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This month we provide a small sample of work from a few of the speakers who will be presenting their research at the Annual Symposium. In the next few issues we will be providing summaries of some of these presentations in *Technically Speaking*. As there are every year, this year’s presentations will include a number of new ideas for your consideration and at least a few of the ideas could add to your profits in the coming year.

This issue also includes a summary of the material presented at the inaugural meeting of the Philippines Chapter of the MTA. Regional chapter meetings are a way to learn more about technical analysis and more importantly to meet other analysts. If you haven’t been to a chapter meeting, check for local events by clicking here.

The Symposium, Chapter meetings and this magazine are all benefits of membership. The MTA is focused on providing information to you, the members, through a variety of means. To help us personalize the experience, please let us know what you’d like to see in *Technically Speaking* this year by emailing us at editor@mta.org.

Sincerely,

Michael Carr
Editor’s note: this was originally posted at OptimalMomentum.com and is reprinted here to introduce readers to the philosophy of Gary Antonacci who will be a presenter at the MTA’s Annual Symposium.

Momentum is based on the Newtonian notion that a body in motion tends to stay in motion. The classical economist David Ricardo translated momentum into investment terms with the oft quoted phrase, “Cut your losses; let your profits run on.” By following his own advice, Ricardo retired at the age of 42 having amassed a fortune of 65 million in today’s dollars.

Momentum style investing was alive and well during the 1920s and 1930s. Momentum dominates much of the famous 1923 book, Reminiscences of a Stock Operator, about the legendary trader Jesse Livermore. Momentum- based relative velocity ratings were used in the 1920’s by HM Gartley and published in 1932 by Robert Rhea. George Seaman and Richard Wycoff wrote books in the 1930s that drew on momentum principles.

In the 1950s, George Chestnutt published a newsletter that ranked relative strength momentum in stocks and industries. He used this approach to manage American Investors Fund, which, from January 1958 through March 1964, had a cumulative return of 160% versus 83% for the Dow Jones Industrial Average.

The “Lion of Wall Street,” Jack Dreyfus, also relied on momentum by buying only stocks making new highs. His Dreyfus Fund was up 604% from 1953 to 1964, compared to 346% for the Dow Jones Industrial Average. Dreyfus retired as a billionaire and inspired others, such as Gerald Tsai and William O’Neill.

In the 1960s, Nicolas Darvas wrote several books describing his momentum approach of buying the strongest stocks and holding them until their momentum began to wane.

One of the most prominent momentum investors was the philanthropist and mutual fund manager, Richard Driehaus, who managed over $10 billion and was written up in Jack Schwager’s, The New Market Wizards. Driehaus followed a similar strategy as Darvas – rotational investing with top performing stocks.

Perhaps the best-known investment paradigm is buy low, sell high. I believe that more money can be made by buying high and selling at even higher prices. –Richard Driehaus
Momentum also has strong roots in academic research. The first scientific momentum study was published by Alfred Cowles and Herbert Jones in 1937. There were no computers back then, so Cowles and Jones painstakingly hand compiled stock performance statistics from 1920 through 1935. They found that the strongest stocks during the preceding year tend to remain strong during the next year.

Momentum research languished after Cowles and Jones. Until behavioral finance caught on in the 1980s, the efficient market hypothesis had a firm hold on academic finance.

Under efficient market theory, all information is fully accounted for and over time, one should not expect to do better than the market itself.

Behavioral finance challenged these assumptions and provided an explanation of how momentum investors could earn extraordinary profits due to the following behavioral factors:

- Anchoring effect – investors are slow to react to new information, which leads at first to under reaction. Later this can result in price continuation.
- Disposition effect – investors sell winners too soon and hold losers too long. This causes trends to catch up and continue once they get started.
- Herding effect – buying begets more buying so that trends persist.

With behavioral finance to support it logically, momentum research took a giant leap forward in 1993 with the publication of "Returns to Buying Winners and Selling Losers: Implications for Stock Market Efficiency" by Jegadeesh and Titman. This seminal study used modern analytic methods to validate the findings of Cowles and Jones. Their rigorous and replicable research inspired hundreds of additional momentum research papers.

Since the research of Jegadeesh and Titman in the early 1990's, momentum has been one of the most heavily researched finance topics. Continuing research has firmly established momentum as an anomaly that works well within and across nearly all markets, including equities, commodities, currencies, real estate, and fixed income. Research has shown momentum to be valid all the way from the early 1800's up to the present.

*The premier market anomaly is momentum. Stocks with low returns over the past year tend to have low returns for the next few months, and stocks with high past returns tend to have high future returns.*

—Fama & French

Momentum has held up well even after becoming well-documented. Investors today use it on much the same basis as was discovered by Cowles and Jones in 1937 - with specific look back periods and periodic portfolio balancing.
Momentum is particularly beneficial when used across different asset classes and when it incorporates absolute as well as relative momentum. Relative momentum looks at an asset’s price strength with respect to other assets to determine its future relative performance. Absolute momentum uses an asset’s own past performance to infer its future performance. Research shows that absolute momentum outperforms relative momentum. But more importantly, absolute momentum can reduce downside exposure as well. The best approach is to use both types of momentum together.

Most applications of momentum today use it only with individual stocks and ignore absolute momentum altogether. In order to remedy this situation, we constructed rules-based, benchmark models using both relative and absolute momentum applied to market indices and sectors.

Gary Antonacci has over 35 years’ experience as an investment professional focusing on underexploited investment opportunities. His innovative research on momentum investing was the first place winner in 2012 and the second place winner in 2011 of the prestigious Wagner Awards for Advances in Active Investment Management given annually by the National Association of Active Investment Managers (NAAIM).

Gary is author of the award-winning book, Dual Momentum Investing: An Innovative Approach for Higher Returns with Lower Risk. His research introduced the investment world to dual momentum, which combines relative strength price momentum with trend following absolute momentum. He is recognized as a foremost authority on the practical applications of momentum investing.

Gary received his MBA degree from the Harvard Business School. He serves as a consultant and public speaker on asset allocation, portfolio construction, and advanced momentum strategies. You can learn more about Gary and dual momentum investing at http://optimalmomentum.com
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MY INVESTMENT PHILOSOPHY

BY DAVID COX, CFA, CMT, FCSI, FMA, BMATH

Editor’s note: David will be a presenter at the MTA Annual Symposium. This article is from his web site and is reprinted here to familiarize readers with topics he will address in his presentation.

Minimizing Risk While Maximizing Return

Any investment philosophy must be founded on a set of beliefs. Some investors believe in value investing, others in growth investing... some investors believe in buy and hold, others position trade, swing trade, trend trade, day trade and/or some combination thereof. Being a bit of a math geek (Bachelor of Mathematics from the University of Waterloo) and one of approximately 206 dual holders, globally, of the Chartered Financial Analyst (CFA) and Chartered Market Technician (CMT) designations, I believe I get some say.

Like most aspiring investment analysts, I started from fundamentally-driven routes in pursuit of the CFA designation while working in the quantitative research department for an institutional investment manager. Since those early days, my process, interests and experience continues to develop. Around 2004, I decided to pursue an education in technical analysis, first through a variety of books, and then through the CMT designation. I believe (you may not believe this) that technical analysis is the more useful discipline in the pursuit of risk-adjusted returns. And I believe that technical analysis is still in its infancy within the global investment industry, relative to the institutionally dominated and more fundamentally driven world where it’s billions of dollars instead of hundreds of thousands or millions.

