LETTER FROM THE EDITOR

You probably noticed we changed the format of *Technically Speaking*. The new one-column format is in response to feedback from readers. This format should make it easier to read and print the newsletter.

Hopefully you have not noticed any change in the quality of the content. Each month, we strive to bring you useful information and our focus on high-quality content will never change.

We will continue fine tuning the format over the next few months and each small change should make the newsletter more readable. Please let us know what you think of the new style and also, please continue sending your submissions to editor@mta.org.

Sincerely,

Michael Carr
Every seven years the stock markets take a hit. Or at least they have done so consistently for the last three quarters of a century. Sometimes it is small but usually it is large. The last two down cycles have taken away about 35% and 55% of the value of the Dow Industrials, respectively. The last time this happened it started in 2007, so now in 2014, the next down glitch appears to be due.

As I watch the stock market and start the writing this paper on this Tuesday May 13, 2014, the Dow and the S&P 500 are hitting all time highs. The complacency is obvious, with the VIX at 12.13 and the Arms Index at 0.49. Yesterday there was a large gain in the averages, especially the Nasdaq, reflecting a lack of concern, even though the Nasdaq, unlike the other averages, had been sliding for over two months. The street attitude is that the bull market that began in 2009 can go on and on. But today the trading range has contracted and the gain on the opening is eroding. That is the only evidence that the advance is hitting resistance, yet as I look at this I become more and more concerned.

Fourteen years ago, in early 2000, the markets made a major high. Seven years ago, in mid 2007, the markets made another major high. Does that mean there is a seven-year cycle, and that we are due to make another high in this vicinity? Two data points certainly are not enough to set a rule or even a precedent. But if we look back, as we do on the above chart, it is more convincing and more disconcerting. There seems to be about a seven year cycle of tops leading to sharp drops in most cases; the seven year glitch.

Going back, the early 1994-point was only a very minor top and a very small pullback ensued. But before that we have the very traumatic top and panic in 1987. Before that the high in 1981 led to a substantial drop, and before that the high point that was made in 1973 preceded a very dramatic slide. Note that this chart uses a logarithmic vertical scale, so the rises and drops can be compared for their magnitude.

Actually, although it is somewhat less apparent, the same seven-year glitch appears going back at least to 1946, as we see on the chart below.
So it does appear that the cyclicality has some legitimacy. It is not perfect, but it is accurate enough to make one pause and consider the possibility that the next high is in the making, and we may be close to a downturn.

On the first chart I inserted a pair of lines that enclosed the rise since the start of the current bull market. You will note that they are converging into what looks like an ascending wedge. The trading recently has been concentrated in a very small area that looks like the apex of the two converging lines. That suggests that before long the market has to make up its mind which way it is going out of that wedge. But look at the next chart, below. I have put in similar lines on each of the prior market rises. Only in the 1994-2000 advance did the two lines stay parallel. In all others they converged toward an apex and when the two lines got close together the breakout was always to the downside. It looks this time as though we are closer to the apex than in any other case. That suggests decision time is close at hand.

Another observation is that the down moves tend to be briefer than the up legs. But how long the decline lasts, and how deep it is seems to be a function of the next larger market direction. Ever since the market breakout in the early eighties I have written about the very long-term cycles that have been in effect. We were in a huge base in the sixties and seventies, and into the eighties. From there we were in a long-lasting secular bull market that continued all the way to late 1999. Since then we have been in a broad consolidation. So, not surprisingly, the 7-year cycle, while still there, led to
briefer and, in the case of 1993, shallower drops during the overwhelming strength of the underlying secular bull market. During the prior consolidation in the sixties and seventies the drops were deeper, just as they have been since the major top and change in the big cycle in 2000. The underlying upward pressure was not there.

Usually the glitch part of the seven-year cycle lasts close to two years, but it can be shortened by the underlying big cycle. In our current situation that two-year glitch would seem to be a reasonable anticipation. It could easily be a 25% or more decline.

**MACD AND RSI**

Two indicators that I follow and like are the RSI and MACD. On the chart below we are seeing these two indicators, RSI above the price plot and MACD below it. Everything on this chart is monthly based. This being an Arms Candlevolume chart the two seven year periods do not appear to be equidistant because the horizontal axis represents volume not time and trading was heavier in the more recent cycle.

On the RSI chart I have inserted blue ellipses to mark the extremes, plus and minus, in this indicator. The last three upside extremes were in 2000, 2007 and now. The downside extremes were right on the lows. Similarly I have marked the turning points on the MACD with blue rectangles. So far we do not have a crossover in MACD but the two lines are so high that a crossover seems imminent.

**THE ARMS INDEX**
Of course, with volume flowing heavily to the up stocks we tend to get overly bullish Arms Index numbers near the top of moves. The chart below of the 89-day Arms Index shows the extremes. This index looks as though we are already beyond the high.

![89-Day Arms Index Chart](chart1.png)

Chart by Metastock

But if we smooth the data more using a 233-day moving average, as below, we get a longer-term picture that appears to give much support the idea of the seven-year glitch.

