LETTER FROM THE EDITOR

Many publications are dedicating January issues to a look at the year that was or a forecast for the year that is to be. We decided to ignore time and in this issue of Technically Speaking we review timeless techniques.

Gaps, for example, have been a part of charts for hundreds of years and will always be visible on charts. This month, we review the Dow Award-winning paper written by Julie R. Dahlquist, PH.D., CMT and Richard J. Bauer, JR., PH.D., that explains how to trade gaps.

Relative strength (RS) is also a technique that has worked for decades and is likely to continue providing useful trade signals in the future. John Lewis, CMT, from Dorsey Wright & Associates, expands on how RS can be applied to generate profits. Looking a little bit ahead, Tom Dorsey, co-founder of Dorsey Wright & Associates, will have more insights into successful strategies at the MTA Symposium in March.

Bloomberg recently highlighted a useful application of the relative strength index (RSI) in Bloomberg Briefs and a summary of that information is presented here. Andrew Thrasher, CMT, then explains how copper has been replaced by semis in the modern economy as a stock market indicator.

While trend lines have been useful in the past and will be useful in the future, Greg Schnell, CMT, demonstrates that they can be applied incorrectly. In an article that does provide a specific forecast for 2015, Mark Ungewitter uses timeless techniques like the Dow/Gold ratio, cycles, market breadth and the Coppock Curve to look at the stock market.

Although we try to provide articles that will interest everyone, if we aren’t featuring a topic you find interesting, please let us know what you’d like to see more of by emailing us at editor@mta.org.

Sincerely,

Michael Carr
Editor’s note: This is a brief abstract of the 2013 Charles H. Dow Award winning paper.

Gaps have attracted the attention of market technicians since the earliest days of stock charting. A gap up occurs when today’s low is greater than yesterday’s high (See Gap A in Figure 1). A gap down occurs when today’s high is lower than yesterday’s low (See Gap B in Figure 1.). A gap creates a hole in a daily price bar chart. This gap is called a “window” when using candlestick charts. A gap up is referred to as a “rising window” and is considered a bullish signal. A “falling window,” which is a gap down, gives a bearish signal. (Nison, 2001).

It is easy to understand why early technicians noticed gaps; gaps are conspicuous on a stock chart. However, technicians did not just pay attention because they were easy to spot. Because gaps show that price has jumped, they may represent some significant change in what is happening with the stock and signal a trading opportunity. According to Edwards and Magee, the importance attached to gaps was unfortunate because

there soon accumulated a welter of ‘rules’ for their interpretation some of which have acquired an almost religious force and are cited by the superficial chart reader with little understanding as to why they work when they work (and, of course, as is always the case with any superstition, an utter disregard of those instances where they don’t work).

Edwards and Magee, 1966, p 190
Given the persistence of some of these superstitions, such as “a gap must be closed,” surprisingly little study has been undertaken to analyze the effectiveness of using gaps in trading. In this paper we provide a comprehensive study of gaps in an attempt to isolate gaps which present profitable trading strategies.

**DATA AND METHODOLOGY**

To study more closely the gaps for individual stocks, we consider stocks included in the Russell 3000 between January 1, 2006 and December 31, 2010. During this time period, 20,611 gap ups occurred and 17,435 gap downs occurred. With 1,259 trading days in the sample, this is an average of about 16.4 stocks gapping up and 13.8 stocks gapping down each trading day. Although some days, such as April 1, 2009, which had 375 gap up stocks and February 17, 2009, which had 409 gap down stocks, have a much higher observation of gaps, a typical day is characterized by at least a few gaps. Gap ups occurred on 1153, or 91.6%, of the trading days. Gap downs occurred on 1033, or 88%, of the days. A gap of one variety or the other occurred on 1164, or 92.5%, of the days.

Throughout this study, we use “Day 0” to represent the day a gap occurs. For example, consider a gap up. The day before the gap is Day -1 and the stock’s high on Day -1 is the beginning of the gap. On the next day (Day 0), the stock’s low exceeds the high on Day -1. We base our return calculations from the open at the next day (Day 1) to the close on Day 1 to close on the day of the return length; therefore, a 3-day return is calculated as buying at the open of Day 1 and selling at the close of Day 3.

**RESULTS**

**Gap Ups**

Table 1 shows the overall results for trades based on observing gap ups. On Day 1, the day following a gap up, a stock averages a price decline of 0.056%. While following a trading strategy of going long a stock that gaps up one day after the gap is not profitable in our sample, this result must be considered given the overall market backdrop of this time period.
Investing in SPY instead of the gap up stocks presented in Table 1 would have resulted in an average loss of 0.06% on these days. Thus, the stocks that gapped up performed much better the day after the gap than did the average stock in the market. If the gapping stock is held for 5 or 20 days after the gap, on average, the return will be positive and higher than the market return. These results suggest that stocks that gap up do, on average, outperform the market over the next several weeks.