Most global stock markets have shown little progress over the past 10+ years as periods of heightened volatility, uncertainty around past and present crises and fears loom large. The world appears to be increasingly concerned with debt risk and risks in general. Institutions move markets. Institutions invest billions of dollars, and it takes time for them to build and eventually divest of a security holding. These movements can be identified via technical analysis and through the study of price and volume.

How can investors be prepared for the markets of the coming decades? I have never really believed in buy and hold, but the last decade provides enough evidence that you should be exploring alternatives too, if you still think you can buy stocks and hold them for decades. I believe in helping to take stock off the hands of desperate sellers and then selling it back to optimistic buyers (often the same ones who were willing to sell it at lower levels).
Up... Down... Up... Down... Repeat

Markets rise and fall in cycles, and while many try to predict the exact nature of these cycles and when they start and end, things don’t always work out exactly as they did before. That being said, markets move in trends and counter-trends, each of which can exist over the short-term, mid-term and long-term time frames.

My Beliefs

• Markets experience up waves of optimism, followed by down waves of pessimism.
• Owning stocks in uptrends makes far more sense than owning stocks in downtrends.
• An uptrend is defined by higher lows and higher highs.
• A downtrend is defined by lower highs and lower lows. • Stocks can fall far more than you would ever think fathomable.
• Owning stocks during a bear market is akin to financial suicide.
• Small losses are preferred to big losses.
• Emotions + investing don’t mix well.
• I like companies that make money, and preferably can boast large growth in earnings.
• I don’t like debt. I have none myself, and I prefer my investments to have modest debt/equity ratios.
• Liquidity can be a major issue in the markets. It’s important to ensure that the market is sufficiently liquid for your participation. I prefer to be able to liquidate positions in under 10 minutes.
• Investors should increase their risk when markets are in a clear uptrend.
• Investors should eliminate their risk when the markets are in a clear downtrend.
• Cash with no return should be preferred to falling equity prices.
• Total Return is far more important than dividends alone.
• Total Return = Dividends + Capital Gain/(Loss)
• Dividend-paying “blue-chip” stocks can experience significant losses and should not be considered “low risk”.
• A stop loss is an important part of any serious investment discipline.
• When the average investor is scared of the markets, investors should be looking for opportunities and consider buying stocks.
• When the average investor is complacent and BNN/CNBC are bullish, I get nervous.
• Buying stocks on pullbacks provide great risk to reward and is a generally less risky practice than buying breakouts.
• Most investors could be much more successful if they limited their losses on bad investments.

Constructing a portfolio of investments that offer above-average opportunity for return on a risk-adjusted basis should be the goal of most investors. In countless discussions with my clients, prospects, family and friends, one common wish is
shared by all — the desire for high returns with minimal chance for loss. Unfortunately, this proposition is contradictory and unrealistic. That being said, there are ways to smooth out the equity value of your account.

**The Importance of Asset Allocation**

Most investors are familiar with the most common asset classes; real estate, stocks, bonds and cash. They understand that holding a balanced mix of these investments should result in less overall risk. This remains true as bonds tend to operate differently than equities and investors crave bonds (and bid up their prices, pushing yields/interest rates lower) when they sell equities during declines and/or panics. The problem is the incredibly low yields that exist globally at this point in time (early 2012). I consider there to be tremendous risk with the proposition of loaning money to any government for 10-years, in many cases for less than 2% (the current scenario in January, 2012). With inflation, almost everywhere, running at higher rates than ~2%, we have negative real yields, which can be very damaging over the long-term to your financial health.

From an equity risk standpoint, the world has been operating differently in the past decade, and even more particularly in the past five years. I’ve found that correlations (the degree to which assets move in the same direction) have risen markedly over time, severely limiting the opportunity to diversify in the historic sense.

It used to be possible to own Asian equities, which you could expect to behave differently from Canadian equities (for example), thereby reducing the risk of holding one equity by itself, but not anymore. These days a selloff in Asia hits Europe and then hits the U.S. and vice versa. Fears of collapsing European countries, for example, can and do lead to stock market reactions around the globe. With the increasing amount of high frequency and algorithmic trading, and the ease with which we can all access information, we have a recipe for a different stock market than in the ‘80’s or ‘90’s.

Investors must realize that they are not compensated for taking unnecessary risk. And at any point that the risks exceed the reward potential (i.e., in a bear market) an investor should shun risk at all cost as preservation of capital is far more important than hugging to the story that it’s the long-term that counts and you can ride it out. Many investors have been told by their advisors that dividend oriented “blue-chip” stocks will protect over the long haul, but tell that to investors in many of the largest (well they used to be anyway) banks in a wide swatch of countries whose stock prices are down more than 90% (still!!!) several years after the ‘08/’09 bear market.

By understanding the risk tolerance of my clients, I can construct a portfolio of assets that typically adheres to a tolerable amount of risk. I can demonstrate this theory graphically and explain its implications mathematically.
The Pitfalls of Stock Investing

Investors are continually presented with ideas, thoughts, articles, commercials and reports that cloud their ability to make efficient decisions. Each day the media attempts to reconcile the previous day’s market activity with some event that surely was responsible for the exact movements of the widely-followed indices.

I encourage my clients to step back from the day-to-day market activity. In fact, I can say from experience that 95% of the general public is incapable of looking at, analyzing and interpreting their investment portfolio values on a frequent basis. Most investors are emotional, and access to short-term account values often leads to irrational decision-making during market turmoil. It’s crucial to keep a clear focus and mental state in the markets and to be prepared to change strategies immediately, when necessary. If you can’t do that, hire someone who can (for the record, I can).

There is nothing wrong with being wrong -- we all make mistakes. We’re all wrong at one point or another. Investors who purchase securities will inevitably have some that end up being losers. So what. The only problem is if you stay wrong. That is financial suicide. Holding onto your favorite stock is a bad idea, and I make no commitment to the stocks that I invest in for my clients. If a stock has upside prospects, great we’ll own it, but if it’s losing us money and not performing as expected, it’s time to move on. No hard feelings. Unlike most novices, I also have no problem with selling a stock at a loss, and immediately buying it back (even at higher prices) again -- if I determine that I made a mistake in selling the stock, and it should be owned, am I going to let my pride overrule a smart investment decision? Perhaps you, but not me.

The key to investing is discipline – decisions based on probabilistic analysis and reasonable expectation, not emotion. Emotions are a dangerous obstacle that stand in the way of investing success. Panicked selling at market lows is common and results in below-average performance.

My Investment Process

I screen stocks based on a variety of fundamental and technical criteria. Fundamental screening can provide me with potential buy lists of securities that provide superior fundamentals like earnings and margins, but it’s the technicals that tell me whether the stock can and should be owned and/or traded.

For longer-term, more conservative oriented equities, I prefer stocks of companies that have a market capitalization of more than $10 billion, which provide ample liquidity and tend to have smaller volatilities than small cap growth and/or resource type securities. Dividends are appreciated, but not sufficient to keep us committed to equities. When stocks fall below the 200-day moving average, and more importantly by the time the 200-day moving average is falling, it’s time to cut losses and/or take gains irrespective of personal biases. Large losses kill investment portfolios.
For growth-oriented equities that I seek out for my Aggressive Growth Fund, I have several preferred criteria for any potential investment. I screen for stocks that have a market capitalization greater than $250M (although usually find myself at $500M+) and have average dollar volume of more than $15 million dollars traded on any given day. I am comfortable with being a maximum of 5% of the daily volume to either take or exit a position.