![233-Day Arms Index Chart](chart2.png)

Chart by Metastock
Why is it that the media invariably are jubilant when there is a rise in consumer confidence? In reality, the public is always the most confident at just the wrong time, the top, and the most scared at market lows. The chart below shows us the Consumer Confidence Index going back to 1989. Noticed the last two highs in the Index were made in 2000 and 2007. There is no sign yet that it is making a top here, but the rise of the last few years matches closely the prior rise.
Certainly not a pinpoint indicator, the VIX tell us when there is too much complacency in the markets. Notice on the above chart that we are again at the extremes around 12.00 that were touched in 2007.

**SO, ARE WE AT THE TOP NOW?**

We are still within the Checkerboard pattern on the Arms Candlevolume chart shown below.

![Chart showing Checkerboard pattern](Image)

Until the top or bottom of that pattern is decisively broken with volume and an expanding range, there is little shorter-term information that tells us which way the move will be. The last three sessions have shown enough weakness to produce “red” days, and suggest the breakout will be to the downside. But the long-term work, the “Seven Year Glitch” is telling us the next major move is very likely to be to the downside.

**About the Author**

Richard W Arms, Jr., is a financial consultant to institutional investors and a private portfolio manager based in Albuquerque, New Mexico. He is a noted expert in the field of technical and market analysis, the 1995 winner of the prestigious Market Technicians Award and the author of several best-selling books and articles on his ground-breaking theories in volume analysis and market forecasting. This key technical tool, the Arms Index which is also known as the Short-Term Trading Index or TRIN, is listed daily in The Wall Street Journal and is flashed once a minute on CNBC. He has also developed the Equivolume charting system and has written five books on market and stock reaction to volume.
Gordon Scott, CMT, is the Managing Director of the CMT Program. Recently I had the chance to ask about him about his vision for the CMT program, the path he plans to follow to implement that vision and what makes him qualified to fill this important role.

Gordon’s vision is simply to make the CMT the gold standard of recognition in the field of technical analysis.

In many ways, the CMT is already the gold standard of recognition in TA. The designation is recognized around the world and FINRA allows candidates who have passed Levels I and II to request an exemption from the Series 86 (Analysis) exam.

Many members are aware of this exemption but might not be familiar with the details. FINRA administers the Research Analyst Qualification Examination (Series 86/87) to ensure research analysts are competent to perform their jobs. The tests measure skills associated with information and data collection, using that data to identify and analyze key investment criteria, and prepare and disseminate research reports. Series 86 covers the first two skills while Series 87 addresses preparation and dissemination of reports. Passing the first two levels of the CMT demonstrates competency in collecting and analyzing investment data.

First Step: Job Analysis Study

FINRA conducted a job analysis study to identify and describe the four critical job functions of research analysts. The MTA has also conducted a job analysis study to identify the functions of technical analysts. Based on the job analysis, the MTA was able to determine which reading material provided the required knowledge. Test questions were then developed from the reading material and the questions were validated by testing professionals to ensure they are clear and follow best practices.

While this process has already been completed, continuous updates are required because the markets and job requirements of technical analysts always change. Gordon is just now beginning a new job analysis project. The CMT program was never intended to be static and it already has continually evolved over the years. With a new job analysis study, the MTA is collecting data that demonstrates how the field is changing, data that will be used to ensure we are testing the skills required for today and tomorrow.
The job analysis will study the work done by technical analysts currently employed in the field as it has in the past. Gordon is extending the process to include a survey of individuals who hire analysts.

Hiring managers are being included for the first time because while Gordon believes professionals that are aware of the CMT understand its value, too few are aware of the designation. The job analysis will allow him to emphasize tasks that hiring managers believe are important. CMTs will then have those skills when they interview for competitive positions. Expertise in sought after skills will increase the value of the CMT.

**Demonstrating the Value of TA to Wall Street**

Making the CMT more appealing to financial professionals recognizes the evolution of TA, an evolution Gordon has personally experienced. He began his financial industry career with almost a single-minded passion for TA and now sees TA as one tool for the market professional to use. This personal belief was validated by the recent Annual Symposium which focused on fusion analysis and the intersection of TA, fundamental analysis, quantitative analysis and behavioral finance.

While Gordon notes that the financial community recognizes TA as one of the tools available for analysis, he believes the CMT program can help financial professionals understand that TA could be the most valuable tool they rely on. Neither fundamental nor technical analysis is now thought of as a standalone discipline. The Chartered Financial Analyst (CFA) curriculum includes 75 pages on TA, which demonstrates fundamental analysts already recognize the value of fusion analysis and they are incorporating TA into their Body of Knowledge (BOK).
The CMT program can help the MTA expand outward in the financial community. Gordon believes it is our responsibility to help define how TA fits in with other forms of analysis. TA is an excellent risk management tool, for example, and is at the center of many quantitative strategies. He explained that there are certain points in the market where the probability of price changes rise and this point can be thought of as the fusion of TA and quantitative analysis. Those points highlight a difference in the probability of randomness that technicians spot with chart patterns or indicators and quants spot with algorithms.

Behavioral finance is another area that intersects with the TA BOK. Experts in that field are trying to explain behaviors that technicians spot in chart patterns. Behavioral finance could be the next step in a study that began with the work of Edwards and Magee and Schabacker.