A closer look at the data, however, reveals that these gains come from a subset of the stocks—those that are characterized by a white candle on the gap day (such as Gap A in Figure 1). The results suggest that when a stock gaps up and closes higher than it opens, this upward price trend will continue for the next few trading days, leading to a profitable trading strategy. However, if the price gaps up, but the close is lower than the open, even though the gap remains unfilled, don’t expect the upward price movement to continue. Stocks exhibiting these black candlesticks on the day the gap occurs tend to have negative returns, and underperform the market over the next several days.

Looking at the price movement on the day of the gap appears to help identify profitable trading opportunities. What if this analysis is extended to looking at the price movement the day before the gap occurs? Table 2 presents returns broken down by Day -1 candle color. This table shows that a black candle on Day -1 followed by a white candle on Day 0 is associated with above market returns.
Editor's note: additional tests considered the size of the gap, volume on the day of the gap and the closing price in relation to several moving averages. Similar tests were then completed for gaps down. The complete paper can be found at the MTA web site.

Conclusion

It is easy to classify gaps as breakaway, runaway, or exhaustion gaps in hindsight. However, after-the-fact classification is not helpful when trading. By looking at the characteristics of unfilled gaps the day the gap occurs, we attempt to identify profitable trading positions to enter the following day. We determine that white candles on the day of the gap are associated with higher returns. Traders should also look for larger percentage gaps, gaps preceded by a black candle, gaps occurring on above average volume, and gaps occurring below the 10-day moving average of price, as these gaps are associated with above market returns. These findings are consistent with much of traditional technical analysis thought.

However, when we turn to gap downs, we find some results that are somewhat surprising. We find that gap downs tend to be followed by downward price movement only for a few days. By five days after the gap down, these stocks actually outperform the market. This is especially true for the stocks that gap down by the largest percentage. Also, stocks that gap down at above average prices are the stocks that tend to outperform the market over the next several weeks. These
results suggest that down gaps may be traded in the direction of the trend (that is shorted) for a few days, but that these stocks, especially those with a large gap occurring above the average price and on low volume, are stocks to take a long position in several days after the gap.

Julie Dahlquist, Ph.D., CMT, is a senior lecturer of finance in the UTSA College of Business. She earned her bachelor’s and Ph.D. in economics from University of Louisiana at Monroe and Texas A&M, respectively, and her M.A. in theology from St. Mary’s University. In addition, she is a Chartered Market Technician.

Dahlquist is the recipient of the 2011 Charles H. Dow Award for excellence and creativity in technical analysis. She is the coauthor (with Charles Kirkpatrick) of Technical Analysis: The Complete Resource for Financial Market Technicians and coauthor (with Richard Bauer) of Technical Analysis of Gaps: Identifying Profitable Gaps for Trading and Technical Market Indicators: Analysis and Performance. She serves as the editor of the Journal of Technical Analysis and on the board of the Market Technicians Association Educational Foundation. She is a frequent presenter at national and international conferences and her financial market research has appeared in a number of publications, including Financial Analysts Journal, Journal of Technical Analysis, Active Trader, Working Money, and Managerial Finance.

Recently, Dr. Dahlquist has taught Principles of Business Finance, Money and Banking, and Introduction to Financial Markets. She is a recipient of the UTSA College of Business Dean’s Award for Teaching and the Donald J. Douglass Award for Innovative Teaching. Her pedagogical research has been published in Financial Practices and Education and the Journal of Financial Education.

Richard J. Bauer, Jr., Ph.D., CFA, CMT is Professor of Finance at the Bill Greehey School of Business at St. Mary’s University in San Antonio, Texas. His degrees include a B.S. in Physics, M.S. in Physics, M.S. in Economics, and a Ph.D. in Finance. He is the author of Genetic Algorithms and Investment Strategies and Technical Market Indicators (with J. Dahlquist), both published by John Wiley and Sons. He is the recipient of the 2011 Charles H. Dow Award for excellence and creativity in technical analysis. His research has appeared in a number of publications, including Financial Analysts Journal, Journal of Business Research, Managerial Finance, and Korean Financial Management Journal. He became a CFA charter holder in 1990 and a CMT charter holder in 2010. He is a past president of the CFA Society of San Antonio.
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Numerous academic and practitioner studies have shown relative strength—also known in academia as “momentum”—to be a robust factor that leads to outperformance. However, much of the academic research has been handicapped by testing methodologies that are not at all similar to the way that portfolios are managed in the real world. This white paper discusses our improved testing process, which incorporates two elements that are unique: 1) a continuous portfolio testing protocol that manages portfolios the way they are managed in the real world, and 2) a Monte Carlo process overlaid on the continuous portfolio testing to insure robustness.

