Sector Rotation

How to Pick a Winning Team

The stock market can be divided into teams – sectors and styles that tend to cycle in and out of favor. Individual stocks in the sector taken together affect the performance of the sector, and at the same time, stocks within the sector are brought along by the group.

Obviously, we want our money invested with the winning teams. Since no one sector is always on top, it makes sense to look for strategies that find and stay with sectors while they are on the move, and get out when their day is done. This article employs technical analysis and Wealth Lab Pro® portfolio simulation to evaluate ways to consistently scout out the winners.

Sectors vs Styles vs Stars

One popular way to divide the market into industry-related sectors is reflected by the SPDR® Exchange Traded Funds (ETFs). These funds provide a means to trade the sectors directly, using the tickers shown in Table 1. Another popular approach is to group like-sized companies into the Styles embodied by the iShares® ETFs shown in Table 2. This article pits these two divisions against each other in a back-testing competition that goes back through ten years of historical data. Also in the game is the complete set of 30 iShares funds which trades commission-free at Fidelity. This family includes international and bond ETFs to help capture profits across the globe. In addition, we'll look at rotation strategies for an "all-star" team of stocks composed of the current Dow 30 Industrials shown in Table 3.

Sector Rotation Strategies Tested

One of the most intuitive ways to seek top sectors is to simply pick the ones with the most momentum. To state that in technical analysis terms, the Rate of Change (RoC) High rotation strategy invests 33.3% of the simulated account in each of the top three players with the highest percentage gain over the past 30 days. The contrarian take to the same indicator is Rate of Change (RoC) Low, which picks the three lowest percentage gainers, in hopes of getting in a beaten-down sector and riding it to the top.

But sometimes the losers just lose. A strategy that attempts to capitalize on that possibility is the Long/Short, which buys into two RoC High tickers and at the same time shorts the lowest RoC ticker. The sizing for this strategy is 45% each, with a 1.5 margin account. Margin interest is not included in the calculations, although it may be significant. Commissions are included in the calculations, where applicable for trading at Fidelity.

A more complicated approach checks the RSI technical indicator to determine the choice funds. This strategy is provided with Wealth Lab, and back-tested as written. It seeks the three lowest 14-day RSI values and adjusts investments of 33.3% in each on a daily basis. Even though this strategy is able to change the holdings each day, sometimes it will hang with a ticker for weeks at the time. The intent is to buy low and sell high, but it's vulnerable to a prolonged downturn.

The strategies above were applied to the Sector funds, the Style funds, the commission-free iShares, and the Dow 30 stocks. The stocks offer added opportunities with individual fundamental stats and we apply the Price-to-Earnings (P/E) ratio two ways: once to harness the mo-mo of the top three richest valued stocks and, alternatively, the value approach of choosing the three lowest P/E bargains among the Dow 30.

Another bargain-hunter strategy is known as the Dogs of the Dow. This strat puts 10% of the portfolio on each of the 10 Dow stocks with the highest dividend yield, so that these relatively unloved puppies can either show their championship breeding and rise to the top, or at least pay out cash while they sit in the doghouse.

Benchmarks

Before looking at the results, check out Table 4 for the Buy & Hold performance to form a basis for comparison. The stocks or ETFs in each group were given an equal share of the portfolio and held for the ten year period. The "fantasy portfolio" starts out with $100,000 on 12/31/2001. Wealth Lab Pro shows us the idealized results of our choices over the next ten years. Even though the simulation has significant differences with reality, it provides a means for comparing strategies.

The profit is the primary yard marker of success and the top rows of Table 4 keep score on that. Note that dividends made up two thirds of the profit for the S&P 500 during the past ten years. Just holding the style or sector funds did better than the S&P500. The goal of this exercise is to find rotation strategies that even top that.

A row for commissions shows what it cost to play the game while the drawdowns show the how far the funds ran in the other direction. The Sharpe ratio attempts a composite of reward for the risk. Higher numbers are better Sharpe ratios.

