LETTER FROM THE EDITOR

This month and next, we will feature information covered at the MTA Annual Symposium. This year’s event was the best to date. The quality of the speakers, attendees and collaborative partners was exceptional. Planning is now underway for the 2015 Symposium. If you would like to provide feedback to the MTA on your experience, or make suggestions for topics and speakers next year, please fill out this brief survey: https://www.surveymonkey.com/s/HY39WYV

The Symposium committee pulled together a wide array of thought leaders from the investment industry. *Technically Speaking* will feature summaries of some of the innovative and thought provoking presentations next month. No planning committee can control the quality of attendees. The fact that so many intelligent and personable analysts decide to attend every year is a reflection of the MTA membership. The organization attracts the best and the brightest minds in our field. Great attendees add to the educational value of the Symposium and provide networking opportunities that each member finds in their own way.

Collaborative Partners provide support to the event and offer an opportunity for all attendees to check out emerging technologies, research and services available. The MTA is very excited about the organizations that sponsored the Symposium this year and the work they are doing to advance technical analysis in the broader financial industry. We’ve included educational articles from two partners in this issue. The information can be useful to users of their products or to users of other software tools.

Let us know what you’d like to see in upcoming issues of *Technically Speaking* at editor@mta.org.

Michael Carr
2014 CHARLES H. DOW AWARD WINNER - AN INTERMARKET APPROACH TO BETA ROTATION: THE STRATEGY, SIGNAL, AND POWER OF UTILITIES

BY CHARLIE BILELLO, CMT, AND MICHAEL GAYED, CFA

Since 1994, the MTA has presented the Charles H. Dow Award for excellence and creativity in technical analysis. The papers honored with the Award have represented the richness and depth of technical analysis.

In this year’s award-winning paper, the authors demonstrate a relatively simple market timing strategy that produced absolute performance and risk-adjusted returns that significantly outperform a buy and hold strategy of the market throughout multiple market cycles. This strategy is based on the principles of intermarket analysis and maintains constant exposure to the stock market. The authors show that their technique has worked in various market regimes and would have been profitable in periods of rising or falling interest rates, bullish and bearish stock markets and economic expansion and recession.

Specifically, Bilello and Gayed present a simple trading strategy called the Beta Rotation Strategy:

*When a price ratio (or the relative strength) of the Utilities sector to the broad market is positive over the prior 4-week period, position into Utilities for the following week. When a price ratio (or the relative strength) of the Utilities sector to the broad market is negative over the prior 4-week period, position into the broad market for the following week.*

They also show the results:

The paper also includes tests for different time periods that demonstrate the results are robust in different market environments.

To read the entire paper, please visit: [http://go.mta.org/4400](http://go.mta.org/4400)
Charlie Bilello is the Director of Research at Pension Partners, LLC. Mr. Bilello is responsible for strategy development, investment research and communicating the firm’s investment themes and portfolio positioning to clients. Prior to joining Pension Partners, he was the Managing Member of Momentum Global Advisors, an institutional investment research firm. Previously, Mr. Bilello held positions as an Equity and Hedge Fund Analyst at billion dollar alternative investment firms, giving him unique insights into portfolio construction and asset allocation. He is an active contributor to TheStreet, InvestorPlace, and USNews.com, and frequently appears in financial media.

Mr. Bilello holds a J.D. and M.B.A. in Finance and Accounting from Fordham University and a B.A. in Economics from Binghamton University. He is a Chartered Market Technician (CMT) and a Member of the Market Technicians Association. Mr. Bilello also holds the Certified Public Accountant (CPA) certificate.

As Chief Investment Strategist, Michael A. Gayed, CFA helps to structure portfolios to best take advantage of various strategies designed to maximize the amount of time and capital spent in potentially outperforming investments. Prior to this role, Mr. Gayed served as a Portfolio Manager for a large international investment group, trading long/short investment ideas in an effort to capture excess returns. From 2004 to 2008, Michael was a Portfolio Strategist at AmeriCap Advisers, LLC, a registered investment advisory firm which managed equity portfolios for large institutional clients. As a member of the investment committee, Michael performed detailed analysis on various stocks and worked closely with the principals of the firm to structure client portfolios. In 2007, he launched his own long/short hedge fund, using various trading strategies focused on taking advantage of stock market anomalies.

Michael is an active contributor to popular financial websites, including MarketWatch.com, Minyanville.com, and SeekingAlpha.com. He has been interviewed on CNBC, Bloomberg, Fox Business, as well as the Wall Street Journal live for his unique approach to interpreting market movements. His analysis has also been featured by Marc Faber of the Gloom, Boom and Doom Report.

Michael earned his B.S. from New York University, and is a CFA Charterholder. Follow him on Twitter: @pensionpartners, and on YouTube: www.youtube.com/pensionpartners.
Since I was introduced to Relative Rotation Graphs, I have been constantly playing with them and trying to see how they can give me insights into what is happening in the market. I love looking at different Asset Classes, Currencies and Portfolios. My favorite group however will always be the SP500 GICS Level 1 sectors with the SP500 as the benchmark, because I know that the total of the ten sectors must be fully encompassed by the benchmark. The ten sectors embody all the elements that can contribute to the SP500 itself. When I look at the RRG, which measures trends in relative performance of each Sector against the Index, there has to be balance in each of the axis.