Part I: Background

Relative Strength and momentum strategies have been used by market technicians for stock selection for many years. All the way back in the 1950’s, George Chestnutt was publishing market letters with stocks and industry groups ranked based on relative strength. Chestnutt also used his research to manage the very successful no-load mutual fund, American Investors Fund.

In the 1960’s, computing power became more readily available and Robert Levy published what would be one of, if not the first, tests of using relative strength as a stock selection strategy. His work was published in the 1968 book, *The Relative Strength Concept of Common Stock Forecasting*. Levy’s work was incredible for its time considering the amount of computing available to him. He tested not only relative strength as an investment factor, but also two different portfolio management strategies. His research into “upgrading” versus “replacement” as a portfolio management strategy was well ahead of its time and certainly holds true today. Levy’s relative strength calculations were fully disclosed in his research. He compared the current price versus an intermediate-term moving average. This same relative strength formulation is still used by Charlie Kirkpatrick who wrote *Beat The Market: Invest by Knowing What Stocks To Buy and What Stocks to Sell in 2008*. After almost 50 years, Levy’s fully disclosed factor continues to deliver market-beating performance.

Academics began to heavily research the topic of momentum in the early 1990’s. In 1993, Jegadeesh and Titman published the paper, “Returns to Buying Winners and Selling Losers: Implications for Stock Market Efficiency.” Their research showed that momentum strategies based solely on historical pricing data outperformed over time. This was a serious blow to the Efficient Market Hypothesis because it had been commonly assumed no investment strategy based solely on publicly available data could outperform the market over time. Their work has spawned scores of research papers on the topic of momentum and relative strength. Over time, re-search has shown that momentum exists over intermediate time horizons. Momentum also exists across asset classes, countries, and in many other areas. There has
been so much research showing that momentum works that academics no longer dispute its value as an investment factor.

**Part II: Traditional Testing Methods**

Relative strength and momentum strategies have traditionally been tested in one of three ways. The first method is to take a predetermined number of securities and hold them in a portfolio for a predetermined time period. The top 50 high relative strength stocks, for example, might be held in a portfolio for 12 months. At the end of the 12 month period, all 50 stocks are sold, and the new 50 highest relative strength stocks are purchased. One of the biggest drawbacks to this strategy is the sensitivity to the start date of the portfolio. Very different results can be achieved if you form your portfolio at the end of June instead of at the end of December. Another major drawback to this method is the very small sample of securities that is included in the portfolio. It is difficult to determine the robustness of the strategy when dealing with such a small sample.

In order to increase sample size, many academic papers separate a large universe into deciles or quartiles. Instead of looking at how a small sample of securities performs, they are looking at how a selection of several hundred securities, for example, is performing. This is a dramatic improvement over looking at a very small sample size. This method, however, suffers from some of the same problems as the previous model. When the portfolio is formed, several hundred securities are purchased and held until a pre-determined sale date. Sometimes portfolios are held 12 months, and some research shows portfolios being rebalanced at more frequent intervals. The tradeoff is a difficult one. Rebalancing on a more frequent schedule reduces the effects of the calendar, but also increases the turnover in the portfolio.

A third testing method used involves buying large numbers of securities in multiple portfolios for a predetermined time period. The goal of this method is to reduce the effect of the formation date, while attempting to limit turnover. Each month, for example, the top decile of securities is purchased and held for 12 months. Because a new portfolio is formed each month, at any given time there are 12 portfolios open. Each month the maturing portfolio is sold and a new one is created. The other 11 portfolios remain untouched. This process can be run over any time period. Another way to run the test would be to run 6 portfolios and hold each one 6 months. As you can imagine, the number of securities held at any given time is quite large. While this method does limit the effects of the calendar, it also involves quite a bit of turnover and operational overhead.

It is also important to note that most academic studies (methods 2 and 3) focus on the spread between high relative strength securities and low relative strength securities. When portfolios are formed, a low RS portfolio is formed and sold short, while the high RS portfolio is held long. These two portfolios form a “zero cost” long/short portfolio. This method does a good job testing whether ranking securities by relative strength provides a performance edge between the high- and low-ranked securities. However, in practice, most portfolios are not run in this fashion. The short side of the market has operational difficulties and is much less efficient to trade than the long side. In addition, many portfolios don’t even attempt to participate on the short side; they have long-only mandates.
Part III: Improved Testing Process

In order to account for many of the deficiencies we have identified in existing testing protocols, we developed a unique testing process to quantify the impact of implementing different relative strength factors in real-world portfolio situations. We developed our continuous, Monte Carlo-based testing process from the ground up, and no part of it is commercially available. It is truly unique to us. When we developed the process, we wanted to move our testing from the realm of factor testing to real-world implementation. While no testing process is perfect, we feel our unique method allows us to get a better view of how different portfolios and factors perform over time in different markets than many of the more widely used processes.