I follow all kinds of top down macro-oriented indicators and relationships, which give me a strong feel for the type of market environment that we are faced with. Conducting regular analyses of the relative strength between multiple asset classes, sectors and/or securities is crucial to having the pulse of the market. I have an extensive library of charts that I view regularly to stay on top of things. I regularly conduct intensive research into the various sectors, industries and companies within these segments in search of opportunities. I prefer companies that are market leaders in terms of relative price performance (performing more strongly than the market) and are leaders in their respective sector and/or industry groups.

I don't pay attention to the opinion of analysts, BNN or the crowd as I find much more value in following the markets themselves. The market reflects the collective opinion of all investors, globally, whether retail or institutional investors, informed or not informed, and it’s fair to conclude that their opinion is more important (to me and my clients) than my own. The market is always right. Trying to force an opinion on the market and/or take a stance contrary to market conditions is foolish. If you’re right, buy more. If you’re wrong, admit it and move on. As is often quoted, markets can remain irrational for longer than you or I can remain solvent. Don’t fight the trend.

A solid growth company does not equal a solid growth stock, and does not necessarily translate into above-average returns. Paying too much for a good company is not a sensible move and making a good decision requires patience in evaluating an appropriate purchase point.

**Swing Trading**

Swing trading is the technique of buying into short-term oversold pullbacks and riding the stocks higher for a period of typically 3-10 days, which is when the bulk of the gain tends to occur. After the stock experiences the initial bounce, I find that stocks then trade sideways, before often pulling back, possibly before trying to move higher again. By standing aside when the short-term rise is over and/or stalls out, you can protect your capital and save it for a more opportune stock that has just pulled back elsewhere.

**Trend Trading**

I primarily use moving averages in the determination of trend. The ADX is also a useful measure. When stocks are in an uptrend, the key is to stick with them until the trend ends. In that regard, I use volatility stops, which tend to only trigger when the trend is in the process of shifting and/or becoming more vulnerable.
Stop Losses

I use a wide variety of stop points in planning my exits from a security. These stops include: volatility stops, key support/resistance, recent pivot lows, 8% max loss, 20/50/200-day moving averages and profit stops. The last of which I designed to prevent having paper gains turn into losses, and I’ve found it quite useful in the past 15-months. If a position shows a gain of more than +10%, then I want to ensure that we exit with at least 50% of the gain. So if the stock subsequently falls and it is only +5% from purchase point, I sell it. Have you ever had a stock gain turn into a loss? I find it frustrating, and this rule is a non-emotional way to try to prevent it from happening too often (yes, gap downs can cause issues with this otherwise graceful exit).

Independent Research

I do all my own research, and my clients know that I wake up at 4am every (week) day irrespective of which time zone I’m in to run my daily research process. I enjoy having my morning coffee, while listening to some great music and running my screens and looking at charts while most of the rest of us (in my local time zone) sleep! My primary equity research tools are the High Growth Stock Investor (HGSI) and Metastock.

As a dual holder of both the Chartered Financial Analyst (CFA) and Chartered Market Technician (CMT) designations, I have a responsibility to use “independent, professional judgement”, and I take my responsibility very seriously. This means that after any investing decision, I can tell you exactly which factors, circumstances and/or behavior led to my decision to buy or sell a given security and/or rebalance a portfolio.

I do not favor companies that are not generating any earnings and largely avoid speculative exchanges like the TSX Venture Exchange.

Exchange-Traded Funds (ETFs)

Exchange-traded funds are extremely useful tools that are increasingly available to today’s investor. They are liquid baskets of securities that can provide instant exposure to a given asset, geographic region or sector. They are bought and sold like a stock and based on passive characteristics within their focus. They also tend to have a very low Management Expense ratio (MER). Sometimes, top-down analysis will point towards the probable expected success of a given sector, but a specific investment is hard to find. In this case, an investor can use an exchange-traded fund to take advantage of the broad trend expected, while they further their research in search of a suitable individual candidate for purchase.

I use ETFs to manage risk in a more conservative-oriented account or to establish an immediate position in a timely market if a stock-specific idea is not available, but can definitely say that I prefer investing in individual securities. Individual securities vary widely in terms of performance, and buying a strong relative strength stock that is the clear leader in a
given industry is my preference. I have seen, too many times, a rally in a sector like energy which produces 3-5% gains in a week, while many stocks can move 20-25% in the same time frame. I’d prefer to own the latter, when at all possible.

Research Tools

My core research and analytics tools include: HGSI, Metastock, StockCharts.com, stocktickr.com, finviz.com and Excel. I am also a member of Spiketrade.com, a global trading group run by Dr. Alexander Elder and InvestedCentral.com.

Personally, I have built and developed a variety of spreadsheet tools, and routines over the years that I use to help with my quantitative screening, valuation determination, performance attribution and portfolio construction.

Anyone who has been in my office knows that I have an extensive investment library and I share my library with my clients, who are free to borrow books that may interest and educate them.

Reading List

I am often asked what types of publications and periodicals that I read outside of books, and this list includes: Investors’ Business Daily (IBD), the Economist, Financial Times, Barron’s, Wall Street Journal, Globe & Mail, Canadian Business, Moneysaver, Golf Digest, Harvard Business Review, Whisky Advocate and Robb Report. I also read the various publications of some investment managers and analysts that I hold a high degree of respect for including: Martin Pring, John Bollinger, Larry Berman and Don Vialoux. Not coincidentally, all technical analysts.

Based on my past experiences, I have a wide variety of contacts around the globe who are involved in institutional portfolio management, buy-side research, sell-side research, private equity, venture capital investing, trading, investment banking, hedge fund management and private client management. These connections can add considerable value in enabling me to provide independent and unbiased thought, while offering an avenue to seek alternative opinion.

Summary

Investment research is a time-consuming exercise and successful investing requires a carefully designed investment philosophy that is consistent, disciplined and allows an investor to set their emotions aside. My investment philosophy, decision-making techniques and process have been developing over the past 17 years and continue to evolve. It (my process) is capable of taking risks in the current volatile investment climate of the last several years and allows clients to comfortably reduce risk in the face of adverse market conditions. As a discretionary-licensed Portfolio Manager, I am comfortable assuming the responsibility of determining when to take risks, and when to focus on preserving capital. The ability to shift rapidly between these two polar opposites has proven valuable in the market climate presented by this century.
David Cox, CFA, CMT, FCSI, FMA, BMath, is a Portfolio Manager at CIBC Wood Gundy in Guelph, Ontario. He manages assets using fundamentally screened, yet technically driven trend following and swing trading techniques. He has a Bachelor of Mathematics and is a dual holder of both the Chartered Market Technician (CMT) and Chartered Financial Analyst (CFA) designations. David has four young children and enjoys downhill skiing, poker, black coffee, red wine and classical music. David is active on twitter @DavidCoxWG, regularly posts insightful webinars on his www.youtube.com/DavidCoxWG site and has been writing a “Monthly Market Chit Chat” for more than 10 years that discusses the issues, risks and opportunities facing investors.
PERFORMANCE BOOSTING: ENHANCING THE PROFITABILITY OF QUANTITATIVE INVESTING STRATEGIES

Editor’s note: this was originally posted at HoodRiverResearch.com and is reprinted here to introduce readers to the philosophy of David Aronson who will be a presenter at the MTA’s Annual Symposium.