A note of caution about the Dow 30 results: It is biased to the upside because it uses the current Dow 30. Back in 2001, the Dow "dream team" included AIG and C. Those two dropped in price and got kicked off the Dow during the 2008 credit crisis. If we used the actual past players, the stats would not have been exactly what you see presented here. Going forward, if you set out trading the current Dow you can expect to pay for a few companies that leave the game injured.

Scoreboard

First up for the post-game highlights is the SPDR fund rotation. Only the low RSI rotation strategy in Table 5 column 1 was able to bring in more dollars than just hedging bets across all the SPDR sector funds as in Table 4 column 1. It put up an 8% annualized gain, even after paying more than $22,000 in commissions. The other strats, when applied to SPDR, under-performed the SPDR benchmark. In fact, the Long/Short strategy even lost money because the short trades lost more than the little bit the long trades gained.

Table 6 summarizes runs for the iShares Style ETFs. Again the RSI rotation strat was the leader. The Long/Short strategy overall suffered due to the short trades. Breaking out Long and Short shows that going long the Top 2 percent gainers was actually the most valuable strat for the Style funds.

Opening the competition to a wider variety of stock, bond, and international ETFs produced the highest historical performance, as demonstrated by Table 7. Column 3, the momentum strategy of getting in the top 10% of the 30 commission-free iShares funds paid off best. See Figure 1 for a graphic depiction of the Equity Curve compared to Buy and Hold of IVV – the S&P 500 ETF by iShares.