Expanding Access to Knowledge

Gordon is also working to develop an online curriculum for the CMT program. This effort will make the curriculum flexible, relevant and as distributable as possible. Gordon has been a working with a major publisher in this process. With our own curriculum, the program will be able to respond to changes in the field quickly. If major firms decide a particular technical tool is important, the MTA would be able to develop a reading on that tool and incorporate it into the CMT program. This initiative could also lower the cost of the program for candidates since readings will be developed and candidates will not have to purchase additional books.

Another initiative Gordon is leading is to develop a CMT prep course with the New York Institute of Finance. This will make the material more readily accessible to learners who prefer a classroom environment. The course might be available online for those not located in New York or available as regional seminars in the future. Additional prep materials could also result from this initiative.

Personal Preparation for the CMT Program

The toughest question to ask is probably what makes Gordon the right person to lead this program. The answer is that he is uniquely qualified.

In some ways, Gordon’s career path looks like a random walk with a long-term upward bias. In reality, the walk was actually preparation to become the Managing Director of the CMT Program.

In college, Gordon wanted to study technical writing and instructional design. His school, Brigham Young University, did not offer that degree but allowed him to design a program that met the standards for a major in that field. He studied what other colleges required, found courses that matched those objectives at his school and graduated with a degree that developed skills in effective communications, instruction and assessment.

After college, he learned that IBM was hiring information development specialists to write external and internal documentation. That job required taking complex subjects and distilling them into simple points with attention to detail ensuring the documentation provides an appropriate response to any possible scenario.
Older readers might remember that computer system documentation once consisted of large binders, usually stored in locked bookcases away from the computer system to be sure this information wouldn’t be lost. Unfortunately the location and security also made the information difficult to access so it often went unused.

As computers became easier to use, Gordon worked to make the documentation accessible by placing it online and indexing it to provide for ease of use. At the time, these were revolutionary concepts that are now considered standard practices. It is also a skill that is directly related to creating an online CMT curriculum.

Gordon also had the opportunity to work in business process analysis where he learned how well-designed processes provided economies of scale and reduce costs. Business process analysis is a skill that is similar to leading a job analysis study, a cornerstone of the CMT continuous improvement process.

While working in business process analysis, Gordon had an opportunity to complete project management training. Project management skills helped him reach objectives by bringing together disparate functions within an organization and working with cross functional teams of subject matter experts within IBM and beyond. Teams require special skills since team members often don’t report directly to the team leader. This structure required Gordon to develop skills in managing people who had little incentive, at times, to cooperate with him. That meant learning how to manage his time to meet schedules even when others were late in responding to his requests. Managing teams also helped Gordon learn the importance of defining well-articulated tasks to ensure he got the information he needed rather than having to repeatedly request additional information because the first response was inadequate. Because team members were geographically separate, it was important to use technology rather than face-to-face meeting to manage projects.

Each of the skills mentioned in the previous paragraph are directly comparable to the tasks required to manage the task of creating test questions for the CMT program.

After ten years at IBM, Gordon turned to a field he had a passion for, finance, and worked as licensed broker (after passing the Series 7 exam) at a prop trading shop. Here he learned about trading, the structure of financial markets and how to apply TA. In finance he also uncovered a talent for explaining how to trade and apply TA which led to a position as a coach for InvestTools, a firm that was later bought by TDAmeritrade.

Constant Feedback and Improvement

As a trading coach, Gordon needed to define, revise and continuously update the curriculum that brought together many topics (TA, market structure and mechanics of trading among other topics). He needed to incorporate the feedback of students into the process, making it more applicable to their goals while maintaining relevance in ever changing markets.

Once again, you can see that I have just described the tasks of the Managing Director of the CMT Program while describing what Gordon accomplished in a previous position.

Gordon left InvestTools about four years ago and began working as an independent trading consultant while teaching technical writing at BYU. While teaching, Gordon was part of the team that developed a grammar exam used to ensure
accountants in one of the top-ranked programs in the country could effectively express themselves. These are also skills he will apply in managing the CMT program.

Looking back, Gordon describes his previous positions as a “skill gathering effort.” His goal has always been to apply his communications skills to explain something of value to others. He wasn’t deliberately preparing for a particular position but the skills ended up being applicable to a single position at the MTA, an organization Gordon has always been active in.

The CMT program is the gold standard in TA but it will require effort to remain there. Gordon Scott has the diverse skills needed for that task and is starting on a project that will truly never end.
Editor's note: This was originally posted at Quantitative Trading and is reprinted here with permission. Dr. Chan will be providing more information about this topic in an upcoming MTA Educational Web Series presentation scheduled for July 9.

Readers of zerohedge.com will no doubt be impressed by this chart and the accompanying article:

Indeed, short interest (expressed as the number of shares shorted divided by the total number of shares outstanding) has long been thought to be a useful factor. To me, the counter-intuitive wisdom is that the more a stock is shorted, the better is its performance. You might explain that by saying this is a result of the "short squeeze", when there is jump in price perhaps due to news and stock lenders are eager to sell the stock they own. If you have borrowed this stock to short, your borrowed stock may be recalled and you will be forced to buy cover at this most inopportune time. But this is an unsatisfactory explanation, as this will result only in a short term (upward) momentum in price, not the sustained out-performance of the most shorted stocks. This long-term out-performance seems to suggest that short sellers are less informed than the average trader, which is odd.

Whatever the explanation, I am intrigued to find out if short interest really is a good factor to incorporate into a comprehensive factor model over the long term.

