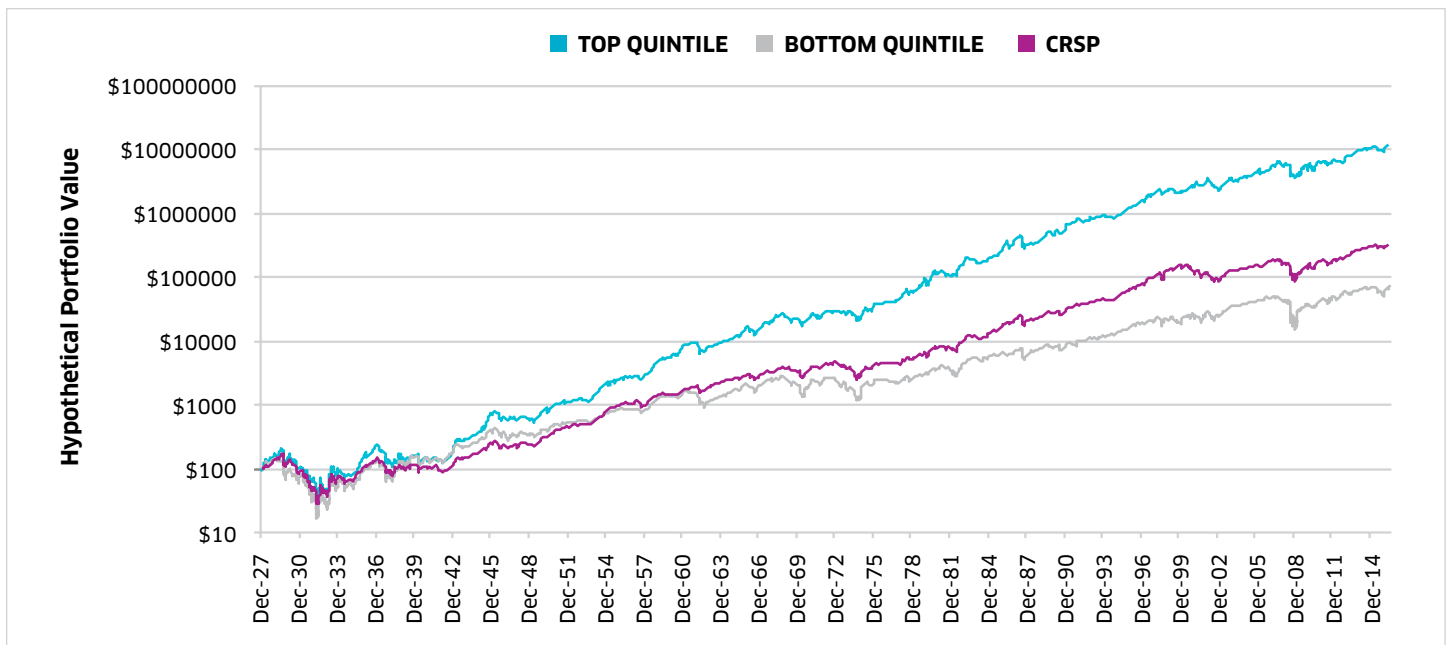
The outperformance of sector rotation strategies can be quite significant over time. Since momentum is an objective factor, it is easy to backtest using a set of simple rules. The Ken French Data Library has data on 48 industry groups going back to the 1920's. We used this data to look at how well sector rotation strategies have performed over long time horizons, and the risks investors must be aware of to realize the returns.

Dorsey Wright uses a slightly different method to calculate momentum. We use a Point and Figure matrix to rank the industries, rather than a moving time window, over time. If you want to find out more about this ranking methodology you can visit our website, [www.dorseywright.com](http://www.dorseywright.com) or download our [Point & Figure Relative Strength Signals white paper](#). Both our methodology and a moving time window methodology seek to buy strong industries and avoid weak ones. For the purposes of our study, each month, we ranked each of the 48 sectors from best to worst and separated the universe into quintiles. The sectors were re-ranked each month and the industries were equally weighted within their quintile group. Since we want to own the strongest sectors, we focused on the top quintile when examining the historical returns. We compared the return of the top quintile of groups against the broad market (the CRSP market return from the Ken French Data Library) as well as the bottom quintile of groups.