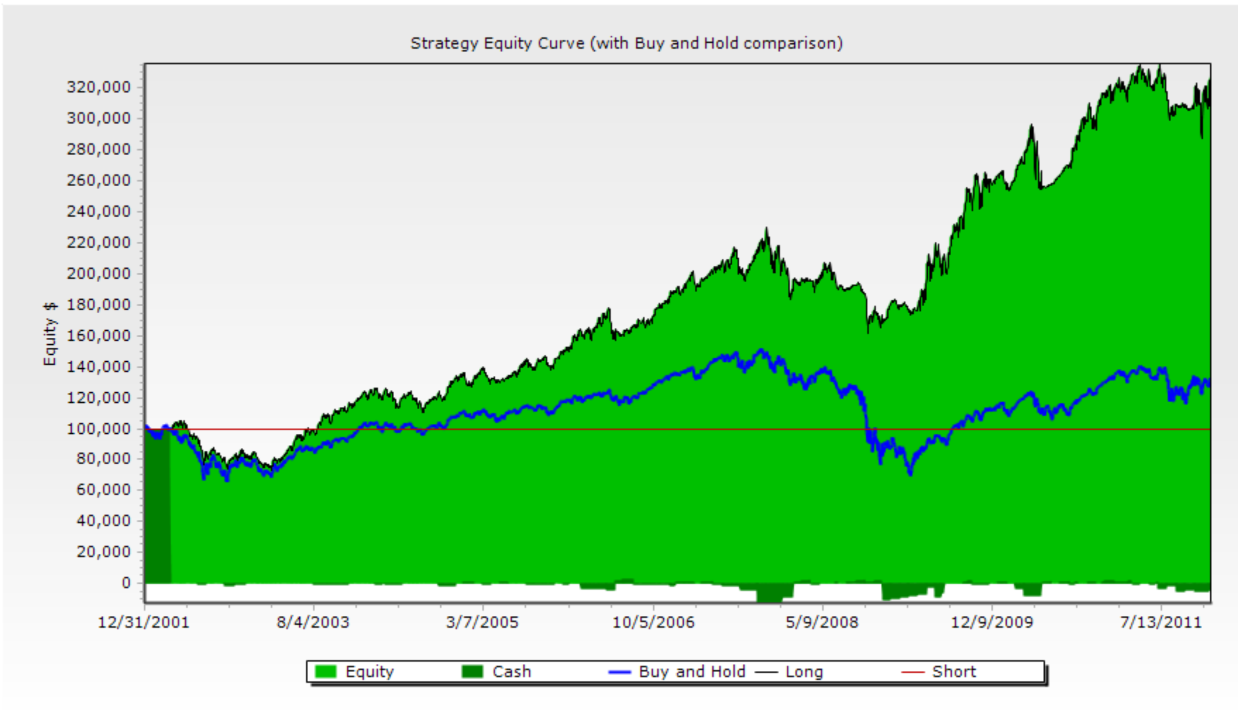

Figure 1 - Simulated Equity Curve for RoC High Strat applied to iShares ETFs vs Buy and Hold of IVV

Splitting investment capital between the top 2 high RoC iShares ETFs also produced a nice gain. Shorting the lowest RoC just cost money when dealing with this group too, partly due to the requirement that shorts pay dividends out of pocket.

RSI Rotation among the 30 iShares ETFs produced substantial gains, but came with larger drawdowns than the high RoC momentum rotations.

Dow 30 Stock Strategies

Shifting to individual Dow stocks, the simulation showed that the RSI rotation tested out as most profitable of whole field although still with a large drawdown. The RoC strats couldn't win for losing with Dow stocks. Neither choosing the high RoC stocks nor the low RoC stocks could bring out a profit. But it's not that the stocks were losers. Even shorting the worst stocks was unprofitable.