There is a need for quantitative strategies to differentiate themselves from competitors and to maximize returns. There are two approaches to doing this:

1. Improving execution algorithms to minimize the price impact of strategy buy and sell orders, or
2. Increasing the returns that can be earned from the strategy’s buy and sell signals.

Hood River Research (HRR) favors taking the second approach. The return of your strategy is increased by predicting which signals are likely to be the most and least profitable, thereby allowing you to take larger positions on signals with the highest expectations and smaller positions on those with the lowest expected returns. The predictions are based on indicators that quantify the trading dynamics of a security at the time your strategy issues a signal to initiate a position. Hood River’s process relies on sophisticated data preprocessing and an ensemble of non-parametric modeling techniques designed to uncover patterns invisible to less powerful modeling methods.

The deliverable is a performance boosting model, which is a second-stage prediction model, designed to work in conjunction with your existing strategy. Past projects have shown that signals predicted to generate the highest returns produce gains that are 1.5 to 3 times larger than average signal returns while signal predicted to perform poorly can have negative expected returns.

The Benefit of Performance Boosting: More Knowledge

To clarify the knowledge conferred by the second-stage model, consider the knowledge possessed by the investor not using one. Suppose this investor employs a low-PE strategy. Each month all stocks in the investor’s universe are broken into deciles based on their PE ratio. A typical strategy would be to buy the stocks in the lowest PE decile (decile 1). Assume that a historical back-test of the strategy has shown that stocks in the lowest PE decile produce an excess return versus the universe of 0.50% over the one-month period following purchase. From this investor’s state of knowledge, all that can be said each time the low-PE strategy signals the purchase of a security is that it has an expected one-month excess return
of 0.50%. All other information about the security is being ignored – information that might help the investor to refine their expectation of the signal’s return.

Now let’s consider another investor who follows the same low-PE strategy but who is using a performance boosting model customized for the low-PE strategy. For ease of illustration, we will assume that its predictions are based on only two predictor variables (indicators): #1, the RSI indicator and #2 is VOL_CHG, the recent rate of change in the stock’s trading volume.

When the low-PE strategy issues a buy signal for a particular stock, the values of these two indicators for this stock become the inputs to the boosting model. Let’s suppose that as of the date of the buy signal RSI has a value of 15 and VOL_CHG has a value -10. Note in the diagram below these two values specify the coordinates of a point (blue dot) in a two-dimensional space, where one dimension represents RSI and the other represents VOL_CHG. Note that this location in the indicator space is associated with a specific point (purple dot) on the nonlinear surface floating above the 2-d indicator space. This location has an altitude of +1.8% with respect to the vertical or third dimension which represents the predicted return for the signal. Thus, +1.8% is the predicted return for this signal.

It can be said the shape of the surface floating above the 2-dimensional indicator space depicts the relationship between these indicators and the predicted return for the signal. While this example was limited to two predictors so that the third dimension could be used to represent the signal return, in practice performance-boosting models may contain numerous predictors.

In the diagram the knowledge of the investor operating without the boosting model is represented by the level flat orange surface. It has a uniform altitude of +0.5%, irrespective of the value of either indicator or any other variable for that matter. This is simply another way of saying that the investor without the boosting model always expects (predicts) the same outcome on each signal, its historical average return of +0.5%. In contrast, the knowledge of the investor using a boosting model is represented by the non-linear surface. This investor brings a greater variety of information to bear in deciding what size position to take on any given signal.
This approach is based on evidence-based technical analysis.

**What is Evidence Based Technical Analysis?**

Evidence based technical analysis (EBTA) is dedicated to the proposition that technical analysis should be approached in a scientific manner. This implies several things. First, it is restricted to objective methods that can be simulated on historical data. Second, the historical performance statistics produced by such back-testing are then evaluated in a statistically rigorous fashion. In other words, profitable past performance is not taken at face value but rather evaluated in light of the possibility that back-test profits can occur by sheer luck. The problem of lucky performance is especially pronounced when many methods are back-tested and a best method is selected. This activity is called data mining. Though data mining is a promising approach for finding predictive patterns in data produced by largely random complex processes such as financial markets, its findings are upwardly biased. This is the data mining bias. Thus, the profitability of methods discovered by data mining must be evaluated with specialized statistical tests designed to cope with the data mining bias. EBTA employs such methods.

EBTA rejects all subjective, interpretive methods of Technical Analysis as worse than wrong, because they are untestable. Thus classical chart patterns, Fibonacci based analysis, Elliott Waves and a host of other ill defined methods are rejected by EBTA. Yet there are numerous practitioners who believe strongly that these methods are not only real but effective. How can this be? Here, EBTA relies on the findings of cognitive psychology to explain how erroneous beliefs arise and thrive despite the lack of valid evidence or even in the face of contrary evidence. Cognitive psychologists have identified various illusions and biases, such as the confirmation bias, illusory correlations, hindsight bias, etc. that explain these erroneous beliefs.

Thus EBTA relies on computerized methods for identifying patterns, and combining evidence into useful trading signals. Due to recent advances in computing and data mining algorithms it becomes possible for the modern technical analyst to amplify their research efforts and find the real gold. In other words, EBTA advocates a synergistic partnership between technical analysts and data mining computers to expand the valid base of knowledge called technical analysis. The union of humans and intelligent machines makes sense because the two entities have different but complimentary information processing abilities. Whereas human intelligence has a limited ability to engage in complex configural reasoning, which is required to identify valid predictive variables and combine them into a mathematical function, it can pose questions and proposed candidate variables. Whereas computer intelligence is ill equipped to pose questions and propose variables it has enormous capacities to identify relevant predictors and derive optimal combining functions.

However, this new approach to technical analysis will require that human technicians abandon some tasks they now do and learn a new set of analytical skills. While they will no longer try to subjectively evaluate complex information patterns, they will need to learn about the kinds of data transformations that produce variables that are most digestible to data
mining computers. They will also need to learn which data mining approaches are most viable and which types of problems are most amenable to data mining.

David Aronson is an adjunct professor of finance at Baruch College, City University of New York, where he teaches a graduate level course in quantitative market analysis and data mining. He is also the author of “Evidence Based Technical Analysis” (John Wiley & Son’s 2006).

His interest in technical analysis dates back to the late 50’s when as a teenager he began studying the works of Edwards & Magee (Technical Analysis of Stock Trends) and the point & figure charting method developed by Abraham Cohen of Chartcraft. While working as a broker (account executive) for Merrill Lynch between 1973 and 1977, Aronson wrote several internal technical analysis memos including one in December of 1973 to Robert Farrell, Merrill’s head technician. It predicted the extent and duration of the 1974 decline and the timing of its reversal. During this time Aronson was in regular communication with James Hurst, a pioneer in the application of cycles to market data.

In 1977, Aronson left Merrill Lynch to begin an independent study of the nascent field of managed futures strategies and in 1980 formed AdvoCom Corporation, an early adopter of modern portfolio theory methods and computerized performance databases to the creation of multi-advisor futures portfolios and funds. A representative portfolio that began in 1984 has earned a compounded annual return of 23.7%. In 1990 AdvoCom advised Tudor Investment Corporation on their public multi-advisor fund.