Consider Figure 1; we can see the ten sectors based on their relative strength against the SP500. An immediate stand out is the Utilities (S5UTIL) way out on its own on the right (the tail shows us where it has been) while there is a group of sectors clustering on the left. Based on what I was saying before, if these ten embody all that contributes to the Index, and we consider the Index to be the very centre of the chart, we can theorize that all the sectors have to be balanced around that point. If that is true, it has to follow mathematical rules as we are dealing with what can only be described as a closed universe (no other stocks are contributing).

We can see that there is a group of six sectors on the left side of the 100 line, that’s like a group of children on one side of a seesaw while less are sitting on the right side. Figure 2 shows that to have balance it is only possible if the bigger group is closer to the apex than the smaller (L₂ is smaller than L₃). If we are to have balance in the RRG, then we should see something similar.
As an exercise to check that we have balance, we can sum up all the negative distances from the apex (100) and the positive distances and we would expect them to be equal if it is a balanced universe. I’ve done this in a Watchlist in Figure 3.

![Figure 3 SP500 Sectors with RRG Ratio and Distance from 100](image)

We list the RRG Ratio and then the distance that ratio is from 100. By adding groups to the Watchlist based on the Sign of the “From 100” column, the totals we get for the left side (negative numbers) is 4.1 and on the right side (positive numbers) 4.4!

Hang on, that’s not balanced, we have a 7.3% discrepancy between the left and the right sides!

There is another aspect to the seesaw example that I have not been considering and it is a fundamental oversight in some Intermarket Analysis theories based on sectors (I’ll come back to this later on). The missing element may be obvious to you, but it took me a little bit of thinking to work out why the two sides were not matching. The issue was that I had always considered the sectors to be equal weighted, but obviously that is not the case.

Again in our seesaw example, have a look at Figure 2, you can see that the one child on his own is bigger than the 2, so not only do we need to factor in the distance from the apex but also the weight of each child (sector).

How do we do that? Fortunately if you are using a data source like Bloomberg, we can fuse in the fundamental Market Cap of each Sector as an External Data Field and then put that into a formula to get the weight of each. Here is the formula I used to work out the sector weight as a percentage of the Sector Market Cap verses the total SP500 Market Cap.

\[
MC1 = \text{DATAFIELD (FIELD=CUR_MKT_CAP)};
\]
\[
MCBM1 = \text{DATAFIELD (GETDATA (CODE=SPX:BLMB), FIELD=CUR_MKT_CAP)};
\]
\[
(MC1 / MCBM1) * 100
\]

Let’s have a look at the charts on this. First we set that script as the bubble size on the RRG data points. See Figure 4, bigger bubbles means bigger weight.
We can see that Utilities is a featherweight, making up just 2.9% of the total index. It can get a long way from the origin since it is so light. This chart also shows that Financials (S5FINL in the cluster on the left) and Information Technology (S5INFT) are the 300 pound gorillas of the SP500.

Now we need to include the weights in all of our calculations. All we need to do is simply add up the product of the weight with the distance to get a variable that we will call “Force”. Let’s do that in the Watchlist.

In Figure 5, you can see the weights of each sector. The last column in Figure 5 is Force which is the product of the Weight of the Sector with the distance of the RRG Ratio from the 100 apex. The sums for this become 37.01 on the left side and 37.08 on the right. Now that’s more like it! That’s a variance of 0.18% compared to 7.3% in the unweighted case.
The script for the Force column is:

\[
MC1 = \text{DATAFIELD} \left( \text{FIELD=CUR\_MKT\_CAP} \right);
MCBM1 = \text{DATAFIELD} \left( \text{GETDATA} \left( \text{CODE=SPX:BLMB}, \text{FIELD=CUR\_MKT\_CAP} \right) \right);
RRG1 = \text{JDKRS} \left( \text{INDEX=SPX:BLMB} \right) - 100;
\left(\frac{MC1}{MCBM1}\right) \times 100 \times RRG1
\]

The result of this is that we have been able to show that the GICS Level 1 sectors are balanced in a RRG but only when we consider their relative weights. Yahoo, high 5’s all around! That’s great from a theoretical point of view, but how can we use that information? For the most part there are a couple of key lessons that we can take away from this:

First, when we do Intermarket Analysis based on sectors, we cannot consider all the sectors to be equal because clearly they are not. The heavier sectors will exert more torque the further away from the apex they are (now that will make an interesting study). In fact, examining historical sector rotations and extrapolating to today can actually be dangerous because the environment is so different. It’s like believing that you can throw your twenty two year old son in the air because you did it when he was two! Let’s look at the situation twenty years ago as an example.

Here we can see that Industrials and Consumer Discretionary are the biggest at 15% and 16% respectively. In fact the spread between all the sectors is more evenly spread, with the smallest sector being Utilities at 6%. So at that time, with a smaller difference between Sectors, we could almost ignore the weights and treat them as equals and apply all the theories and see them hold. Today I don’t think we have that luxury. Am I saying that Intermarket Analysis should be thrown out? Not at all! Simply that there is another dimension that needs to be considered. There is more research that will need to be undertaken in this area.
The other big take away that impacts Portfolio Selection is that if my goal is to gain alpha over the Index, then I simply must consider the weights as part of my selections. Back to the seesaw, by virtue of his weight, to have balance the largest child cannot move too far away from the apex of the seesaw. In the same way, the largest sector (or equity in a portfolio) cannot move far from an Index that it is contributing to. The further it moves away, the more it affects the value of the Index, dragging the Index with it. The only exception to this is when one large sector is moving in one direction and there is another large sector moving the opposite direction, maintaining the balance across the chart. That in itself presents a fantastic pairs trading opportunity, but I digress. If I want to achieve alpha, I need a base of the heaviest sectors at weight, and then layer in the lighter sectors that are improving by going overweight on them.