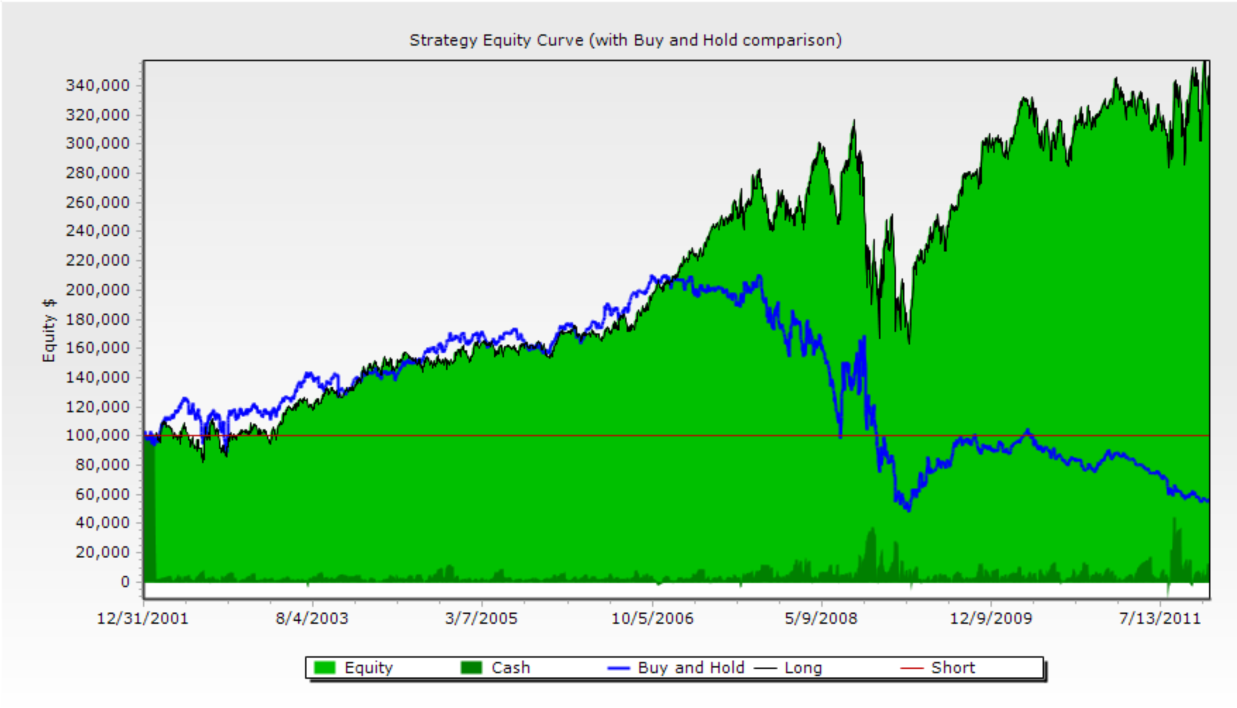

Figure 2 - RSI Rotation of current Dow 30 plotted versus Buy and Hold of BAC - Wealth Lab Pro portfolio simulation

With stocks, we can make decisions based on fundamental data about each company. Earnings and dividends are the most compelling factors for investors so those entered another round of portfolio simulation in Wealth Lab Pro, in this case going back only 5 years.

Once again, the RSI rotation led the pack. Selecting stocks with high P/E also finished well, with slightly less gains than RSI rotation but much lower drawdown. The net result was almost equal Sharpe ratios for RSI and high P/E. Selecting Dow stocks based on low P/E ratio alone was clearly inferior in this test.

Dogs of the Dow and the RSI Rotation strategies were tested in both the 5-year and 10-year trials. Dogs of the Dow did okay for the 10 year but performed much worse in the most recent 5 year period. That says the Dogs of the Dow strategy fell apart, as buying the lowest performers tends to disaster in crashes.

RSI rotation profits divided more evenly over the years. However, that doesn't mean it can pay the mortgage every month! Check Figure3 for play-by-play coverage of each month's profits.

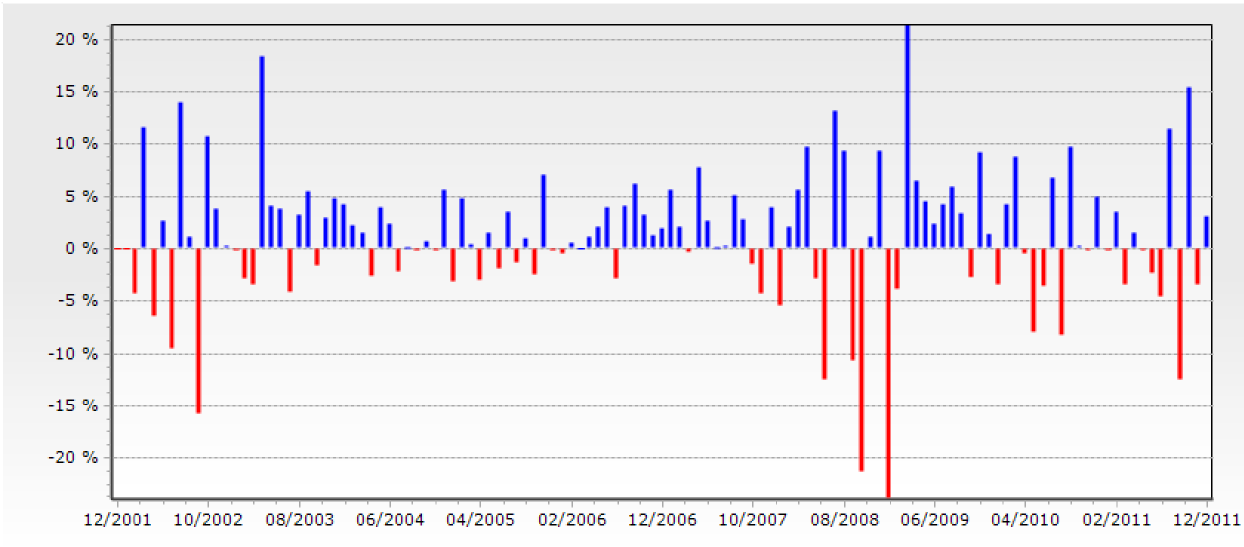

Figure 3 - Monthly Profit/Loss of Dow 30 RSI Rotation - Wealth Lab Pro Portfolio Simulation