In the late seventies, while conducting the research in computerized strategies for managed futures Aronson realized the potential of applying artificial intelligence to the discovery of predictive patterns in financial market data. This practice, which is now gaining acceptance on Wall Street, is referred to as data mining. In 1982 Aronson founded Raden Research Group, an early adopter of data mining and non-linear predictive modeling to the development of systematic trading methods. Aronson’s innovation was to apply data mining to the enhancement of traditional computerized trading strategies. This approach was described for the first time in Aronson’s article, “Pattern Recognition Signal Filters”, Market Technican’s Journal - Spring 1991. Raden Research Group Inc. conducted predictive modeling and filter development research on behalf of various trading firms including: Tudor Investment Corporation, Manufacturers Hanover Bank, Transworld Oil, Quantlabs, and a number of large individual traders.
“God must’ve needed a technical analyst to figure out what’s going on in the world.”

- Larry Williams, a friend of Ian’s on learning of his passing on March 16, 2016.

Larry also noted, “To his credit Ian lived life to its fullest as an advisor, as a CEO, as a drinking buddy and traveler of the roads together. Ian was always there alert having fun, making people around him enjoy just being there. He will be missed in board rooms, a few bars, squash courts and the skiing slopes in Colorado.”

It’s impossible to describe Ian’s life in a few words although Larry comes close. Ian’s was a life well-lived as John Carder, CMT, President of Topline Investment Graphics, has written:

Ian McAvity — Editor of DELIBERATIONS

I first started reading Ian McAvity’s newsletter, DELIBERATIONS on World Markets, in the late 1970s. I think I saw one of his marvelous, hand-drawn charts in Richard Russell’s Dow Theory Letters, and that led to my subscription. Ian’s timely advice helped me to profitably navigate the gold and gold stock bull market of the 1970s.

Perhaps more importantly, he was one of the few who were able to follow that performance with a timely call for a stock bull market in 1982. I’ll never forget the interview with Louis Rukeyser on PBS’ Wall $treet Week in 1982, in which Ian repeated his newsletter advice to “Buy the four Gs in the Dow” – General Electric, General Foods, General Motors and Goodyear Tire. His selection of those four was based on their “superior relative strength”. At the time, few investors even recognized the term relative strength, much less understood how to use the tool. He explained that “Their summer lows were above their March lows, while the market made a lower low.” That concise description of why these four stocks exhibited superior relative strength is typical of Ian’s writings. He doesn’t just tell you to “Keep It Simple”, he practices it. Whenever I’ve strayed from that advice, I’ve paid the price in the market. It’s hard to believe, given today’s environment, but most investors didn’t want to hear about blue chip stocks in 1982. I followed Ian’s advice, and recall that Phillip Morris bought out General Foods shares for twice what I paid for them.

When I was a total novice at technical analysis, I wrote Ian regarding his pioneering work with the Coppock Guide. Ian generously responded with copies of his worksheets and recommended that I read Edwards &
 Magee’s *Technical Analysis of Stock Trends*. I had no idea what that was, but I ordered it, read it and loved it. Today it is considered one of the core texts in the study of technical analysis.

I finally met Ian at the Market Technicians Association Seminar at the Camelback Inn in Scottsdale Arizona, (1985?). I’m proud to call him a friend today. I couldn’t begin to list all that I have learned from him about technical analysis, initially through his writings in DELIBERATIONS.

If I had to pick one concept that he taught me (and Ian, please forgive me if I don’t state this as well as you would), it would probably be that “A market is a market is a market.” It doesn’t matter whether you’re looking at a chart of Japanese stocks in the 1980s, or gold in the 1970s or US stocks in the 1920s. You’re looking at a bubble. Buyers and sellers in any market are human, and have always been subject to the emotions of fear and greed. Their behavior, *as a crowd*, tends to look the same across both centuries and markets.

Recognizing behavior patterns like bubbles after the fact is easy.

A good technical analyst is more likely to recognize the behavior as it is happening.

There are two qualities of great technical analysts that I’ve identified over the years.

One is the ability to realize when to ignore certain indicators, and when not to. Many investors have lost fortunes thinking that “This time is different.” A few have made fortunes when they realized that it really was different this time.

The other is the ability to admit that they’re wrong, quickly and completely, and reverse their position. Admitting a mistake, and reversing your position is difficult for anyone. To do it in print, to paying subscribers, is very tough on the ego. We’ve all seen newsletter writers cling stubbornly to a mistaken market opinion. While it may protect an analyst’s delicate ego in the short run, it hurts the analysis and is of no value to subscribers.

Over the years, I’ve seen Ian do both, and watched in amazement. Don’t misunderstand. Ian doesn’t have a perfect record — no analyst with any significant track record has been perfect. Even after more than twenty years, when I read DELIBERATIONS, I expect to learn something. Often it’s a chart study, sometimes it’s an unusual interpretation, but it’s never the conventional wisdom.

Ian McAavity — Athlete

During the 1960s Ian was a world-class squash champion. In 1969, he played on the doubles team that was Canadian National Doubles Champion and was ranked number one for several years.
One of his less widely known accomplishments was the role he played in helping to break down the South African apartheid (color barrier) policy in sports. US champion, Arthur Ashe had broken the barrier a few years earlier in Tennis.

As part of his retirement from amateur squash competition, Ian arranged to travel to South Africa with the Pakistani born North American professional champion, Sharif Khan, for a series of tournaments organized to demonstrate the breaking of Apartheid in squash in 1972, to enable the International Federation to hold the World Championship in South Africa the following year.

The tour was a great success, and South Africa hosted the World Championships the next year. Unfortunately, one month prior to that event, the Canadian Government learned that a Canadian team was planning to attend, and after many threats, the team was withdrawn at the last minute.

A Canadian enabled the event, but the Canadian government, and the Canadian Squash Association withdrew the team; prompting Ian to denounce the act (which got a lot more publicity in South Africa than in Canada), and he withdrew from any further involvement with the game, in protest of selling out an amateur sport to government coercion.

Ian is an avid golfer and an active expert skier, and he even managed to drag my sorry butt out onto the slopes after an eleven-year hiatus (thank you!).

**Ian McAvity — Raconteur**

One of the pleasures of reading DELIBERATIONS is Ian's unique view of the world. He's not afraid to pull his punches, both in his writing and speaking. Best of all, you find yourself laughing — and that means you'll remember what you're learning.

He has been the featured speaker at investment conferences, and technical analyst societies in Canada, the USA, Britain, France, Germany, Switzerland, Holland, Denmark and South Africa. When a conference organizer needs a speaker to ensure that the seats will be filled at the first presentation on a Saturday morning, Ian is typically their first choice. It's not only a valuable presentation, but a funny one that gets everyone's motor running.

**Ian McAvity — Technical Analyst**

The first section describes his abilities as a technical analyst. I'm going to mention a few specific achievements. By no means is this a comprehensive list.