The returns over time are exceptional if you focus on holding the top groups. The annualized return of the top quintile is 14.1% versus 7.7% for the bottom quintile, and 9.5% for the market. The excess returns do come with more risk (measured by standard deviation), but, from a performance perspective, it is worth the extra volatility.

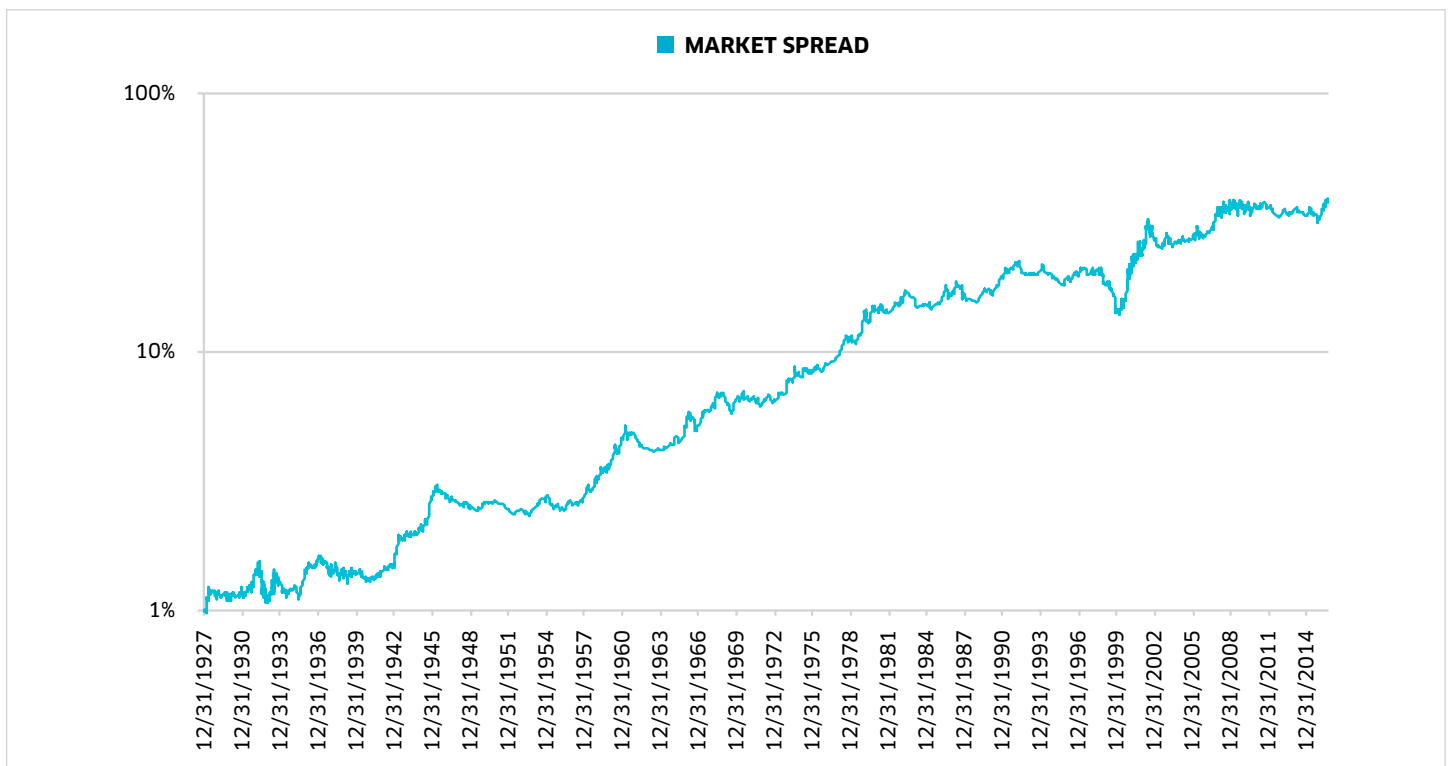
	TOP QUINTILE	BOT QUINTILE	CRSP
<b>Cum</b>	12214202.0%	74420.8%	326662.6%
<b>Annual</b>	14.1%	7.7%	9.5%
<b>St Dev</b>	26.2%	24.8%	20.2%