Since securities in the RRG tend to rotate in a clockwise fashion, when we are looking for Long-only opportunities, we are looking for securities in the chart that are moving from the negative quadrants with enough velocity to break through (watch for another Market Analyst Whitepaper on the Physics parallels of RRG).

Now that we are considering weight too, we can make some decisions on position sizing by going overweight on the lighter sectors since we know that they have the greatest capacity to move a long way from the index without dragging the index along. Obviously that can happen in both positive and negative directions, so they do present the greatest risk too.

On the 16th Jan 2014, Utilities (The only item showing the arrow in the RRG chart) was in one of the “perfect” RRG positions. At this point the trend of its relative performance is improving and the trajectory is showing a lot of promise. The space between the observations (the dots) being wide shows good velocity which gives confidence that it will continue on that path. The price chart on the right has a white line on the 16th to show that date. We have identified the sector that we are interested in, the next step is to drill into the Utilities to see what selections we can make from the sector. When we do this we need to make a choice if we are going to keep SP500 as the benchmark, or now look at each of the stocks compared to the Utilities sector Index. I prefer the latter as I am still interested in the weights of each stock as a percentage of that sector’s index and to take that same selection philosophy into the Sector. By doing this I can look for low weighted stocks that have the greatest ability to give me significant gains over the index.
When I look at Figure 9, the best opportunity that I see is PEG, it is in the top left quadrant, and even though there was a bit of a wobble, it is heading in the right direction and has low weight (3.3%). It is at this point that I would be opening up the chart of PEG and confirming with my other analysis techniques if I am satisfied. Figure 10 shows the performance of the stock since the 16th (White Line)

Figure 9 shows the results with weights of each stock compared to the weight of the Sector.
If we fast forward to today (21st Feb 2014) and then remove all the other securities from the RRG, let’s have a look at PEG in Figure 11. I have also increased the tail length of PEG so I can see the path that it took through the RRG.

PEG out-performed as expected and even though the trend is starting to weaken, it is still very positive compared to SSUTIL Index. The little hook tells me that there may be more in store. The RRG successfully assisted me in finding a great trade. It is always interesting to bring this back to the SP500 and see how the performance has been against the Index (particularly if the SP500 is my Benchmark). Remember in Figure 1 that Utilities was out on its own? Let’s contrast that to PEG by adding PEG to that same RRG in Figure 12.
We can see that PEG outperformed the SP500 by more than the Utilities Sector but it has the same general shape as the Utilities. This makes sense since PEG was the best relative trending stock in the best relative trending Sector. The ability to drill in and make these selections is a powerful advantage for anyone who needs to make selections like these. We need to see how this performed on an absolute basis, so let’s open the three (SPX, SSUTIL & PEG) in a Relative Comparison Chart (see Figure 13).

![Figure 13 Relative Performance of SPX, SSUTIL & PEG from 16th Jan 2014](image)

We can see in absolute terms that PEG out performed SSUTIL which in turn out performed the SPX. All of this was anticipated by finding the sector with the highest probability of outperforming and then within that sector finding the stock that has the highest probability of outperforming.

As with all strategies in the market, you need to test these for yourself to have confidence in them. No technique is a guarantee of success and standard trade management rules must be employed. This paper merely presents that RRG coupled with weights can give a different perspective in understanding both Intermarket Analysis and Portfolio Selection. If you do not have access to these charts and would like to try them for yourself, contact one of our Market Analyst offices and we’d be happy to help you set up a trial account so you can experiment with these charts.

**About Market Analyst**

We are passionate about financial analysis using all techniques and models. Market Analyst has been designed to be the ultimate analysis solution for anyone who wants to gain insights into financial markets. RRGs in Market Analyst have capabilities not found anywhere else including real time RRG, FX RRG and the ability to link price charts to RRGs.
MEMORIAL AWARD FOR JOSEPH E. GRANVILLE
BY DR. JERRY E. BLYTHE

Editor’s note: this is a reprint of the comments Dr. Jerry Blythe delivered at the MTA Annual Gala dinner when presenting the Memorial Award to Karen Granville, Joe’s widow.

I want to thank the MTA for the opportunity to honor a great man, Joe Granville, a pioneer who devoted his life to technical analysis, with a career spanning nearly 70 years and touching at one time or another most of us in this room.

He is receiving this year’s Memorial Award for a lifetime of service to the field. His wife Karen is here today to receive the award on his behalf.

What can we learn from this man’s life? Many of us knew Joe as brilliant, flamboyant and always a showman and entertainer, but there are many things about this man’s life you may not know.

I would begin with his hard work and generosity. Joe was a tireless worker, spending countless hours researching new ideas, always thinking. He shared the best through the many books he wrote.

He was a teacher, with his signature contribution in On Balance Volume. He believed volume leads price, and he developed many tools, the most recognizable being his Net Field Trend, Climax Indicator and True CLX.

He wrote the Granville Market Letter, a daily stock market commentary, and published 19 books on several subjects. There are likely few major newspapers in the world that haven’t mentioned Joe Granville at one time or another.

Joe enjoyed life with a passion, but not everyone agreed with his zeal. Most did agree, however, you always knew, right or wrong, where Joe Granville stood: he never hedged.

Joe was born on August 20, 1923 in Yonkers, New York. As a young boy he was an accomplished pianist, once playing in front of Orson Wells. He carried those skills into his adult life and often opened seminars, or shows as he called them, with some musical composition from the piano, a couple of times with a song he wrote entitled, “the Bagholder Blues.” Joe saw a connection between music, math and the markets.