Our testing methodology allows us to do continuous portfolio testing rather than being limited to the fixed holding period testing used in other protocols. Actively managed portfolios are not necessarily rebalanced on a fixed schedule. We designed our process to trade the portfolios on an “as needed” basis. Each holding’s relative strength rank is examined weekly (or whatever time period we specify – it can be as frequently as daily), and if it needs to be sold, just that one holding is sold. Everything that still qualifies for inclusion remains in the portfolio. Sometimes a test will go weeks (and occasionally, months) without a trade. Other weeks, there will be a flurry of trades. But the main thing to remember is that the portfolios are being traded exactly like an actual account would be traded. We feel this is a dramatic improvement on the fixed holding period models that are used in almost all of the research we have seen. Our continuous process allows us to eliminate the calendar problems associated with fixed time period rebalancing, while also allowing turnover to remain at an acceptable level.

The second testing deficiency we wanted to improve on was the large number of holdings that result from many testing methodologies, particularly those favored in the academic community. The universe of eligible securities can often number several thousand. If you are looking at the top decile of relative strength ranks, for example, you can easily wind up with several hundred securities in the portfolio. This can be implemented in an institutional setting, but is very cumbersome. Research also shows that concentrated portfolios, while often more volatile, deliver better performance over time. Our Monte Carlo process restricts the portfolio to a smaller number of securities (usually 25 or 50) that is more easily implemented in real life, and that has the potential to overweight the real winners.
Because we don’t hold every highly ranked security, and we trade on an “as needed” basis, we designed our testing process to determine if our tests were robust over time. Normally when you take a sub-set of highly ranked securities you just take, for example, the top 25 out of the top 100. The problem with this is that you never know if your back-tested results are the result of luck. What if just a handful of securities are driving the return? Going forward, what if you don’t select one of those securities? Your actual results will never match the historical results. You can’t be sure if your historical results are the result of a superior investment process or simply the good luck of picking a couple of stocks that are substantial winners.

Our Monte Carlo process was developed to answer all of these questions and solve the problems we identified in traditional testing methods. The goal of the process is simple: to create multiple portfolios and run them through time to identify superior RS factors and also to test the robustness of those factors. The process is very simple in theory (not so simple to program and implement however!). We define portfolio parameters before the test is run. These parameters include: the RS calculation method, number of holdings in the portfolio, buy rank threshold, and sell rank threshold. For this example, assume the number of portfolio holdings is 25, the buy threshold is the top decile of our ranks, and securities are sold when they fall out of the top half of our ranks. On the first day, there might be 100 securities in the top decile of ranks, but we only need 25. Our process selects 25 securities at random from the top decile and adds them to the portfolio. As the program moves to the next trading day it looks to see if any of the stocks in the portfolio has a rank below the top half. If so, that one security is sold, and another security is drawn at random from the top decile of ranks. This process is repeated on each trading day through the end of the test. Once we reach the end of the test, we archive all of the portfolio information and run another test with the exact same parameters. We generally run 100 simulations over the entire test period.

What we wind up with are 100 different return streams using the exact same parameters. Some of the portfolios perform better than others—that is simply the luck of the draw. What we can determine is the probability of outperforming a benchmark over time. Over short time periods such as a quarter or even a year, the returns can exhibit large variation. But after a 16-year simulation we can see how many of the 100 trials outperform. If 100% of the trials outperform, we know we have a robust process that isn’t reliant on just a small number of lucky trades. It really speaks to the power of relative strength when we can draw stocks at random for a portfolio and have 100% of the trials outperform over time.

**Part IV: Example of the Process**

The following example uses a simple 12-month price return to rank securities over the period 12/29/95-12/31/11. The investment universe is the S&P 900, which includes domestic large cap stocks (S&P 500) and domestic mid-cap stocks (S&P 400). To be eligible for inclusion in the portfolio, a stock’s rank must be in top decile. Stocks are sold when their rank falls out of the top quartile of ranks. Fifty securities are held in the portfolio. Table 1 shows a summary of the total returns for all 100 trials. Over the test period the lowest return of the 100 trials was 125.9% versus the return of the broad market (S&P 500) of 104.2%. So even

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<th>Table 1: Summary Data (Cumulative Returns)</th>
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<td>12/29/95—12/31/11</td>
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drawing securities at random out of the top decile produces outperformance in 100% of the trials over the entire test period. Many of the trials are significantly above the return of the broad market.