<sup>1</sup> Moskowitz, Tobias and Grinblatt, Mark, "Do Industries Explain Momentum," 1999



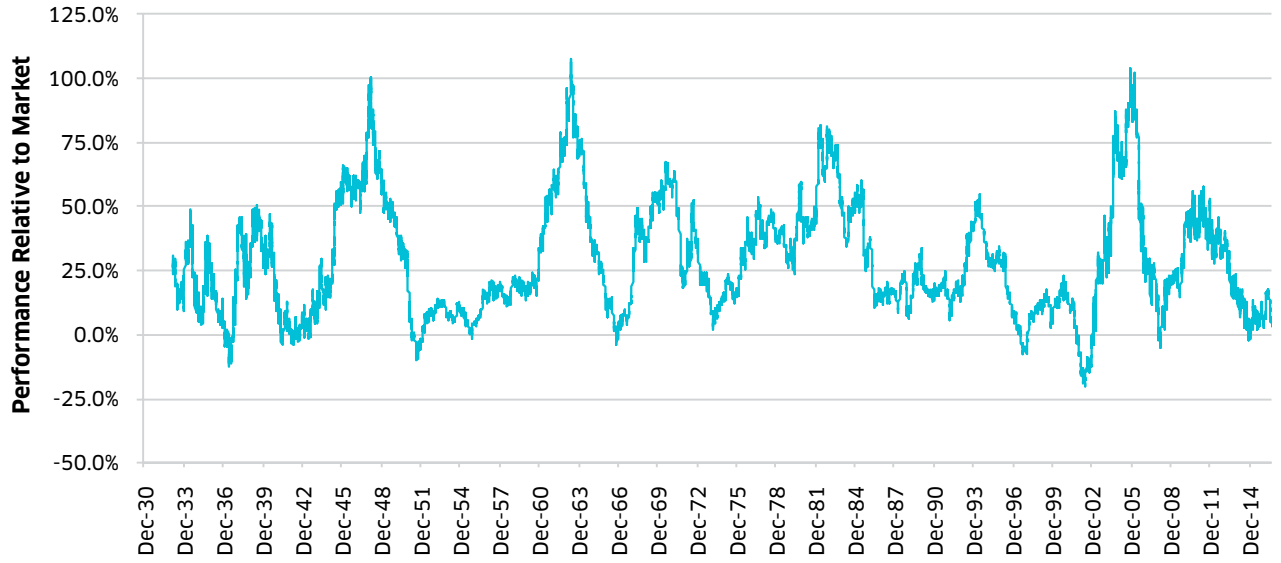
The "Top Quintile" and "Bot Quintile" performance numbers are based on the back-tested performance of non-investable indexes. Investors cannot invest directly in an index. Indexes have no fees. Please see the final page for important disclosures regarding back-tested performance. Examples presented herein are for illustrative purposes only and do not represent past or present recommendations. Past performance is not indicative of future results. Potential for profits accompanied by possibility of loss.

The excess return over time versus the broad market is shown in the chart below. The upward sloping equity curve shows the exceptional outperformance over time, but it also becomes clear that there are periods of underperformance versus the broad market that investors must tolerate.