Who cannot remember Joe as an entertainer who headlined to packed houses at Carnegie Hall, Atlantic City, Caesar’s Palace, and the Crystal Cathedral. At the height of his career his market calls were prophetic.

At one time he was called the “Father of Gaming Stocks.” In 1979, before a full house at the Aztec Inn in Tucson Arizona, he came walking in, “across the water” of a majestic pool, dressed in a sparkling white suit. Vintage Joe.

He was an avid stamp collector as a youth and in later years wrote books on the Price Prediction of stamp collecting. Joe loved games and wrote a book...
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on How to Win at Bingo. His interest in games and work in the market attracted the attention of Dr. Edward Thorp, author of the 1966 best seller, Beat the Dealer.

The former MIT professor and two UC colleagues wrote a paper in 1980 entitled “Statistical Tests of Granville’s Market Timing Predictions” and, in the first sentence of the Introduction, said, “Joseph Granville may have the most spectacular stock market forecasting record in the world today.”

Wherever he spoke, markets would sometimes open up or down the next day by as much as 5 even 10 percent. His calls would even appear on the nightly news. In 1983 Dick Davis wrote, “no single personality [has] impacted the investment world as dramatically as Joseph Granville.” Gambling Times, in 1981, in an article on the Mathematics of Gambling, said, “Granville Shakes the World.”

Michael Carr, Editor of the MTA’s monthly newsletter, Technically Speaking, wrote in the Introduction of the October 2013 issue, “Joe Granville rose to fame as a technical analyst in the 1960’s and 1970’s. In the future, it might not be possible for any other analyst to achieve his level of popularity.”

But how many of you remember Joe the golfer? Yes, Joe loved golf, even won a big tournament in 1985, and once scored a hole in one. He used to play with his father, celebrities in charity events, once with Arnold Palmer and lunched with Gary Player.

Joe rubbed elbows with the best. In an interview on Wall Street Uncut with host, Dave Allman, Joe talked about playing poker with President Nixon. He is pictured dining with Presidents Ford and Reagan, sharing time with Johnny Carson, Willie Mays, and the TV and movie producer, David Susskind. He supported many charities, spent time with Bob Hope, and appeared on Prime Time television for a one hour show with CBS host, Mike Wallace.

Joe lived life with a passion. He began playing the piano at age 3, attended the Todd School for Boys in Woodstock, Illinois on a music scholarship, and graduated from Duke University in economics. His first book School Boy’s Faith was written when he was only 16, inspired by a trip to Monterrey, Mexico; it was a travelogue in poetry but also a philosophy of life, published in New York and London in 1941.

He enlisted in the US Navy, was commissioned in 1945, serving in WWII in the Marshall Islands. While there, he wrote his next book, the first edition of Price Predictions, forecasting the prices of US Commemorative stamps. Three more editions were published until 1956.

His first job as an analyst was with Edward Dewey in the late 40s where he worked with data. Dewey had been the chief economic advisor in the Department of Commerce, and was tapped by President Roosevelt to study causes of the Great Depression. Lee Iacocca credits Ed Dewey’s ideas with help in turning Chrysler around in the 1980s. Who will ever know how much influence Joe Granville’s hand may have played in all of this.
Joe hired on at E.F. Hutton & Co. in 1957 to write a daily stock market letter, leaving in 1963 to found the Granville Market Letter which he wrote continuously for the next 50 years, with Karen Granville at his side for 32 of those years. In 2011 he was still going strong. Timer Digest ranked him 2011 Timer of the Year. Some of Joe’s work will be archived at Hillsdale College in Michigan.

Joe wrote in his diaries that he wanted to be “best known for his contributions to technical analysis and what he taught to his followers.”

He was a man for all seasons, and fathered eight children most who went on to successful careers.

Joe is survived by six children, 15 grandchildren and 4 great grandchildren, and several nieces, nephews and cousins, and his wife, Karen.

Joe Granville was truly a great man.

Dr. Jerry Blythe has been a close friend of Joe Granville for a number of years and was asked to say a few words about Joe, his life, and any lessons we might learn. Dr. Blythe worked in the investment field in the 1970s and 1980s as founder and chief investment officer of Blythe Investment Counsel when he met Mr. Granville. Through this friendship, he has provided quantitative work for Mr. Granville since the 1990s.

Dr. Blythe is a medical doctor, directed an industrial trauma clinic, is an avid runner, and currently is the founder and CEO of Fybrinet Inc., a new enterprise in polymer chemistry. He holds an undergraduate degree in science from Purdue University, a medical degree from Indiana University, and current memberships in the American Chemical Society, the Rubber and Fluorine Divisions of the American Chemical Society, the Indiana Medical Association, the American Association for Cancer Research, and the Market Technicians Association.
Investment Courses For Professionals

A sample of a growing list of fundamental and technical courses is shown below. The courses are associated with global destinations and dates, both for open and private client formats. They are produced by various knowledge vendors throughout the world. Details can be provided by contacting NYIF.COM, or John Palicka (palicka@pipeline.com).

Taught by John Palicka CFA CMT

**FUSION ANALYSIS**-
This is a professional approach that blends fundamental, technical, behavioral and quant strategies.

**EQUITY PORTFOLIO MANAGER**-
Serious managers will utilize this course to analyze leading Wall Street valuation models and investment strategies for equities using fundamental, behavioral/technical and quant approaches, and then study how these are modified by the best performing equity portfolio managers to produce risk-adjusted excess returns.