*Intermarket Analysis*
Ian started writing DELIBERATIONS in 1972. From the beginning, it was a tutorial in intermarket analysis. That was before the term had even been coined. Ian has always felt that you handicapped yourself if you focused on just one market or even just one part of the world. He showed how big bull markets and big bear markets tended to be worldwide affairs, drawing Coppock Curves of at least a dozen of the world’s stock markets in his chartbook, with all of them having the same general shape. He has always kept one eye on the currency chart, when examining any of the world’s stock markets, emphasizing the effects of a depreciating currency on what may appear to be a rising market. In 1976, Barron’s asked him to write an article based on his study of the relationship between the US and Canadian equity markets. Similarly, he covers the world’s bond markets, overall commodity markets and of course, the precious metals markets.

Logarithmic Scaling

Ian has always championed the use of logarithmic scaling. He realized that percentage changes were what mattered, not point changes. Which should look bigger on a chart? An advance from 1,000 to 1,100 or an advance from 50 to 100? I’d much rather have an investment in the latter than the former.

In his hand-drawn charts, he would often draw several markets, on one sheet of semi-log paper. This meant that he was using the same logarithmic scaling on each series, so that a 50% advance in any of them, at any time, takes the same vertical distance. Today, almost all charting software includes the option of logarithmic price scales. When Ian started DELIBERATIONS in 1972, semi-log charts were a rarity in technical analysis.

Versus MA charts

Several years ago, I had the pleasure of working with Ian in developing a new chart study. I won't bore you with the details, but the study has turned out to be a very useful improvement on traditional momentum oscillators.

As an example of Ian’s insights, John points to this chart:
John worked closely with Ian for many years and remembered him in simple terms,

“Ian could make me laugh on the worst days and inspired me to look at the world and markets from a different perspective.”

Ian McAvity began writing his “Deliberations on World Markets” Newsletter since 1972 for a global readership. His letter was based on chart, technical and inter-market relationship analysis, a market historian’s perspective, an old fashioned philosophic approach to money and outspoken free-market views on finance and geo-political events. His historical charts have won acclaim over the years, with frequent references to him as a “Chartist’s chartist.”

His career spanned 55 years as he was a fixture in the world of finance since 1961, as a banker, stockbroker, and independent advisor/entrepreneur since 1975. In the 1980’s & 1990’s he was a director of many junior mining & exploration companies.
He was a founding director/advisor of Central Fund of Canada, the NY/AMEX listed (CEF) closed end, $3.5 billion bullion entity holding 47 tonnes of gold and 2340 tonnes of physical silver. CEF is the original stock exchange traded bullion proxy since 1983, with all bullion held in Canada’s largest bank, in allocated and segregated safekeeping. He is also a trustee of Central Gold-Trust, (GTU-NY/AMEX) ($800 million, holding 19 tonnes of gold); Silver Bullion Trust (SBT.UN-TSX), and CEO of Duncan Park Holdings Corp, a junior explorer.

Most recently, Ian was President and CEO of Duncan Park Holdings Corporation. He joined the Corporation's Board in 2004 and held the position of President and Chief Executive Officer since August 2007. During his 11+ years with the Corporation, Ian has made enormous contributions to its exploration programs in both Nevada, USA and Red Lake, Ontario, through his vast experience in the mining industry, and to its financial situation particularly through his raising of flow-through funds for exploration and the provision of directors' loans for working capital purposes.

Tom McClellan remembered something Ian said the first time they met, at an annual MTA conference in 1993 in San Antonio:

"When you came into this world, you had nothing. When you leave this world, you take nothing with you. So don't hate your broker... he's just doing God's work.”
Sixty-six attendees benefitted from the wisdom of a select group of speakers at the first meeting of the Philippines Chapter of the MTA on March 15, 2016. The audience consisted of local analysts, fund managers, institutional and retail traders that generally focus on Philippines stock market, including Edward Lee of COL Financial Group, the largest brokerage in the Philippines.

Speakers included:

- James Brodie, CMT, of the Singapore-based fund manager Sherpa Funds, provided an introduction to MTA and CMT certification.
- Lawrence Gonzaga, CMT, publisher of the Abacus Supertimer, the technical research product of Abacus Securities Corp., introduced indicators applicable to Philippines stock market. Those tools are highlighted in the next article of this issue.
- Alex Siew presented new research on advanced indicators to track the flow of funds.
- Nikki Yu of Wealth Securities provided insights into her experience of her boss, Wilson Sy, who has been called the "Warren Buffet of the Philippines."

Wealth Securities and Philequity Fund founder Wilson Sy is a name known to anyone who invests in the Philippine Stock Market. The Philequity Fund is a mutual fund that has delivered an average compounded annual return of 20% to its shareholders, beating the Philippines Stock Exchange (PSE) index in 17 of its 20-year history.

This is an impressive record in any market but could be especially challenging in a maturing market such as the one in the Philippines. That stock market has gone through the bull and bear markets of the Asia markets including the 1997 currency crisis and 2008 financial crisis. The Philippines market is highly correlated to other Asian markets, as well as US market as the chart below shows. The market has matured over last 10 years with local traders noting less speculative volatility and higher liquidity with higher volume of shares traded per day compared to 10 years ago.
Sy began his career in the financial markets in 1975 with a job as a telephone clerk/trader on the floor of the exchange. As he recalled years later, “During our weekly meetings we were asked to give our take on the market. Somehow, my take was more accurate than the others, including those of the more senior ones. When management chose the head [of a new division], they chose me over the more senior ones.”

In 1982, he joined I.B. Jimenez where he was given a portfolio to manage under an agreement where he kept half of the profits. Looking back at that opportunity, Sy noted, “They taught me how to be courageous as they would say, “Ang hina ng loob mo, lakasan mo!” which roughly translates to “the cowardly you, strengthens you.” This is also when Sy began a life-long study of the markets.

According to his brother Valentino Sy, Wilson Sy spends days and nights immersing himself in research papers, studying why the stock markets in the Philippines and abroad behave the way they do and explores ways on how to profit from them.

By 1986, he had earned enough to buy a seat on the exchange and he set up Wealth Securities as a firm with five employees.

Philequity mutual fund was established in 1994 and started with a small number of investors composed of family, friends and a few clients. That was also the year Sy became chairman of the Manila Stock Exchange, prior to its merger with the Makati Stock Exchange to become the unified Philippine Stock Exchange. Today Philequity has thousands of shareholders with total assets under management of around P18 billion (nearly $390 million USD).

When asked what his investment style is, Sy often says, “…my trading and investing style is full height! I don’t just go for 10%, 20% or sometimes not even the consensus Fair Market Value, especially if I like the company and its management.” In other words, he lets his winners run.
Before finding success in the stock market, Sy grew up working in his family store, selling such products as soap and toothpaste. As a child, he learned the value of money, noting “You don’t just throw away money, it isn’t that easy to earn. For every Colgate I sold, I’d earn one centavo. You then realize that everything counts.” Some readers may recall the similarity with Warren Buffett’s stories of earning nickels selling bottle of Coca-Cola.

In another similarity to Buffett, Sy buys companies rather than stocks, noting “the beauty in investing in stocks is that you get to become partners with the best brands, the best managers and the biggest names out there, while still remaining anonymous.” Unlike Buffett, Sy has an exit strategy, “Companies make mistakes and they’re stuck, but you aren’t. If you see a mistake in a company, you can easily get out of it if you’re a stock investor.” Offering advice any technical analyst will recognize, Sy says “When you have something good, keep it. When your stock is doing well, hold on to it; keep your bulk. When your stock isn’t doing so well, learn to let go.”