The result? Not particularly impressive. It turns out that 2013 was one of the best years for this factor (hence the impressive chart above). For that year, a daily-rebalanced long-short portfolio (long 50 most shorted stocks and short 50 least shorted stocks in the SPX) returned 6.9%, with a Sharpe ratio of 2 and a Calmar ratio of 2.9. However, if we extend our backtest to 2007, the APR is only 2.8%, with a Sharpe ratio of 0.5 and a Calmar ratio of 0.3. This backtest was done using survivorship-bias-free data from CRSP, with short interest data provided by Compustat.
Here is the cumulative returns chart from 2007-2013:

Interesting, trying this on the SP600 small-cap universe yielded negative returns, possibly meaning that short-sellers of small caps do have superior information.

About the Author
Dr. Ernest P. Chan is an expert in the development and application of statistical models and software for trading currencies, futures, and stocks. He is the principal of QTS Capital Management, LLC., which manages a hedge fund as well as individual clients’ accounts. He also offers training to clients via workshops or individualized consulting to trade for themselves using Matlab. Dr. Chan has built and traded numerous quantitative models for investment banks and hedge funds in the past (see his biography). His consulting practice, E. P. Chan & Associates, has served individual and institutional clients in Australia, Canada, France, Hong Kong, India, Singapore, South Africa, United Kingdom, and the United States since 2006. He can be reached at ernest@epchan.com.
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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.GLGFEGC.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.
How would you describe your job?

Mostly my job involves the study of cycles, how cycles are changing as the internal market structure is continuing to change at an accelerated pace. I study the market participant groups and those cycles as an example. Currently, there are nine distinct market participant groups. When Charles Dow wrote his theory he identified three market participant groups. There are now nine unique market participant groups. This changes technical patterns in significant ways. In addition, how a group trades also impacts technical patterns.

A group is defined by:

1. The venues they trade on and use.
2. The types of orders they use, as an example buy-side institutions might use dark pools and they have many new customized orders that bracket price into a specific range. HFTs also have custom orders they can use.
3. The share lot size they generally use.
4. Whether they employ fundamental, quantitative, or technical analysis or a combination thereof.
5. Their intent for the trade, such as for a trust fund for creating new trading instruments, charter requirements for an index fund, an average retail investor buying for their retirement, a high frequency trading firm acting as a maker-taker supplying or removing liquidity, or a corporation lowering outstanding shares with a long term buyback program.
6. The speed at which they trade.
7. Expertise and market experience.
8. Access to critical and reliable information. Each market participant group receives data and company information from different resources and at different time frames.
9. The dominance of that group in terms of how much of the total trading volume they control on any given day.
10. Liquidity requirements.

All of these factors play a role in how price action and quantity create technical patterns. These groups are each distinctly different in their approach to trading or investing. These variables are continually altering technical patterns and cycles, creating an evolving market that is challenging and exciting to study as a technical analyst.

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

I was fascinated with the stock market as a young girl and started to learn about the stock market from my grandfather at the age of 12. Business always captivated my attention. The stock market is the “Business of Businesses” and to me, there is nothing more exciting than watching a start-up company move through venture capital to finally becoming an IPO and eventually a big blue chip stock. Each step of this process can be analyzed technically. Technical Analysis provides
a vast amount of data for stocks and the overall business cycles. This continues to intrigue me even after all these years, as the technical patterns often reveal aspects of the company prior to the announcements on news channels. Dark pool activity especially has begun to alter technical patterns in stock charts that completely alter how bottoms and tops are forming in recent years.

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

Yes, both. What is truly exciting at this time for technical analysis theories are the new charting software programs that incorporate fundamental indicators that perform similarly to technical stock and index indicators. Adding these to the analysis increases the level of understanding of what is going on not only with the stock price action but also the company. The more that can be incorporated into the stock or index chart beyond the basics of price, time, and quantity, the more accurate the analysis.

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

Be aware that the market structure has evolved rapidly and any time there is a change to speed of execution, new order types, new venues, and new market participant groups, there will be changes to technical patterns. People who are just starting out in technical analysis need to study the original technical analysis books, theories, and concepts first and thoroughly understand how technical analysis began and how it evolved during the earlier decades. Then technical analysts who want to succeed in the automated marketplace need to identify and learn the newer technical patterns, new candlestick patterns, and how quantity, share lot size, and volume are becoming far more important in the role of technical analysis. I hope to see the next generation of stock indicator writers explore ways of creating new indicators that emphasize quantity, share lot size, and volume far more than has been used in the past. Right now, the preponderance of the couple hundred indicators are price and time, more indicators need to be written that use price, quantity, and time in new ways.

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

I think seeing the changes that are occurring in technical patterns, candlestick patterns, and cycles. It is an exciting time to be a technical analyst, seeing how the changes in market structure are altering technical patterns and cycles. What this means is that technical analysis is not static. Not every theory has been conceived or written. New theories are going to emerge and the integration of more fundamental data in stock charts will revolutionize how market participants evaluate stocks. I do believe that the merging of technical with fundamental analysis in the stock charts will totally change the industry.