**INVESTMENT FUND SELECTION**-
This is a must attend course for all professionals involved in the selection and management of third-party investment managers.

**TECHNICAL ANALYSIS CMT 1**-
A must attend course for investment professionals wishing to gain the CMT Level I professional qualification in Technical Analysis from the Market Technicians Association (MTA).

**INTRODUCTION TO STEALTH TRADING USING FUSION, ALGORITHMS, AND DERIVATIVES FOR PROFESSIONALS**-
Today, portfolio managers increasingly must use stealth trading in order to disguise their intentions and thus benefit from best execution.

**ADVANCED CAPITAL MARKETS ANALYSIS**

Spot, forwards, futures, swaps, options, and statistical issues are discussed in dynamic capital market strategies.

**STRATEGIC GOLD INVESTING**
Gold has been one of the very few assets to have created wealth in the past several years. Gold offers investment opportunities for investors, traders, and financial engineers.

**GLOBAL SMALL CAP INVESTING**
Global small cap stocks offer investors the ability to participate in the world’s future big winners.

**PORTABLE WEALTH INVESTING**
Portable Wealth (PW) management offers investment opportunities for wealthy investors and their advisors. PW can generate attractive risk-adjusted excess returns to traditional and alternative investments.

Instructor John Palicka CFA CMT is a top-ranked portfolio manager of Global Emerging Growth Capital (WWW.GLEGEC.COM) with over 30 years experience of managing $ billions. He has doubled client money, on average, every 4 1/2 years since 1980*.

His high course ratings from major investment firms reflect clear interpretations and practical applications of complex topics; knowledge applied to examples and cases found in the current worldwide and GCC marketplace; his experience with specific situations actually encountered in his career and consulting contracts that parallel the learning topics. John has an MBA from Columbia University and also teaches these courses for leading training institutions, including The New York Institute of Finance (WWW.NYIF.COM).

* Past performance is no guarantee of future results.
CREATING EXCEPTIONAL CHARTS FOR YOUR PUBLICATIONS: 9 KEY INGREDIENTS
BY STOCKCHARTS.COM

Key Ingredient 1: Global Availability

You never know when an idea will hit or where you'll be when you need access to your charts. The office is the logical place, but market technicians are also thinking about the markets at home, when visiting clients, at restaurants or when traveling. Getting an idea into your analysis toolbox requires global accessibility on multiple devices.

StockCharts members can fetch custom SharpCharts and ChartLists anywhere with an internet connection. Revise a chart at home and the revision will be there when you access your account at the office. Change a client's ChartList during a meeting and the changes will show up when you log into your account at the airport. Hear a news report about an intriguing company at home? You can immediately pull up the chart on your laptop and add it to a ChartList. In short, you can access your SharpCharts wherever and whenever you want. SharpCharts reside on our servers in a secure environment with 99.77% uptime in 2013.

StockCharts members can also access their charts from more than one computer and on different devices, such as tablets and smartphones. This is especially handy for making live presentations during market hours or reviewing portfolios with clients.

SharpCharts need no additional software or plugins that can slow your computer to a crawl and create an unstable environment. StockCharts members can access their charts with a standard Windows or Mac browser. Yes, you can use your preferred operating system and your favorite browser (Chrome, Firefox, Safari, Internet Explorer, Opera).

Key Ingredient 2: Total Flexibility on Sizing

Your analysis is written, the page layout is ready and you need a chart in a specific shape or size. Easier said than done, right?

SharpCharts makes it happen with total flexibility on chart size, shape, making it a snap to fit charts into your layout and maintain image quality. A square chart may be best for a Word or PDF document, while a wide rectangle chart may fit better in a webpage or PowerPoint presentation. Sometimes you need a long, narrow rectangle to fill a little extra space at the bottom of the page.

Figure 1
In addition to providing a dozen preset chart sizes, SharpCharts gives users the flexibility to set specific dimensions at the source to ensure the highest-quality graphics. Sizing at the source does not affect image quality because StockCharts creates a new image file every time it resizes. That means large SharpCharts will have the same high-quality resolution as small ones. It takes just a few seconds to enter the exact dimensions and create a custom chart that is ready to insert into a publication.

Images for books and other printed publications sometimes require a much higher resolution than the standard SharpChart. StockCharts gives publishers the option to create Scalable Vector Graphics (SVG) for these charts.

See Appendix B for tips on importing SharpCharts into MS Word and other applications.

Key Ingredient 3: Customizable Colors

Sometimes technicians need basic black-and-white charts for a large printed publication. Other times they need high-quality color charts for a PowerPoint presentation or a web page.

SharpCharts makes this happen with more than two dozen preset color schemes. Large publications with dozens of charts can use monochrome (gray-scale) charts, which are also ideal for printing. Full-color charts can enliven websites and PowerPoint presentations. SharpCharts also provides a preset color scheme for users who have color vision impairments. Figure 3 shows the Sunset color scheme.

SharpCharts price plots, indicators and line studies are fully customizable. Assigning different line styles and colors makes each chart feature stand out. For example, price data could be shown as black and red candlesticks, Bollinger Bands could be green, and thick trend lines could be shaded red (Figure 4). Contrasting colors make it easy to distinguish the price plot, indicator and trend line.
Monochrome or gray-scale charts present a special challenge when trying to differentiate between indicators and line studies. Moving averages cross each other and prices cross moving averages. If these indicators all use the same color and style, you cannot tell which one is which. SharpCharts solves this problem by offering flexibility on line style and line color. For example, Figure 5 shows a 20-day moving average using a thick black line and a 50-day moving average using a gray dashed line. See Appendix A for a list of color options.