When asked about the potential future of the Philippine chapter, one attendee noted, “The Philippines has a population of about 100 Million people and only 1% of the population has stock trading accounts. There is enormous potential growth space in Philippines and investors need access to accurate information about technical analysis.” The MTA will be able to help fill this need.
During a trip to the wet market in Quanzhou, Southern China, I was startled as a vendor shouted, ‘Kamati, Kamati!’ I did not expect to hear Filipino words in a Chinese market. I turned around and saw heaps of shiny red tomatoes being offered for sale. In Manila, we call tomatoes ‘kamatis’ (with an s). The locals believe that the earliest tomatoes in Southern China came from the Acapulco – Manila – Quanzhou trade route hundreds of years ago.

I share this story because I believe that society benefits from an exchange of goods and ideas. The introduction of the alphabet and arithmetic come to mind. The compass, electricity, computer, internet, to name a few, brought immense progress to mankind.

In the field of technical analysis, newer indicators are available to complement the traditional tools in our toolbox. I am not the creator of these new indicators. I consider myself an ardent student of the markets who came across these indicators. My friend, Gregg Tan of Bloomberg Singapore, introduced me to a number of these indicators as well as the developers of these indicators. The book ‘New Frontiers in Technical Analysis: Effective Tools and Strategies for Trading and Investing’ by Paul Ciana was the basis for further research into the indicators.

I presented the Relative Rotation Graph, TAS Pro Dynamic VAP (Volume-at-Price) and the Bloomberg Trender Indicator to an audience of around 60 people during the inaugural event of the Market Technicians Association – Philippine Chapter.

The Relative Rotation Graph (by Julius de Kempenaer) generated a lot of interest as the crowd never saw sector rotation presented in graphical form. I also shared to the audience de Kempenaer’s view that by avoiding stocks or sectors as they enter the lagging quadrant will help improve overall investment performance.
I introduced the Dynamic Volume-at-Price indicator (by TAS Professional LLC) as a simplified form of Market Profile. The Dynamic VAP is represented by a series of three horizontal lines (also called boxes). A price move above the box is an upside breakout while a price move below the box is a downside breakout. The upper and lower ends of the box are areas of resistance and support, respectively.
Those interested in the Darvas Box Theory may wish to take a look at this indicator as the concept of trading in the direction of the breakout is quite similar.
Another indicator that I presented was the Bloomberg Trender Indicator. This tool works like the Parabolic Indicator but produces less whipsaw. If the price is above the Trender indicator, the trend is considered bullish. If the price is below the Trender Indicator, the trend is considered bearish. This indicator may also be used as a trailing stop and seeks to help the user stay on the right side of the market.
Finally, the ‘Autumn Panics: A Calendar Phenomenon’ research paper by Christopher Carolan as applied to the Philippine stock market crash in 2008 generated a lot of buzz.

Kentucky Fried Chicken’s Col. Sanders is famous for his 11 secret herbs and spices and claimed that the ingredients "stand on everybody’s shelf." There are various tools available to the market technician and more are being created. It is up to us to find the combination of inputs and indicators that works.

Lawrence L. Gonzaga is the first Chartered Market Technician (CMT) charter holder in the Philippines. He received the CMT designation in 2007 and the Outstanding Alumni award from St. Stephen's High School the same year. He has more than twenty-two years of experience in the field of technical analysis. He publishes the Abacus Supertimer – the technical research product of Abacus Securities Corp. He is a consultant for the Hong Kong Chamber of Commerce of the Philippines, Inc.
Editor’s note: Investment managers are increasingly turning to technical analysis as a risk management tool. This article details how one manager is helping his clients with this discipline.

Louis Llanes, CFA, CMT, is the founder of MacroTrend Strategies, LLC, an investment management firm managing assets for successful individual private clients. In 1997 Louis founded Blythe Lane Investment Management and later merged the firm with Centric Investment Group. He also served as a Senior Portfolio Manager for the US Bank Private Client Reserve, and an Investment Consultant for Kemper Securities. Early in his career he worked as a Financial Analyst for Intellogic Trace, a spin-off of DataPoint and a Quantitative Analyst.

Louis holds both the Chartered Financial Analyst (CFA) and Chartered Market Technician (CMT) designations. He earned an MBA at the University of Denver and a B.S. in Finance from the University of Colorado in Denver. Louis is the author of “Financial Freedom Blueprint” and a contributing author in “The Handbook of Risk” published by John Wiley, He has written white-papers about practical investment management issues for practitioners. Louis has held chair positions on the board for the Colorado chapter of the Institute for Chartered Financial Analyst and Market Technician’s Association based in New York.

Clients access management services through Wealthnet Investments, an entity operating through MacroTrend Strategies, LLC, a registered investment advisor, member of the National Futures Association (NFA) and registered with the Commodities Futures Trading Commission (CFTC) as a Commodity Trading Advisor (CTA) in the United States.

Louis’ philosophy is evident from two articles he has written:

Are You an Investor or a Speculator?

Legendary investor and teacher Benjamin Graham — considered the “father of value investing” — once said, “The individual investor should act consistently as an investor and not as a speculator.” This simple quote captures a fundamental concept that could help you establish and maintain a sound financial strategy.
Big Risks

A dictionary of investment terms offers these definitions: “Speculators are typically sophisticated, risk-taking investors with expertise in the market(s) in which they are trading…. Speculators take large risks, especially with respect to anticipating future price movements, in the hopes of making large quick gains.” The danger of this approach for individual investors should be obvious. Few people have the expertise, time, and available resources to take large risks for quick gains. And even those who think they have the expertise often fail. As another legendary investor, Bernard Baruch, put it: “Don’t try to buy at the bottom and sell at the top. It can’t be done except by liars.”

A Long-Term Approach

Investors also take risks, of course, and they certainly pursue gains. But unlike speculators, investors are generally committed to a long-term strategy based on sound investment principles. A smart investor buys assets that appear to be good investments and then builds them into a balanced portfolio that is appropriate for the investor’s goals, time frame, risk tolerance, and resources.

Of course, having a balanced portfolio — using strategies such as asset allocation and diversification — does not guarantee a profit or protect against investment loss. However, this approach is an established method to help manage investment risk. It may enable you to take advantage of market upswings while helping to control losses during downswings.

Cool Your Jets

Along with managing risk, an investor should manage his or her own emotions and expectations. That can be difficult in any market situation. When the market is rising, for example, it may be tempting to rush into the current “hot” investment...
and buy at a high price. And when the market is declining, it can be tempting to sell near the bottom. Even when the market is flat, you might feel that you have to do “something” just to keep your investments in motion.

If you have a well-constructed portfolio, one action you might take in almost any market situation is to make additional purchases in your investment account(s) — although the market could influence how you allocate your investments. Other than that, the most appropriate strategy may be to do nothing and let your investments pursue growth through long-term market trends.

Paul Samuelson, who won the 1970 Nobel Prize in Economic Sciences, described this approach in humorous terms: “Investing should be more like watching paint dry or watching grass grow.” A patient investment strategy, often called “buy and hold,” may not be as exciting as speculating, but it will probably serve you better in the long run.

All investments are subject to market fluctuation, risk, and loss of principal. When sold, investments may be worth more or less than their original cost.