Figure 1 shows a breakdown of returns year-by-year over the test period. The green dot represents the return of the benchmark, and the red line represents the average return of all 100 trials. Some years, such as 1998, 1999, 2005, and 2010, relative strength performs so well that all of the trials perform better than the market. Other years, such as 2006, 2008, and 2009, relative strength performs poorly and all 100 trials underperform the market. The most common scenario is to have some trials performing better than the market and some trials performing below the market. The large dispersion in returns within each individual year is also evident. Each of the 100 trials uses the same investment factor applied exactly the same way, but there is random chance involved when each security is selected. That element of chance can result in some trials outperforming and some trials underperforming over short time periods. We have found this is very common when testing relative strength strategies.

Even with all of the short-term variation, it’s important not to lose sight of the big picture. Looking back to Table 1, all 100 trials outperformed over the entire 16-year period. This illustrates the need for patience when using relative strength. Investors are generally their own worst enemies. Research has shown that when choosing investments investors place too much emphasis on recent performance and actually wind up performing, in aggregate, worse than inflation (not just worse than a benchmark).

Relative strength is an intermediate-term factor. Most research has found that relative strength is a viable strategy over a 3-to 12-month formation period. At shorter and longer formation periods there is significant mean reversion. Our testing process is also flexible enough to test random portfolios using different relative strength factors. Table 2 shows a summary of returns using different lookback periods for various relative strength ranking factors. Once again, the robust
nature of relative strength is shown by the ability of multiple random trials to outperform using a variety of factors. Some of the intermediate-term factors work better than others, but they all exhibit a significant ability to outperform over time. When portfolios are formed using a short lookback window (1 Month Lookback), or a very long look-back window (3 Year & 5 Year Lookbacks) the portfolios don’t perform as well because there is significant mean reversion at these intervals. (Note: This refers to the lookback window for calculating the RS factor, not the performance of the portfolio over a given time period.)

Relative strength and momentum strategies have delivered market-beating returns for many years. There has been a great deal of re-search in this area by both practitioners and academics. However, despite this public disclosure of information, these strategies continue to outperform over time. Many of the testing methodologies used over the years are not consistent with real-world portfolio construction and do not address the possible range of outcomes when implementing a relative strength strategy. Our continuous, Monte Carlo testing process corrects for both of these deficiencies. Similar to other research, our process shows simple relative strength factors to be extremely robust over intermediate horizon formation periods, and weak over very short-term and long-term horizons. We also find there can be great variation in portfolio returns over short time periods, but over long holding periods the portfolios perform exceptionally well.

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In the December 23 issue of *Bloomberg Brief Technical Strategies*, Bloomberg analyst Paul Ciana, CMT, offered insights into how RSI can be used to identify long-term trends in the stock market.

In *S&P 500’s Second Longest Overbought Streak Ended in October*, Ciana updated his study on RSI.

“In our May 1 edition, we discussed the strength and length of the S&P 500’s uptrend by looking at the consistent positive momentum displayed by RSI. Analysis showed the 14-week RSI had remained above 50 for 74 consecutive weeks, the fifth longest in history since the 1920s.”

RSI finally fell below 50 in October after 97 weeks in bullish territory. Ciana found “Return analysis after long periods of time in which RSI remained above 50 suggested, on average, a future downside correction of 4.76%.” In October, after RSI finally broke below 50 the S&P 500 fell as much as 4.48%. In the past, it took an average of four months for prices to recover after their decline. October’s losses were wiped out in just two weeks.

This year’s RSI bullish streak fell just short of the 102-week run seen in 1953-1955. Ciana noted, “after this streak was broken, a fast recovery like today’s occurred. Following this recovery and a brief consolidation, the equity market rose to new highs. A reoccurrence of this historical pattern would bring strength and added volatility to the U.S. equity market for the next couple of years.”

Source: Bloomberg. This chart is available on the Bloomberg terminal at {G BBTA 658}
Later in the issue, he turned his attention to Canada in *Rising RSI to Plot Canadian Stock Market Corrections* writing:

“In our Aug. 7 *edition*, we discussed the Toronto Stock Exchange’s history of corrections when the Relative Strength Index had crossed above 80. The chart [below] is a monthly bar chart with RSI plotted below. The RSI is set to a period of nine, so it is plotting momentum over a rolling nine-month period. The horizontal blue area on the RSI highlights excessive levels of momentum.

![Chart of S&P/TSX Composite Index](image)

Source: Bloomberg. This chart is available on the Bloomberg terminal at {G BBTA 595<GO>}

Ciana identified 14 previous times when RSI climbed above 80 and found a correction followed each occurrence. The steepest correction was 18% when measured from the close of the month when RSI broke above 80 to the lowest price in the next two months. The average decline was 7.05%.

Once again, RSI provided a timely warning of a pullback. Ciana observed, “At the end of July the RSI was back above 80 and energy markets began cooling off. The exhausted momentum and fundamental backdrop in shifting energy markets suggested the index was setting up for a decline more in line with the 20-year average.

In September the index declined about 11 percent. RSI has fallen below the overbought level.”