Play-Offs

The Sharpe ratio is a mathematical calculation that takes melds both gains and drawdowns – yardage, sacks, and fumbles. The top three Sharpe ratios of this article are:

- iShares 30 RoC High (table 7, column 3)
- iShares Styles RoC high (table 6, column 5 - the long-only part of the Long/Short strategy which picks top 2 RoC ETFs)
- Dow 30 RSI Rotation (table 8 column 2)

One way to decide between them is to see which is the most resilient to different circumstances. After all, these are just simulations of the past and we don't know what the future will bring.

Since the RoC High strategy only evaluates the choices once a month, the optimization feature of Wealth Lab Pro can show how the results vary depending on which day of the month is chosen. See Fig 4 - 5.

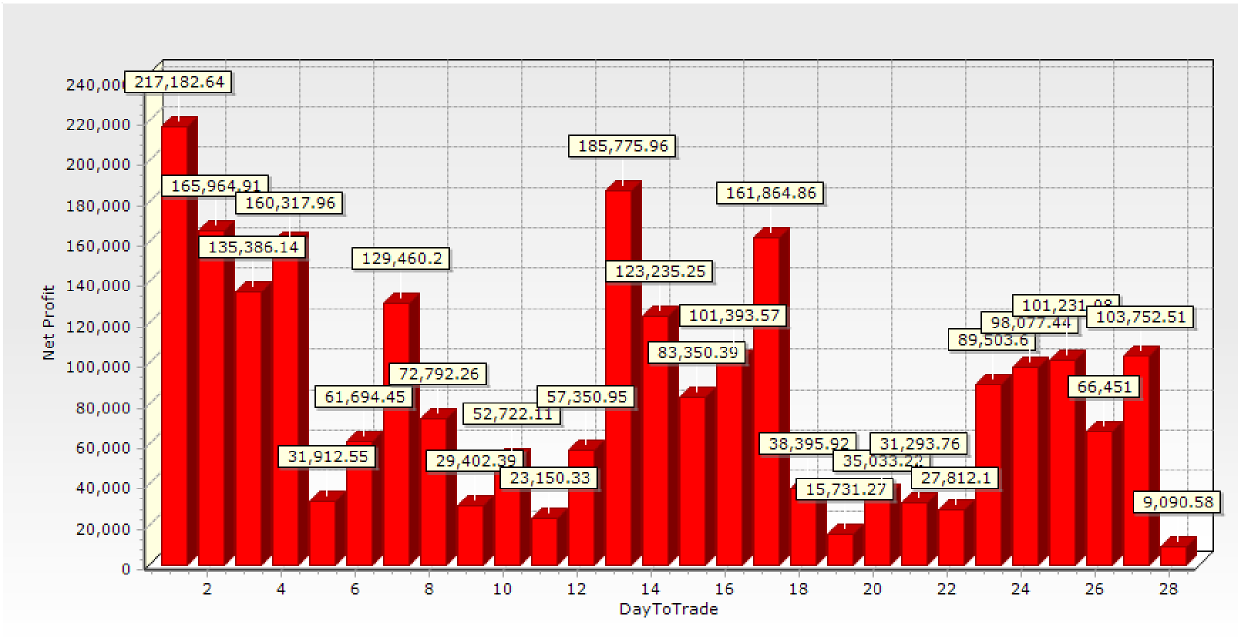

Figure 4 - Wealth Lab simulation of top 3 iShares 30 High RoC with various evaluation dates

The thing to watch for in this exercise is consistency. It's a mistake to assume that the day of the month when the funds are evaluated should make much difference. Figure 5 - rotating between the 30 iShares funds - has the best results, the worst results, and about everything in between. That disqualifies it from being a tradable strategy.