**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 believe that studying the effects of the changes to market structure, how the various market participant groups interrelate, will inspire new theories for stock analysis for both the technical side and the fundamentalists. I do believe that fundamentalists are slowly beginning to see that technical analysis is not a crystal ball or a predictive theory but a
concrete methodology that can be used to assist in their projections for the company and its stock for both short term trading and long term investments.

New technical analysts are needed. There is a growing number of quantitative analysts however, without incorporating technical analysis theory and understanding technical patterns quantitative algorithms will continue to create high risk scenarios, especially since there is a lack of trigger mechanisms as the stock price becomes extremely overextended up or down. By using more technical theories into quantitative algorithms, a better formula can be written for automated orders.

About the Interviewee

Martha Stokes, CMT is the co-founder and CEO of TechniTrader, a financial services educational firm dedicated to helping investors, retail traders, small funds managers, RIAs, and other professionals. For the professional, Martha teaches how to incorporate technical analysis and relational analysis as part of the overall quantitative portfolio development.

Martha’s fascination with the financial markets and business started at the age of nine. She made her first investment while still a teen. She has written theories on financial cycles and relational analysis. She has been involved in several startups and has sat on both sides of the Venture Capital negotiating table, worked on an IPO, managed a small closed fund, taught at community colleges, and has been a guest speaker at numerous seminars and investment groups.

She has written and developed over 40 stock and options courses, writes the Annual New Technology Report, a biannual Sector and Industry Report, Market Structure Report, and Special Edition Reports. She has published hundreds of articles, resource papers, and white papers which are found on many internet websites. Martha writes six newsletters each week, three Market Reports for her Blog, and still finds time to answer student questions. She can be reached through technitrader.com or marthastokes.com.
Most retail investors and traders think of the stock market or financial markets as “Main Street” and “Wall Street.” The Professionals of the market view the markets as Buy Side, Sell Side, and Retail.

This is the stereotypical impression of the market with a mere three Market Participant Groups:

- **Sell Side Institutions** are Money Center Banks like Citigroup, JP Morgan, and Bank of America, or Financial Services, market makers such as Goldman Sachs, Morgan Stanley, and State Street.
- **Buy Side Institutions** are those like Northern Trust, Vanguard, and CALSTRS, Mutual Funds and Pension funds.
- **Retail Investors** are anyone who is not a professional trading the markets.

Unfortunately, this type of Market Participant Group Cycle, which is a mild modification of the original Dow Theory, doesn’t include the full contingent of Market Participant Groups present in the automated, institution dominated market structure of today. The Market Participant Cycle, one of the most substantial financial cycles, has been undergoing diversification for decades. New distinctly separate groups have evolved as the market structure has morphed into a far more complex framework of interrelated and tightly connected markets.

There are now nine distinctly different Market Participant Groups that create the Stock Market Trends and Cycles.

The current cycle of Market Participant Groups has developed over several decades due to:

- **1970’s**: Congress allowing Pension Funds to invest in the stock market.
- **1980’s**: Rogue Floor Traders starting trading as independent day traders from home computers.
- **1990’s**: The elimination of the Rule of 3 by Congress so that Buy Side Institutions such as mutual and pension funds could short term trade actively the entire fund without tax liabilities to the fund.
- **1990’s**: Congress eliminating the separation of Commercial Banking and Investment Banking, allowing banks to trade more aggressively in highly speculative securities and derivatives. This opened the door for a plethora of new stock and index derivatives.
- **1990’s**: Online Retail Brokers allowed retail side investors access to short term trading platforms, options trading, and ECNs for retail day traders for the first time.
- **2000**: With the improved speed of the internet, computers began replacing human traders, automation of orders increased exponentially over the subsequent decade.
- **2001**: The change from fractions to decimals for stock pricing and the faster speed of execution of orders due to tighter more efficient pricing structures fueled the growth of low latency trading.
- **2002**: The Mutual Fund Industry collapse due to an unprecedented redemption demand by mutual fund investors, companies instigated the creation of a new type of stock index derivative, the Exchange Traded Fund. This also
led to a growth in small fund managers, RIAs, and Financial Planners working independently from large Buy Side Mutual Funds.

- **2005:** HFTs growth increased to the point that the giant buy side funds demanded their own venues in order to avoid the front running by HFT algorithms. Although block trades and backroom large lot transactions have always been part of the system, the new platforms called ‘Dark Pools’ flourished providing new venues for institutions to hide their giant and large lot transactions. Currently some are now Twilight Pools that are lit temporarily. Dark Pools orders are not displayed on the limit order books of market makers on the exchanges. Orders executed on Dark or Twilight Pools are delayed and are only displayed after the order is fully executed.

- **2006:** Quantitative Analysis algorithms encouraged Hedge Funds, Arbitrage, and other high-risk derivative development. Smaller funds in particular started investing more capital into these high risk derivatives.

- **2008:** The Banking Debacle that started on the Real Estate, Mortgage, and Credit Markets, caused a massive sell-off of stocks. Although this was not a Bull Market bubble, nor were stocks overbought, the market suffered a severe deviation of its cycle and the long term trend. This deviation of the Stock Market Cycle suffered reverberations (similar to aftershocks of an earthquake) damaging the long term cycle further, and altering many known cycles. It also disrupted all financial markets and caused major restructuring of the Sell Side Institutions. Caused a permanent rift between the Sell Side Institutions and the Buy Side Institutions, and prompted more mutual funds to investigate alternative trading instruments.