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Editor’s note: Intermarket relationships are important but they can change over time. It is important to consider the reason a relationship exists and to watch for changes in economic fundamentals that could highlight times when a breakdown in correlations could occur. In this article, Andrew Thrasher addresses the historic relationship between copper and the stock market and explains what’s changed in recent years.

There used to be a belief on Wall Street that copper had a Ph.D. in economics since it was often used as a barometer for the economy and often the market. Traders would look for divergences between the copper and the equity markets for signs of potential danger. If Dr. Copper began to weaken it was believed that the stock market would soon follow. While this may have been the case at one point I would argue it no longer is today or has been for a few years now.

Dr. Copper in my opinion has been replaced by technology, specifically semiconductors. The market seems to be much more focused on the happenings of Silicon Valley rather than Milwaukee or Detroit. While the industrial sector still remains a large piece of our economy it no longer is the driver of growth. At least that’s what price action has been telling us.

The chart below shows the performance of the S&P 500 (black line), the Semiconductor Index (red line), and the spot price of Copper (green line). You can clearly see that copper has not been enjoying the bull market party while semi’s have been moving right along with the market. It’s a little hard to see, but in 2011 we saw semiconductors break away from the S&P 500 as the industry made a lower low, a divergence that the equity market eventually fixed by falling in price by nearly 20%. Ever since then we’ve gotten confirmation by the semi’s of the new highs in the S&P.

It seems Copper has been expelled while the semiconductors step to the front of the class.
Andrew Thrasher, CMT, is an Investment Analyst with the Financial Enhancement Group, a central Indiana-based asset management firm. Andrew serves as a member of the investment allocation team, which manages one long/short strategy and five long-only strategies. He specializes in technical analysis, creating proprietary strategies and economic models implemented both professionally and personally.

He currently holds a Series 65 securities license. Andrew has a bachelor’s degree in Financial Counseling and Planning from Purdue University and resides in the Indianapolis-area along with his wife, Abby, and their dog, Brooke. He can be reached through his blog, athrasher.com.
Technicians are a serious bunch. When we get a trend line break to the upside or downside, it is very critical for us. It is our trigger. However, the way the data is displayed is very important as well.

Here is a chart of 4 related subjects on a performance chart which shows the movement in % terms. They rise and fall together over time but the percentage change is different. A one-to-one fit? No. The components are the Emerging Markets ETF (EEM), the Emerging Markets Currency ETF (CEW), Brent Crude Oil ($BRENT) and the Hang Seng Index for Hong Kong ($HSI). They have reasons to be correlated. Crude Oil is one of the world's largest commodities and is used in every country. The Currency ETF of Emerging Markets is highly correlated to commodities. When commodities are doing well, so are emerging markets. Hong Kong is one of the largest business centers in the developing world.
So the recent plunge in crude oil has also been showing up in the other 3 charts, but not to the same extent.

Let's stack the graphs and show the information based on actual price.

I left the annotation lines on the charts, but I changed the chart style to High-Low-Close bars.
So we have two completely different charts to wrap up this week. On Brent Crude Oil ($BRENT), we have a stall in downward price momentum with it closing flat on the week after testing higher and lower. The line chart didn't display that very well. The Emerging Market Currencies (CEW) bounced off intra week support and closed higher, but the line chart
looks a lot more ominous by showing no signs of an intra-week support test. On the **Emerging markets ETF (EEM)** HLC chart, the size of the move below the trend line seems to be demonstrating that this is significant. We have a higher close that is back-testing the trend line on the HLC chart and we clearly show 2 weekly closes below the line on the HLC chart. The same is true on the EEM 'line' chart, but might not be thought about as 2 weekly closes below the trend. Definitely one to watch. The last is the **Hang Seng ($HSI)**. With the inter market relationships between these components, it was very concerning to see the $HSI plunge below support mid-week on the HLC chart (and line chart at the time). By Friday, two dramatic back to back up days has everything looking ok with support holding. The line chart shows no damage on Friday's close! I mentioned in the last 2 weekly webinars that a break in the Hang Seng chart right now would pretty much confirm a global slowdown.

The bottom line is there is significant reason to be jumping in going long here at support, or jumping out expecting the inter market correlations to continue to break in a downward trend. If Crude Oil ($BRENT) has in fact found a bottom this week, it couldn't be a better time to get optimistic on all of these charts. If crude doesn't bounce but stagnates down here like it did at $88 and then rolls lower, will these charts all break down over the next month? Quite frankly the 2 day rally in equities was the largest in 6 years on what I would consider to be weak news that the Fed doesn't see the markets performing well enough to raise rates right away. Is a 5% market pullback all it takes to change the Fed's direction? It doesn't matter what I think. We'll watch the markets' response. The trend lines are holding on EEM and $HSI after a tough look intra-week. The next 2-3 weeks are pivotal for those charts.