Key Ingredient 4: Diverse Annotation Features

A chart certainly paints a thousand words, but sometimes technicians need to add comments and annotations to reinforce the message. This is especially true when communicating an idea to a client or making a presentation.

The SharpCharts workbench is packed with annotation features, including text call-out boxes, line studies, a box-drawing tool and a circle-drawing tool. These annotation features make it easy to communicate ideas clearly and concisely.

Figure 6 uses Walgreen (WAG) to illustrate highlights of the key annotation features. Working from left to right on the chart, the curved green lines show an inverse head-and-shoulders pattern from late May to early
September with a red line marking neckline resistance. The blue vertical dotted line marks the day WAG was added to the portfolio. An oval shaded with the opacity tool identifies the consolidation after the breakout. The box tool marks the resistance and support zones that define the larger consolidation from November to early February.

The call-outs on the Walgreen chart identify the support zone and the breakout, while a simple text entry identifies the resistance zone. The trend line extending up from the July low is a dashed blue line with maximum thickness. The indicator window at the bottom shows the price relative with a text box labeling the indicator. The green dashed line marks the upward trajectory and signals that Walgreen is outperforming the S&P 500.

**Key Ingredient 5: Accurate Data**

A stock chart is only as good as the data behind it. After the market close, exchange officials audit stock data to ensure that the open, high, low, close and volume are correct for each issue. These "audited" updates are then sent out by the exchanges, making prior data out-of-date. Technicians need the latest data update to ensure accuracy for their stock analysis.

StockCharts works hard to ensure data accuracy. First, we have several people dedicated to keeping our databases in sync with ticker changes and updates that happen throughout the day. Second, we re-collect data from our vendors several times each day after the market closes. This ensures that you are working with the most accurate data in a timely manner. Ultimately, our goal is to have "official" numbers in our database.

All data, data updates and data adjustments are included in the membership prices. There are no hidden fees. In other words, don't expect an extra fee from the exchanges or an extra charge for accessing a special data set. All data and exchange fees are included in our subscription packages.

**Key Ingredient 6: Custom Data Imports**

Many technicians have custom indicators or special data sets that require charting. While it is easy enough to create an MS Excel chart depicting this data, serious technicians soon learn the popular spreadsheet program does not "excel" at creating sophisticated financial charts.

StockCharts members can import data sets and plot data series in a SharpChart. This data can include the open, high, low, close and volume, or only the close (one value). The SharpChart workbench lets users set a desired chart size, pick their colors, apply indicators and add annotations. Data imports make it easy to analyze economic indicators, sentiment data, proprietary indicators and even equity curves.
Figure 7 shows sentiment data from the American Association of Individual Investors (AAII). This data was imported from a spreadsheet file to create a user-defined index in SharpCharts. The AAII example shows three user-defined indices: AAII Bulls, AAII Bears, and the AAII Bull-Bear Spread. Note that the data set can be positive or negative. Obviously, the AAII Bull-Bear Spread fluctuates above and below the zero line. The AAII Bears data is negative to contrast better with the AAII Bulls data, which is positive. Also notice the red cumulative line in the middle window, which plots a running total of the Bull-Bear Spread.

Key Ingredient 7: Total-Return Data

Price is not the only driver of stock and ETF returns. Dividends still play an important role in returns, even if they might not seem as popular today as they used to be. Of course dividends are integral to the returns of utilities, REITs and other traditional high-yield securities, but consider this: As of mid-March 2014, AbbVie, Chevron, Cisco, Clorox, Intel, Lockheed Martin, Microsoft, Merck and Pfizer had dividend yields above 3%. Chartists need the option to reflect these yields and measure total return on their charts.

SharpCharts give technicians the option to show total-return price data or unadjusted data. Total-return price data includes dividends, while unadjusted data leaves them out. This makes a big difference for securities with relatively high dividend yields.

Let's compare the total-return chart for the Utilities SPDR (XLU) and the unadjusted chart. Simply precede the symbol with an underscore to see unadjusted data (i.e. _XLU). Figure 8 shows unadjusted XLU surging in early 2014, but failing to take out the 2013 high. The indicator window shows one-year performance with the ETF returning 8.8% from February 25, 2013, to February 24, 2014.
Figure 9 paints a different picture by using total-return data. First, notice that on a total-return basis, XLU did exceed the 2013 high and recorded a 52-week high in 2014. Second, notice that the one-year return is just over 13%, which is around 50% more than the return on the unadjusted chart. XLU and other high-yield securities attract dividend-conscious investors who need to see the total return. Also, note that SharpCharts users can show dividend amounts on the price chart. Figure 9 shows four dividend payments over the past year.

**Key Ingredient 8: StyleButtons to Save Time**

Publications and presentations are not one-off events, and neither are chart creations. Technicians put a lot of effort into creating custom charts for print publications, websites and PowerPoint presentations. You should be able to save your efforts with templates that can easily be applied when updating a publication or preparing a new presentation.

SharpCharts users can quickly and easily create, manage and apply their favorite chart settings. First, you can create dozens of chart templates called ChartStyles. Second, you can then create StyleButtons based on these ChartStyles. These StyleButtons are conveniently located just to the left of every SharpChart.

Figure 10 shows these StyleButtons just to the left of the chart. With one click of the StyleButton, you can apply a specific ChartStyle to the current chart. This one-click application streamlines the process and makes it easy to load specific chart settings.