- **2009:** HFT activity on the exchanges reached its peak at approximately 56% based on SEC data. (often this has been quoted at 73+% but that is the automated orders at that time, NOT the HFT executed orders.) Exchanges, which had continued to lose liquidity since 2000, employ the HFTs as ‘maker-takers’ to boost liquidity on the exchanges. This fueled the growth of HFTs as the maker-taker role was highly lucrative for HFTs. However since 2009, HFT activity has declined overall accounting for less than 49% estimated currently.

- **2010:** Flash Crash instigated studies on how voids in the market due to various giant institutions halting trades impact and ripple through several financial markets. The Flash Crash originated on the E-minis Futures market and then crossed over into the ETF and stock market. Retail Online Brokers which usually internalize most of their orders fueled additional sell-offs during the flash crash as orders were routed to the exchanges. For a complete detail of what happened during the Flash Crash, please see article written in May 2014 on this topic.

- **2011:** New Regulations for the Money Center Banks and Financial Services bellwethers continued during this year and Money Center Banks were forced to change their policies of proprietary trading desks, investment strategies, and instrument production business strategies. Derivatives clearing requirements altered many mutual and pension fund portfolio structures and impacted Hedge Funds substantially. New ETCs came to market as new derivatives traded on the exchanges.

- **2012:** Swaps regulations and clearinghouse rules continued. The stiff requirements cause many smaller funds, Hedge Funds, RIAs, and other small funds groups to change their investment portfolio structures. Stock and Index futures as well as E-minis and SPY ETF became the most popular instruments by this market participant group. This added to the domino link effect from the futures market to the stock market.

- **2012:** More large corporations instigated buyback programs for their outstanding stock. Corporations as a market participant group, impact their own stock values with buybacks. Corporations also start buying up more and more shares on new technology stocks which drove up small cap stock values.
• 2012: The transformation of HFTs to market makers began as HFTs faced more and more public anger. Many industry experts claim HFTs were bad for the stock market, others argue that the HFT provides much needed liquidity. The debate instigates more investigations by the SEC. HFTs alter their algorithms again.

• 2013: Swaps regulations are in full compliance altering the portfolios of several market participant groups. This impacts stocks and the bond market shifting huge sums of money from bonds into stocks suddenly.

• 2014: The Market Structure continues to evolve as the new financial market after all regulations are in place and every fund is compliant is still an ongoing process. The SEC is still working on the Consolidated Audit Trail and MIDAS is up and fully operational.

Each time, new technology and regulation alters how the markets function, the structure of the venues, and internal operations of the Market Participant Groups, which transforms the dynamics of the Market Participant Cycle.

The nine Market Participant Groups can be easily identified and defined based on the following criteria:

1. Level of access to Information and time at which information critical to stock, index, or derivative selection becomes available and in what format.
2. Venues available for transaction, buying or selling of stocks or derivatives.
3. Order processing types designed specifically for each group.
4. Sophistication and types of platforms on venues.
5. Standard Quantity of Shares traded at any one time and quantities accumulated or distributed over time.
7. Data Analysis access and types of Data Analysis including Technical Analysis, Trend Analysis, and Relational Analysis.
9. Inter-market accessibility and connectivity for leveraging, arbitrage, and hedging.
11. SEC Regulations and rules that are applicable to each group.
12. Capital Resources available.
13. Trade and Portfolio Management Resources and Preferences.
15. Sophistication, Experience, and Expertise of both human traders and algorithms used.

All of these factors vary greatly between each of the nine Market Participant Groups. To say that all of the information about a stock and its company is in the current price is inaccurate. Price is based upon which Market Participants are actively trading in that security at that time, and what information and access to research, Data, etc. that particular group has at hand at that moment.

The current nine Market Participant Groups are:

1. Sell Side Institutions
2. Buy Side Institutions  
3. Wealthy Individuals  
4. High Frequency Trading Firms  
5. The Corporations (top 1000)  
6. Professional Independent Traders  
7. Smaller Funds, including Foreign Funds, Non-profit, RIAs, CFPs, etc.  
8. Retail Traders, small lot investors  
9. Odd-Lot Retail Investor  

As an example of the discrepancies of resources and information available to various groups:

For several years, High Frequency Trading Firms bought news data from news companies which delivered that news to the HFTs ahead of the news reaching regular news feed channels on the internet and television. This affected price action.

Retail investors and retail traders, as well as smaller fund managers, do not have access to information, research, and data analytics that are readily available to the Sell Side Institutions as an example.

Therefore, trends are created not by three groups but by nine groups, all buying and selling as they enter or exit a security when and if they are able to obtain vital information.

A retail trader hears about a surprise earnings report only on the day that the report is released to the general public. However, weeks prior to that event, Sell Side and Buy Side institutions have had internal company analysts studying the company, compiling research, and crunching Big Data on hundreds of companies, the entire sector or industry, and the company itself. Their capital base resources allow them to slowly and methodically buy into a stock weeks ahead of an earnings release. Their buying does not move price as they use specific controlled and bracketed orders to avoid surges in price until they have purchased the entire giant block of shares they intend to buy at that time.

In summary, to say that all of the information known about a stock and its company are in price at any given time is inaccurate. What price reflects is which of the Market Participant Groups are in control of price at any given time.