For a more optimistic view of this week's action, check out this chart. We had a serious 2 day reversal so that should be considered as optimistic. If we look for the bullish information on each chart, this would be the turning point. Check out **Brent Crude Oil ($BRENT)** bouncing off long term trend line support. The Emerging Market Currencies (CEW) are finding support at a prior low. That's bullish!
The Emerging Markets ETF (EEM) has 6 higher lows, 2 duplicate patterns and a series of higher highs and higher lows. It is currently in a three wave correction and ready to turn higher again. EEM is currently back-testing a 2 year major down trend line after breaking out. One of the best possible buy points. The Hang Seng (HSI) is currently back-testing a 4 year trend line. By bouncing here at a multiple support zone (downward and upward trending trend lines), we couldn’t be more
bullish. We have been making higher lows for 3 years and this is an ascending triangle. The upside measurement is to 31,000.

How we interpret the data is critical and we are definitely at a critical time. When I said EEM had 6 higher lows, so did crude before falling 50%. The plunge in crude below not only horizontal support but to a 50% drop leads me to believe they will all end up moving lower. That is my inter-market bias. Remember the stock market breaking down 20% in 2008 and crude ran up another 60% from there to all-time highs at $149 saying everything was fine? Now the opposite is true. Crude has fallen 50% and the market is at all-time highs. If the markets start to let go, I would not stand in the way of the polar express sending a chilling trend into the market. If the intraday volatility near a market high is at the same levels as a rebound in a collapsing market in 2008, is that a bullish or bearish signal? Increased volatility is usually associated with a market top after a long run up.

The reality is we are testing the bottom of everything on these charts and a market high on the $SPX. If these ticker symbols all break this support zone, it’s a worrying time for the primary trend. If the trend lines can hold and go higher here, so should our investment decisions. Feels like one of the major chapters in a great novel.

Greg Schnell, CMT, is a Canadian Independent Analyst. As a CMT, Greg maintains membership with the MTA, IFTA and the CSTA. He is a board member of the Canadian Society of Technical Analysts (CSTA) and the chapter chair of the Calgary CSTA. Greg is a popular blog writer for the Stockcharts.com website as the author of ‘The Canadian Technician’ blog. He also delivers a weekly webinar with StockCharts.com and co-authors other material on the site. He speaks in Canada and the USA on technical analysis and is a trainer for the StockCharts.com website. His primary body of work is on inter-market relationships. Canada’s large commodity presence has a major influence on his work style. Greg’s work style incorporates intermarket analysis across equities, bonds, currencies and commodities.
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How would you describe your job?

I work for a small research firm called Computrade Systems in Atlanta, GA that provides a web-based research product for retail and professional money managers. The research is centered around technical analysis and includes quant models that formulate opinions and recommendations on individual stocks as well as generating studies for Industry Group Analysis and ETFs. I do analysis on individual stocks and write two weekly commentary articles and a monthly overview of the stock market. The weekly market letter on our Market Edge website summarizes the weekly market action and concentrates on different momentum and sentiment indicators to project probable market scenarios. These publications are released through clearing firms and online brokerage firms. I also write a weekly article for Schwab's active traders which includes a short piece on educating investors on how technical analysis can help in their outlook of the market.

What led you to look at the particular markets you specialize in?

My writing seeks to provide an outlook based on the technical condition of the market that can be used by market participants that aren't technicians. In other words, financial consultants and active traders that recognize the value in technical analysis yet don't possess the knowledge to incorporate it into their investment strategies. I concentrate on the major indexes, sectors and industries.

Do you look at any fundamental or economic inputs to develop your opinions?

We depend on almost primarily on technical data inputs for our analysis. However, it's not purely limited to technical indicators/oscillators. Our proprietary Sentiment Index looks at different inputs such as short interest, dividend yield, put/call ratios, margin debt and investment advisor sentiment. We record the weekly changes and note when different indicators may be becoming too bullish or bearish and look for red flags.

What advice would you have for someone starting in the business today?

Read up and get an understanding of the different areas of technical analysis. Even if you don't agree with what they're doing at least try and have a basic understanding of it. One of the values in obtaining a CMT is it exposes you and forces you to obtain a working grasp of areas of technical analysis that you might not otherwise study.

What research area do you think offers the greatest potential in technical analysis at this time?

I always go back to intermarket analysis and how the different groups of asset classes can work together to provide clues as to what can or should work. The last few years of central banks propping up the markets around the globe has
changed or altered the relationship of certain assets but being able to recognize when the coupling is working or not and how they’ve worked together historically provides such an edge to investors.

We help clients with research, development and trading strategy creation. We also reduce the manual workload needed for development and implementation of a strategy. We develop strategies, backtest and optimize them, and get a full understanding on the character of the strategy. We know when it has failed vs. when it is in a drawdown (or too high profit zone).