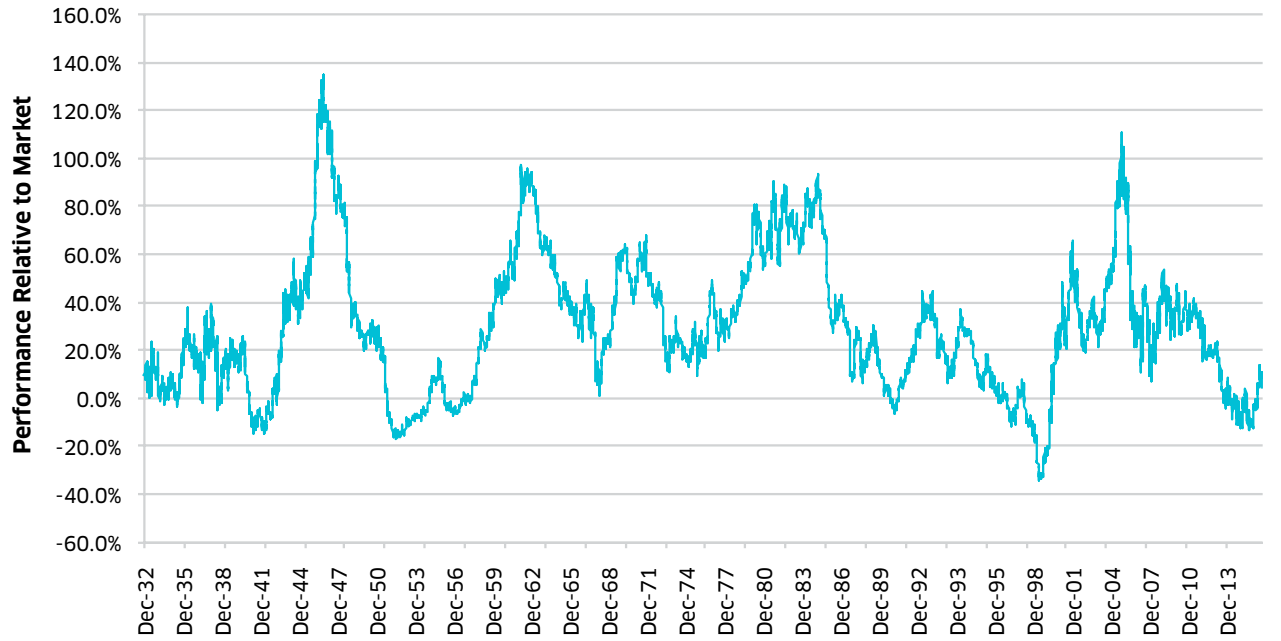


When we look at the performance over rolling three-, five-, and 10-year time horizons it is clear that there can be long time periods when owning the top sectors underperforms the broad market. As you get out to longer time horizons like 10 years, the excursions below the 0% line (i.e., underperformance) become less frequent. But, at shorter time horizons, underperformance is very normal and doesn't mean the strategy is "broken." Remember that the strategy in the backtest was implemented exactly the same way month after month. There are just times when the market rewards other factors, and that has been a normal part of investing for many, many years.