The new nine-tier Market Participant Cycle alters the long term intermediate term, and short term trends of the stock market and other financial markets. These changes are obvious in technical patterns, candlestick formation, and stock market cycles. Technical Analysis needs to evaluate the viability and regularity of these new technical patterns.
The Triple Trend Oscillator (TTO) is a trend following oscillator I developed to identify an exact level of technical strength of a stock or index over multiple timeframes. It can be used as a trend and momentum indicator. Because it identifies precise entry and exit points, TTO can also be used as a standalone trading system.

Every trend carries within itself several sub-trends of various lower degrees. These lower degree trends are hidden but play an important role in shaping the trend quality.

"Integrated trend analysis" is an attempt to study and analyze these diverse forces. TTO puts the multiple trends on the screen simultaneously to present an overall picture.

The position of the trend oscillators plays an important role in determining the trend strength. When all trend oscillators remain above the major trend, the security should rise rapidly. The reverse is true for a highly bearish security, when all of the trend oscillators fall below the major trend.

This information can be useful to traders. A trader entering a long position might be cautioned by the headwind, in the form of short term weakness in security, and would wait until the short term momentum has turned positive to minimize risk.

Like many other technical indicators, TTO oscillates around a zero line but there is a difference. It incorporates trend oscillators designed to mimic the trend momentum across three timeframes, plots them simultaneously and gives a comprehensive view of the trend position. Thus it provides a better indication of overall trend strength, something that is not possible when trends are viewed in isolation.

The main components of TTO are the three trend oscillators, which plot three trends - Major, Intermediate and Minor trend. A stock would be extremely bullish when all three trend lines are above zero and extremely bearish when they are below zero. Between the extreme bullish/bearish phases, TTO exhibits varying degree of trend quality depending on the position of the three trend oscillators. Each sub-trend oscillates around its main trend, allowing traders to identify an upward or downward impact on the main trend. If the sub-trend rises above the main trend and remains there for an extended period, it has the effect of pulling the main trend upward and vice versa.

An example of the TTO is shown in the next chart.
The calculations are shown below.

**CALCULATING THE TRIPLE TREND OSCILLATOR**

**PLOTTING THE SHORT TERM TREND MOMENTUM & TRIGGER LINE**

Mom = Close – (Close-1)
AbsMom = Abs(Mom)

\[
A = \text{EMA (EMA (EMA (Mtm, P), Q), R)}
B = \text{EMA (EMA (EMA (AbsMtm, P), Q, R)}
\]

\[
X = \text{DEMA (DEMA (DEMA (Mtm, P), Q), R)}
Y = \text{TEMA (TEMA (TEMA (Mtm, P), Q), R)}
\]

Plot Trend Strength = A/B (Short Term)
Plot Signal= EMA (Trend Strength, Period)
Plot Trigger1 = X/B (Fast Trigger)
Plot Trigger2 = Y/B (Smoothed Trigger) - Optional
Buy = Cross (Trigger1, 0)
Sell = Cross (0, Trigger1)

**PLOTTING THE INTERMEDIATE & LONG TERM TREND MOMENTUM**

Mom = Close – (Close-1)
AbsMom = Abs(Mom)

\[
A = \text{EMA (EMA (EMA (Mom, P), Q), R)}
B = \text{EMA (EMA (EMA (AbsMom, P), Q, R)}
\]

(Where P, Q, R represent the period for intermediate and long term trends. As per my research, these values for long term should be between 4-6 times the values for intermediate term.)

Plot Trend Strength = A/B (Medium & Long Term)

Within the major and intermediate trends, TTO shows trend swings with the trigger line, which acts as a leading indicator. Trading positions can be taken in the direction of the larger trend based on a zero crossover of the trigger line. When the trigger line crosses zero from below, a buy signal is generated and vice versa. An increasing value of the trigger line depicts increasing momentum. One should be prepared to exit their position on a zero line crossover from above. Also, divergences between price and the trigger line may indicate an impending trend reversal.

Unlike other oscillators, TTO does not have an overbought or oversold zone. TTO highlights the trend reversal with crossovers. If the shorter term trend line crosses the longer term trend line, a reversal is indicated. In the absence of such a crossover, the trend is assumed to be intact. This logic applies to all the three time frames included in the TTO. If a lower degree trend line falls below or
moves above a higher degree trend line, you should expect a reversal in price to occur shortly thereafter.

TTO effectively plots the trend transition points as it flows from a lower timeframe to a higher timeframe i.e. 5 min-15 min-hourly-daily-weekly-monthly. At any time three time frames can be plotted simultaneously, depending on its use for day trading, position trading or timing buys and sells of long-term investments. The next table expands on this idea.

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TTO uses exponential, double exponential and triple exponential moving averages of the momentum in each trend cycle to reduce the lag effect. This makes the three trend cycles more responsive to price change and when viewed together, this technique gives a clearer picture of the trend position and an early indication of trend reversals.

As momentum precedes the price, TTO acts as a leading indicator because it calculates the difference between exponentially smoothed momentums in different timeframes and plots the different timeframes as a single indicator. In a single window TTO shows the major trend along with its intermediate, minor and sub-minor trends.