For example, say you have a publication with over 100 monochrome charts based on a specific chart setting. If you are adding new charts to this publication, you will want to make sure that they are in the same format to
ensure uniformity. Simply save one of the existing monochrome charts as a ChartStyle, create a StyleButton and then use this StyleButton to apply that style to new charts.

Many technicians have also developed specific chart settings for a particular group of securities or an indicator group. These settings can be instantly applied using StyleButtons. Different security groups can include stock indices, breadth indicators, momentum stocks, high-yield stocks and ETFs. Indicator groups can include volume-based indicators, trend-defining indicators, momentum indicators and overbought/oversold oscillators. See Appendix C for a list of SharpCharts indicators.

Want to present your favorite volume indicators for a particular stock? Click on your volume StyleButton to instantly apply that ChartStyle. Want to show the momentum picture for a particular ETF? Click on your momentum StyleButton to immediately view the key oscillators. Want to show relative strength for a security? Click on your relative strength StyleButton to compare performance against different asset classes.

Key Ingredient 9: ChartLists for Easy Organization

Technicians working with hundreds of charts need an efficient way to manage them. You do not want your presentation charts mingling with portfolio charts and watch-list charts. Different chart groups require varying degrees of attention and management. Portfolio charts are reviewed on a regular basis, while presentation charts are usually updated as needed. Technicians need an intuitive tool to make all this happen.

SharpCharts can be managed easily and efficiently through ChartLists. Users can create up to 350 ChartLists with up to 500 charts in each list. This means you could create specific ChartLists for your various publications, portfolios and presentations. For example, a ChartList named "MTA Presentation 140403" could be created to store all charts for your MTA presentation. Having your charts in one place makes it easy to update the presentation in the future. ChartStyles can also be applied to ChartLists to redesign a large number of charts at once."

ChartLists offer endless possibilities for chart management and sharing. Technicians can create ChartLists for different portfolios, specific stock groups, ETFs, breadth indicators and mutual funds. Advisors can build ChartLists based on client portfolios and use these lists to review positions when visiting clients.
Conclusions

This paper illustrates how SharpCharts can create exceptional visuals for printed publications, slideshow presentations and websites.

It all starts with global availability. The key features presented here can be accessed from any internet connection and on multiple devices. Have a chart idea? Access StockCharts, put that idea to work and have it waiting the next time you log in — regardless of location or device.

SharpCharts is one of the first ports of call when visiting StockCharts. This versatile charting tool gives technicians sizing flexibility, custom colors and lively annotations. Charts can be created, saved and filed in just a few clicks. These charts are high-quality picture images that can be copied and pasted into other applications, and then resized.

StockCharts provides flexibility with its data. Our data is scrutinized throughout the day and re-collected several times after the market close to ensure accuracy and timeliness. Technicians can also provide their own data sets and create user-defined indices, which are easy to update with new data. The option for total-return data or unadjusted data gives technicians the choice to include or remove dividends.

ChartStyles make it easy to create uniform charts and apply formatting with StyleButtons. Once a chart is created and a style applied, it can be saved in the appropriate ChartList to keep your growing number of SharpCharts organized.

Appendix A: Importing SharpCharts into other Applications

SharpCharts may need to be resized when inserted into MS Word, PowerPoint and other popular applications. These three tips will help ensure image quality and keep file sizes under control:

1. Select a shape. Start by choosing the shape you want and creating the corresponding SharpChart. A 600-by-600 SharpChart would form a square, an 800-by-600 chart would form a wide rectangle and a 700-by-300 chart would form a long, narrow rectangle. You must first choose the shape to set the aspect ratio—the proportional relationship between the width and height. Size is not so important, but it is best to start with a bigger SharpChart and then reduce the size in your application. Trying to make a smaller chart larger will decrease the resolution and create an unpolished appearance.

2. Insert and resize. Next, paste the image as a picture and resize while maintaining the aspect ratio. Copying and pasting is quick and easy. Simply hover your mouse pointer over the SharpChart, right click (control-click on Mac OS) and choose copy image. After moving back to Word, choose edit from the main menu, select paste special and then picture. When resizing the image, click and drag on the corner dots of the image to preserve the
aspect ratio. Note that if you drag from the middle dots between the corners, you'll override the aspect ratio and distort the image. You can also preserve the aspect ratio by making sure the *lock aspect ratio* box is checked when resizing via Word's *format* menu.

3. **Link images to limit file size.** File size grows each time you imbed an image into Word or PowerPoint. Documents with dozens of embedded charts can become large and unmanageable. Instead of embedding, you can check the *link to file* box when inserting an image. In addition to controlling file size, this command updates the linked images anytime you change this source file. This is handy for charts that are updated daily or weekly.

There are many more SharpCharts features and analytical tools available. MTA members in good standing are eligible to receive a 25% discount on first-time subscriptions to StockCharts. To take advantage of this special offer, please use the following discount code: MTA-2500. Go to [http://stockcharts.com/signup](http://stockcharts.com/signup) for details.

Join us in Seattle this August for ChartCon 2014, this year’s premier event for StockCharts members. ChartCon 2014 will be two full days of presentations on charting and chart analysis from industry experts like John Murphy, Alexander Elder, Martin Pring and Richard Arms.

This is a rare opportunity to learn new and important analysis techniques from several legends of the chart analysis world. ChartCon presentations take place in a friendly and educational environment that is full of opportunities to meet the speakers face-to-face. You'll learn how they analyze the markets and how you can apply their techniques to your own trading.