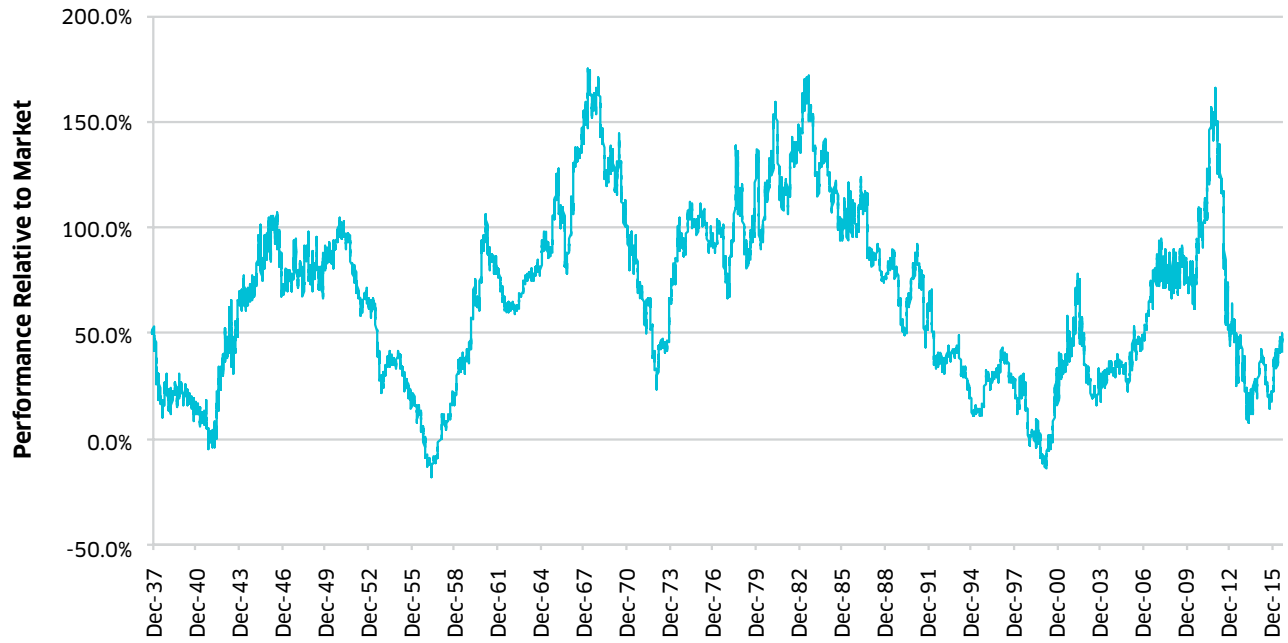
### 3 YEAR



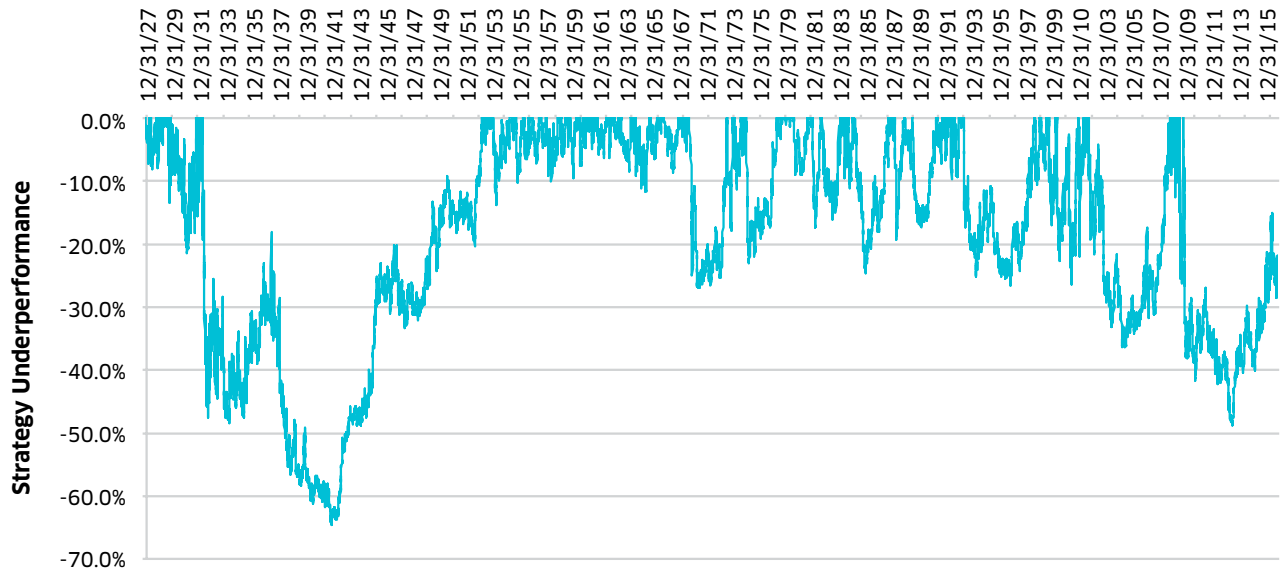
### 5 YEAR



### 10 YEAR



We believe the best course of action for these normal periods of underperformance is patience. Another way to look at the periods of underperformance of a sector rotation strategy is to look at the drawdown relative to the broad market. The chart below shows how often the strategy we created underperforms the broad market by 20% or more despite the beneficial returns over time.