David Blake works for Computrade Systems, Inc. based in Atlanta, GA and writes a weekly market letter for the web based research site Market Edge. His commentary is distributed to brokerage firms and retail investors and is based on technical developments in the stock market. He is also an active speaker at trade shows and is sponsored by various on-line brokers.

Prior to joining Computrade Systems in 1997, David worked as a financial consultant for Bear Stearns and Shearson Lehman. He graduated from Youngstown State University with a degree in Advertising/Public Relations. He is a CMT and is an active member in the Atlanta chapter of the Market Technicians Association.

Charles H. Dow Award

“Writing a research paper did something which few of us willfully desire - it challenged me. But this challenge is what I needed to grow professionally”
—Buff Pelz Dormeier, Charles H. Dow Award Winner (2007)

“Our education is never complete, we are constantly learning and adapting to changing markets and the field is ever expanding”

The Charles H. Dow Award highlights outstanding research in technical analysis. The Award embodies excellence and creativity in the field of Technical Analysis. Winning papers have created successful trading systems, insights into theories of how markets function and have represented the richness and depth of technical analysis.

Information on the Standards of Judgment is included within the Guidelines for Submissions. For the 2015 cycle we are accepting previously published non-commercial work.

Final Papers due January 5, 2015
The Year Ahead – 2015

In the spirit of year-end prognostication, here’s my annual review of secular trends and behavioral tendencies that are likely to influence key markets in 2015...

US Equities

- From a behavioral perspective, US equities entered a secular bull market in 2013, “breaking out” above their 13-year range, and doing so in grand style.
- The equity breakout was corroborated by a reversal in the Dow/Gold ratio which, in April 2013, posted its first higher high since 1999.
- The equity bull market is arguably stretched in terms of price, time and valuation… but we haven’t yet witnessed a classic narrowing of leadership that normally precedes important tops.
S&P 500 and Dow/Gold Ratio

The market is stretched in price and time
Valuation is also stretched... but within the range of modern experience

Important tops are normally preceded by narrowing breadth...

Source: The Leuthold Group
Participation remains broad...
Record breadth has confirmed record prices thus far

US Equities: “A line in the sand”

- While the US market remains healthy by many counts, it is also dangerously extended in slope and time.
- An aggressive zero-interest-rate policy has arguably made equities “the only game in town.”
- If horizon-challenged baby boomers are over relying on common stocks as a fixed-income substitute, a normal correction might easily become a well-fueled stampede.
- Investment strategies should therefore include a line in the sand designed to avoid a catastrophic loss, however remote.
Line in the sand? The “Coppock curve” has signaled most disasters of the past century

Mark Ungewitter is Vice President and Investment Officer at Charter Trust Company in Concord, New Hampshire. He was formerly Vice President, Director of Portfolio Management at Investors Bank and Trust in Boston, Massachusetts. He holds an M.S. from Bentley University and a B.S. from Massachusetts College of Liberal Arts. He is a member of the American Association of Professional Technical Analysts.
StockCharts.com has created an indicator called the StockCharts Technical Ranking (SCTR) created by John Murphy. The SCTR indicator has been in use for the last 7 years so the value of the data is really starting to show through now.

The SCTR ranks the price action (no fundamental analysis) of the stock or ETF against a peer group. One of the most interesting charts using the SCTR right now is Wal-Mart. When the price action in Wal-Mart is worse than the majority (below 50%) of its peers, we are in a strong bull market. Looking at the chart below, when Wal-Mart became a top performing stock shown by the SCTR, it was a good indicator for being defensive. When Wal-Mart starts to under-perform relative to the Large Cap peer group, it is a great time to be bullish. As we can see in the chart, Wal-Mart recently fired off a signal to be defensively positioned.

In all three prior warnings, it helped investors hold through some troublesome downturns in the market. Click here for a link to the live chart. For more information on the SCTR, click here for the ChartSchool article.
### Appendix 2: 3 Month Return Factor

#### Chart
- The chart shows the 3-month return factor for various years from 1996 to 2011. Each point represents the percentage change in the return factor for that year, with error bars indicating the standard deviation.
- The chart includes data for the S&P 500, Mean, Std Dev, Max, Top Q, Median, Bot Q, and Min.
- The data is presented in a table format below the chart.

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### Appendix 3: 6 Month Return Factor

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Appendix 4: 9 Month Return Factor

![Graph showing 9 Month Return Factor with data points and error bars for each year from 1996 to 2011.](image-url)
Appendix 6: 18 Month Return Factor
Appendix 8: 36 Month Return Factor

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ITD 104.18%
## Appendix 9: 60 Month Return Factor

### 1996 - 2011

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**LTD**