**Interpretation**

On the CNX Nifty hourly chart the following three trends are plotted:

1. Red and Green thick lines – Daily trend
2. Pink and Dark Green thick lines – Hourly trend
3. Pink and Blue parallel lines – 15 minute trend
Along with the above the indicator also shows the black dotted lines (trigger line) which mimics the minor trend and its crossover is used as entry and exit signal.

Notice how the daily trend carries with it the various sub trends which can be used to make precise entries/ exits. The hourly trend tries to keep itself above the daily trend, showing continuous trend strength. The 15 minute trend whipsaws around the hourly trend giving an early indication of trend change. The trigger line (smoothed) shows the relative strength/weakness of the 15 minute trend.

The indicator also shows divergences across the various trend cycles which indicates that a change in the trend direction is just around the corner. So apart from the daily and hourly trend, one can see the developments happening in the 15 minute and even 5 minute time frame which is crucial for a trader and result in better risk management.

On the daily chart of CNX Nifty below, which shows the weekly, daily and hourly trends, one can spot the trend change taking place on the pink and blue twin parallel line, much before the daily signal comes on, virtually giving the best entry signal one can have for the trade. This is possible because the lower timeframe trend is being monitored and used for entry/exit on zero crossovers.

The chart gives information about not only weekly and daily trends, but also hourly and 15 minute trends, which can be used to make an informed trading decision, without waiting for the daily signals, which could be significantly delayed due to the leg effect. This can increase the profitability of the trading position considerably.
Back Test Results

Below are back tested results for CNX Nifty for 2013 showing a reasonably high number of successful trades using optimal parameters. Actual results may vary during normal trading. However, it seems safe to assume that TTO shows high reliability as a trend following system.

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The principles of integrated trend analysis can be used with other technical theories like Elliott wave, which can enrich the trading experience. There are numerous ways to use TTO along with Elliott wave. For example, the blow off rally in wave three can be associated with a synchronized bullish alignment in TTO.

The following chart is a perfect example of trend behavior in each of the five waves. It is important to notice the position of the various trends (major, intermediate and minor) as they emerge during the five Elliott waves.

The bullish alignment of the three trends is a clear indication of the third wave in progress. During this period, the sub-trend continues to oscillate above the main trend. When the sub-trend falls below the main trend, we see the beginning of the fourth wave. Again, during wave five, the trend remain subdued, as the sub-trend fails to rise above the main trend, thereby indicating progression of wave five and a reversal thereafter.
In the following hourly chart, CNX Nifty seems to have completed the fifth wave which would be followed by a three wave (A-B-C) retracement.

Synchronized Bullish Alignment = Super Profits

A trader would normally focus on a single timeframe and take positions accordingly. However, the price plays a tug of war with the pulls and pushes of the three time frames. The resultant force would determine the quality of a trend.

An alignment of trends in the three time frames can result in a major impulse move in a relatively short period of time. Highly leveraged and safe trading positions can be created if the exact timing of such a move can be identified.

The main requirement for such an impulse would be:

1. All three trends (major, intermediate and minor) should be above the zero line and rising.
2. The minor trend should be above the intermediate trend and the intermediate trend should be above the major trend.
3. The trigger line should be above zero to generate a buy signal.

One of the most recent examples of a bullish alignment pattern can be seen in the following weekly chart of the CNX Nifty as on May 8, 2014. The index on that day was at 5648, having corrected from the previous up move. However, TTO was showing considerable strength and hinting at an explosive move in near future.
In the following week, on May 16, 2014, Nifty touched a high of 7557 coinciding with the results of the general election in India.

Conclusion

Initially, the indicator may look complex with its several trend oscillators. But once properly understood, TTO can be used advantageously to stay ahead of the market. Equipped with the TTO, a trader would be better prepared to negotiate short-term noise in the markets and reduce potential whipsaw trades.
TTO can be used in all time frames for equities, indices, commodities and forex. It can be applied to short-term trading, swing trading, positional trading and long-term investing. This indicator is the culmination of extensive research I have completed and could be a potential wealth creator for many investors.

About the Author
Sanjay Khandelwal, a Chartered Accountant and Finance professional, is the Founder and Technical Research Director of EQTrend Research & Analytics. As a techno-funda analyst, he has been undertaking research-based investing. Passionate about financial markets, he has carried out extensive research, studying the behavior of the markets and development of new technical tools. Some of his research work includes the theory of Integrated Trend Analysis using multiple time frames, which provide a better understanding of trends. His fresh approach to trend analysis led him to the development of the Triple Trend Oscillator. As a finance professional he has more than 20 years of rich experience in Financial Planning and Risk Management, Mergers and Acquisition, Private Equity and Debt Financing, Project Appraisal, Financial Accounting and Budgeting and has worked in various leadership positions in corporate finance and as a management consultant. He presently advises private client for trading, portfolio and risk management and can be reached at skhandelwal.in@gmail.com and at his blog eqtrend.blogspot.com.

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This long-term perspective shows that investors should follow specific markets instead of general ideas. The BRICs (Brazil, Russia, India and China) are an important investment theme. While it is common to think of the countries as an economic unit (the BRICs), since 2000, stock markets of the BRIC nations have not moved in unison. India has tracked the Dow Jones Industrial Average more than the other countries. Brazil, Russia and China have yet to recover from the global bear market.