Examining the drawdowns in this fashion allows us to look at the larger periods of underperformance and look at how the strategy performed in the six months, one year, two years, and three years after a period of large underperformance. The table below shows the trough of underperformance for the large relative drawdowns over the years. Keep in mind that in the table below we are looking at everything relative to the broad market. So a drawdown level of 30% actually means the strategy underperformed the broad market by 30% at its worst. The strategy could actually have delivered positive returns during that time period, they just would have been much worse than the market.

TROUGH DATE	DRAWDOWN LEVEL	+ 6 MONTHS	+ 1 YEAR	+2 YEARS	+3 YEARS
12/8/1932	-30.4%	14.3%	17.7%	11.1%	31.0%
7/13/1935	-28.9%	30.0%	32.9%	42.9%	26.1%
4/11/1939	-23.0%	9.1%	13.1%	6.1%	18.5%
11/4/1940	-20.8%	2.1%	4.7%	13.4%	49.9%
6/13/1949	-22.3%	6.2%	10.5%	8.0%	-1.0%
9/8/1953	-24.6%	4.6%	15.7%	7.3%	9.1%
6/12/1956	-21.6%	10.9%	5.4%	20.2%	40.3%
6/17/1963	-20.3%	3.0%	4.3%	10.9%	38.4%
10/25/1966	-17.6%	14.8%	20.7%	40.4%	27.2%
7/29/1969	-16.8%	18.4%	18.2%	12.0%	18.6%
5/6/1985	-15.9%	6.3%	14.9%	27.1%	10.5%
12/6/1988	-17.3%	7.8%	11.4%	27.0%	41.5%
7/7/1995	-19.8%	5.4%	8.7%	16.4%	13.4%
3/14/2000	-39.5%	15.6%	68.2%	88.1%	89.6%
7/15/2003	-23.8%	7.8%	6.3%	7.1%	16.8%
11/16/2012	-15.2%	5.3%	2.6%	-0.2%	-4.6%
11/17/2015	-19.2%	18.9%			
Average		10.6%	15.9%	21.1%	26.6%
All Days		3.8%	7.9%	15.7%	24.0%

Once the strategy's relative performance bottomed out, the next six to 24 months were critical! Over the six months following the relative bottom, the strategy outperformed the market by 10.6% versus 3.8% for all of the days in the sample. (Note: These are average returns, not compounded returns). The same type of outperformance exists going out two years from the bottom. By the time you get out three years from the bottom, the strategy was performing in-line with historical averages. However, it is important to note that the strategy wasn't underperforming! The outperformance after a trough in relative performance was long lasting.

One of the biggest problems that has plagued investors over the years has been a lack of discipline and patience. The data shown above makes it clear that it is normal for a sector rotation strategy to underperform from time to time. This is the case with all investment strategies. No strategy outperforms all of the time! Most investors, however, tend to panic and sell during these periods of underperformance. This can really hurt long term returns because some of the best performance often comes after periods of large underperformance. There are certainly reasons to abandon a strategy. For example, if a manager totally changes philosophy after a period of underperformance it is usually a very good indication to reconsider your investment in that strategy. But when a robust strategy like momentum is implemented in a systematic and disciplined fashion and continues to focus on capitalizing on strong sector moves, it can pay off to hold on during periods of underperformance and wait for the relative rebounds that have come with the strategy over time.

## DISCLOSURES:

The CRSP U.S. Total Market Index (CRSP) is comprised of nearly 4,000 constituents across mega, large, small and micro capitalizations, representing nearly 100% of the U.S. investable equity market. The total return index was first posted on the NASDAQ GIDSSM (Global Index Data Service<sup>SM</sup>) feed on December 31, 2012; the price return index was posted on January 18, 2011.

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