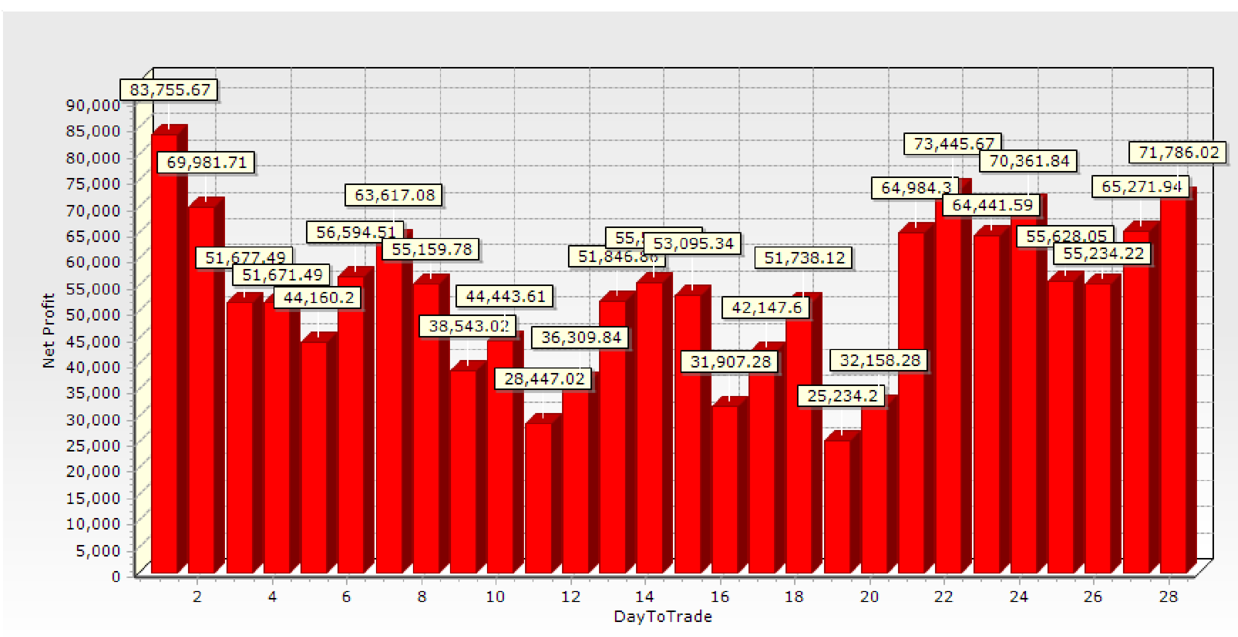

Figure 5 - Wealth Lab simulation of top 2 iShares Styles High RoC with various evaluation dates

Rotating between the top two of nine iShares Style ETFs presented more stable results in Figure 6. With fewer funds and less performance difference between funds this makes sense. However, it still has a dependency on the day of the month chosen for evaluation and some choices brought lackluster profits.

The RSI rotation doesn't have this particular weakness because it evaluates the investment choices each day. However, it has a much larger drawdown and hence a lower Sharpe ratio. The RSI rotation is also harder to implement because it requires charting tools to calculate the RSIs whereas the monthly performance of stocks and ETFs is much easier to see. The Dow 30 stocks with RSI rotation put up a bigger profit score but that is a "fantasy team" and repeating that performance presents the difficulty of knowing which of the Dow 30 all-stars will get dropped in the future.

On the up side, most of the strategies tested came in significantly ahead of Buy and Hold of the S&P 500. Rotating among a high-quality selection of markets can give a viable alternative to risking everything on one or two investments. The best rotation strategies tested turned in historical performance that was better than holding an equal weight of each ticker in the group. Ultimately, it is up to you to decide how these strategies might fit into your plans.

This article was written by Jackie Ann Patterson, the editor of BackTesting Report, which offers in-depth research on trading strategies. She is also a frequent speaker, appearing at the Traders Expo around the country. Jackie is an active investor herself and leverages her computer engineering background to develop and test strategies for the U.S. stock market.