The conference runs from 8am to 5pm on both Friday and Saturday. There are breakout sessions each day just before the catered lunch. In addition, there are optional "After Dark" sessions on Friday night. Finally, we're also offering an optional full-day training seminar on Thursday, the day before the conference. Additional details are at [http://stockcharts.com/chartcon](http://stockcharts.com/chartcon).

There are many more SharpCharts features and analytical tools available. MTA members in good standing are eligible to receive a 25% discount on first-time subscriptions to StockCharts. To take advantage of this special offer, please use the following discount code: MTA-2500. Go to [http://stockcharts.com/signup](http://stockcharts.com/signup) for details.
INTERVIEW WITH MATT WELLER
BY AMBER HESTLA-BARNHART

How would you describe your job?

Though my official title is Senior Technical Analyst, I would actually describe my job as one-third analyst, one-third educator, and one-third reporter. The most obvious aspect of my job is to analyze the market and present actionable short-term trade ideas to our clients. I also spend a significant amount of my time educating traders on different strategies through daily articles and webinars so that they can identify trading opportunities independently. The third portion of my job entails reporting on major news releases and market developments both on social media and within our platform, enabling our traders to make decisions based on the most up-to-date information.

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

Of course, working at FOREX.com, I focus primarily on the foreign exchange market. The primary factor that initially drew me to currency market is the vast liquidity it offers, with over $5T in volume per day. Due to the depth of the market, the price action tends to be more “pure,” meaning that no one market participant can dramatically impact a pair’s exchange rate…barring central banks, and occasionally even including them! Therefore, I find that technical analysis is the most reliable and effective way to identify supply and demand in the market.

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

I typically don’t focus on fundamental reports, but it would be foolish to ignore them completely. At the minimum, I believe that all technical traders would benefit from marking major fundamental announcements as times when volatility will be elevated and it may be prudent to avoid short-term trades. Beyond that, I find that one of the most important signals in a market is when the price action diverges from the “expected reaction” to a fundamental report. For instance, if a market falls after an ostensibly bullish data release, it can be a very reliable indication that buyers are exhausted and the market may be due for a drop.

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

I would absolutely encourage new entrants into the business to choose a specific form of analysis and focus on mastering it. The field of technical analysis is so broad that carving out a specific “area of expertise” is an essential way for new practitioners to differentiate themselves. Of course, I would advise anyone considering entering the field of technical analysis to work through the CMT Body of Knowledge for an overview of each style of analysis to see what resonates with them.

My other piece of advice would be to engage actively with social media. There is a burgeoning class of intelligent traders and analysts producing valuable content on blogs, twitter, and StockTwits for free. In my
experience, they are very generous with their time and always willing to help out new entrants. In addition, I find that the field of technical analysis is a meritocracy: if you produce valuable, insightful analysis, you will earn respect, regardless of your credentials.

**What is the most interesting piece of work you've seen in technical analysis recently?**

While it’s more than a year old now, the technical analysis study by Smith, et al (2013) is still one of the biggest recent developments in the world of technical analysis in my opinion. Instead of testing the profitability of textbook technical analysis patterns, the researchers flipped the script by surveying over 10,000 active fund managers on the extent to which they employed technical analysis. They found that money managers who used technical analysis were more profitable at a statistically significant rate. To me, this study shows that a wide variety of different styles of technical analysis, if employed properly, can help improve profitability; it also (finally) shows a growing acceptance of technical analysis in academia, which can only be a benefit for the profession moving forward.

**What research area do you think offers the greatest potential in technical analysis at this time (something like an indicator, charting technique or trading tool)?**

I feel that the field of technical analysis as a whole will continue to move toward a more quantitative, historically-informed outlook on the markets. As a natural skeptic, I always want to see the data to back up any assertion about the market; for instance, just how profitable has a certain candlestick pattern been over the last X occurrences? How have these results this affected by the behavior of a given moving average, seasonal tendencies, timeframe, etc? There will always be a subjective aspect to technical analysis, but having a strong grounding in the historical performance of different signals and strategies can give TA practitioners the ability to trade with greater confidence.

Matt Weller is a Senior Technical Analyst on FOREX.com’s research team and has actively traded various financial instruments including stocks, options, and forex since 2005. Each day, Matt creates research reports focusing on technical analysis of the forex, equity, and commodity markets. In his research, Matt utilizes candlestick patterns, common indicators, and Fibonacci analysis to predict market moves.

In addition to his regular research reports, he has discovered a passion for teaching others about trading and has conducted over 1200 educational webinars on different aspects of trading and trading psychology. His analysis has been quoted in the Financial Times, Reuters, MarketWatch, The Guardian, and the Daily Telegraph. Matt is a Level III Chartered Market Technician (CMT) candidate. You can reach Matt directly via email (mweller@gaincapital.com) or on twitter (@MWellerFX).
AUTHOR GUIDELINES

The Market Technicians Association serves a global community and the organization’s publications strive for articles that can be easily understood by readers around the world. To meet that objective, all submissions to *Technically Speaking* should be in English and minimize the use of vernacular phrases and references. This is necessary to improve the readability for international members who may not understand phrases commonly used in one region but unknown in most of the world.

In *Technically Speaking*, we want to publish articles that use simple language whenever possible. Specific terms associated with financial analysis in general and technical analysis specifically should be defined unless they are found in the MTA’s Body of Knowledge. The editors may have to make changes to any work that is published for clarity and consistency.

Submissions should not use text boxes or advanced text formatting, as they make it more difficult for our staff to implement into our newsletter layout.

Please send any material you would to have considered for publication before the 20th of the month. We will work to include anything received by that date in the next issue.