**How Technical Analysis is Useful**

**Technical analysis is a great tool to help you develop ideas and be alerted to change in the markets.**

We all need to solve real world problems and make decisions in a world of uncertainty and doubt. One tool that offers practical value for investing is technical analysis. Technical analysis is a discipline that uses supply and demand to determine the likely direction of any asset that is freely traded such as stocks, bonds, commodities, currencies, and real estate. I was recently asked how I use technical analysis in my business and as I woke up this morning with this question on my mind. I quickly realized that it is a vast body of knowledge that offers many ways to help people.

Here are a few ways I’ve used it in the past month:

**Timing the Sale of a Concentrated Position**

A client came into my office who is changing jobs. He is a manager with vast experience managing large scale projects for a Fortune 100 company. He owns a significant amount of his former employers’ stock. We discussed his situation and it became clear that it was wise to unload some of his stock. *The question was when and at what price?* The first thing we did was discuss his time horizon and it became clear that he should sell the stock within a 6-month time frame. Because stocks are voting machine in the short term and a weighing machine in the long term, there really was less need to analyze the fundamental valuation. We then accessed the key price levels that buyers have stepped-in and sellers unloaded. Technicians call this “support and resistance”. We also accessed the trend of the stock, that is the general bias and tendency of a stock to move either up, down, or sideways in a consolidation. After this analysis, we were able to give him some specific levels to think about selling some of the stock in the very near term, and more later at higher levels and a
protective stop order to exit all of the shares if the stock moved against him. The end result is that the client is armed with a plan to exit in a rational way, regardless of the direction of the markets.

**Listening to the Message of the Market**

Buying and selling actions can give you clues about what is happening underneath the hood. This is often called the “message of the market” approach. Technical analysis is very useful for generating investment ideas. It helps you confirm or refute your fundamental hypotheses, to develop ideas for new positions, and to exit in a timely manner. Technical analysis is a great tool to help you keep your head on straight. When we develop a fundamental idea to enter or exit an investment, if the technical indicators of supply and demand do not confirm our beliefs about where the markets are headed, we reassess our thinking and dig deeper. It gives us pause when the technical indicators don’t confirm the fundamentals because market prices contain the collective wisdom of many individuals participating! If there is a difference between the technical facts and our fundamental beliefs about the future, we tend to dig in deeper. This leads us to analyze and sometimes to develop an alternative fundamental hypothesis.

**Explaining Market Behavior**

We believe that investment management should be done using an evidence-based approach which demands that techniques are tested for the effectiveness. One of the most useful aspects of technical analysis is in developing quantitative strategies to assess and trade markets. We extensively test technical indicators in a statistical and scientific manner to analyze the predictive power and usefulness of implementing our strategies. This comes in handy in both our traditional stock and bonds management as well as our Commodity Trading Advisory (CTA) strategy. We want to see that there is a reasonable basis for technical indicators add value both statistically and logically.

To help clients meet their financial goals, Louis provides a full of range of customized solutions available through separately managed accounts, unified managed accounts (an actively managed portfolio that combines separate accounts, mutual funds, ETFs and liquid alternatives in a single account), mutual fund and ETF strategies and liquid alternative strategies.

Technical analysis provides a way to differentiate an investment manager like Wealthnet and allows for flexible management consistent with the clients’ risk tolerance.
Why are Financial Professionals all over the world switching to Market Analyst?

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At Market Analyst we see the importance of staying true to the techniques of the past, all the while embracing the revelations of the future. Market Analyst blends together cutting edge innovations while also being the premier product for anyone interested in more traditional studies.

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Adam Brunin, AIF, is an investment manager with his own firm, Navigation Wealth Management, a predominantly fee-based practice. The firm offers comprehensive financial planning services and could be considered a traditional wealth management firm in some ways. In other ways, it is a unique financial services firm. One way Navigation Wealth Management stands out is by providing detailed information about options related to Social Security benefits. Experience in trusts, reverse mortgages and other complex topics is also available through the firm or through a pre-screened referral network. As noted on the firm’s web site, “Giving the client the control over their financial decisions, Navigation Wealth Management’s goal is finding the solution to the client’s needs instead of trying to sell a product, that is what builds long term relationships between us and the client.”

Like many professionals in the field, Adam has found potential clients who complain, “I have this other person at this other company, but he/she hasn’t called me in years.” Although keeping clients informed is simply good customer service, communications in good times and bad can be helpful to client retention. Newsletters, periodic account reviews and ongoing seminars covering wealth management topics are all part of Navigation Wealth Management’s communications strategy.

In addition to informing clients about important topics, client communications allow the firm to demonstrate professional knowledge. Advanced topics on legacy planning, for example, could be introduced in a short article and explored in detail with clients wondering if they need that service. Client communications also offer an opportunity to apply technical analysis.

Clients often like to talk about the markets. This discussion can be in general terms or might cover specific stocks. Technical analysis can be helpful in either conversation.

In general terms, individual investors sometimes have unrealistic expectations of the returns they expect from their investments. Technical analysis is based on a study of the past. This knowledge helps advisers explain what realistic returns look like for different portfolios based on the degree of risk an investor is willing to accept. Risks are often easier to discuss from a technical perspective. Clients might be able to relate to a topping pattern on a chart. This discussion can provide a natural way to introduce the topic of active management to investors who might believe no one can beat the market.
When it comes to individual stocks, many clients have an emotional attachment to companies they worked for and may have a large percentage of their wealth allocated to shares of the stock. This can be a difficult conversation for financial advisers because individual investors usually don’t want to hear the best days of a company they love might be in the past. Technical analysis offers a way to introduce the topic in an unemotional manner, for example pointing out that low relative strength in their former employer indicates there are better investment opportunities.

Adam has attained the Accredited Investment Fiduciary (AIF) designation offered by the Center for Fiduciary Studies. The AIF designation signifies an individual has a thorough knowledge of the fiduciary standard of care. Designations such as this have become increasingly important in the financial community as a sign of professional accomplishment to clients. Adam’s next professional development activity is to follow his passion.

Throughout his career Adam has applied technical analysis to his practice. At first, he applied his techniques to mutual funds because his broker-dealer platform limited his investment options. Recently he reorganized his practice to allow him to more actively trade ETFs and individual stocks in client accounts.

After using technical analysis for many years, Adam decided to develop a more detailed knowledge of the subject. He decided to pursue the Chartered Market Technician (CMT) designation as a way to help his clients manage risk. Another benefit of the program is that the CMT will help differentiate his services in a competitive field.

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THE GORDON GEKKO EFFECT: THE ROLE OF CULTURE IN THE FINANCIAL INDUSTRY

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Editor’s note: Dr. Lo, developer of the Adaptive Market Hypothesis (AMH), prepared this paper for the Federal Reserve Bank of New York’s Financial Advisory Roundtable (FAR) meeting, October 17, 2014. The complete text is available at his web site. Below is an extract of the paper to highlight current issues in the market that technical analysts should be aware of.

Abstract: Culture is a potent force in shaping individual and group behavior, yet it has received scant attention in the context of financial risk management and the recent financial crisis. I present a brief overview of the role of culture according to psychologists, sociologists, and economists, and then present a specific framework for analyzing culture in the context of financial practices and institutions in which three questions are addressed: (1) What is culture?; (2) Does it matter?; and (3) Can it be changed? I illustrate the utility of this framework by applying it to five concrete situations—Long Term Capital Management; AIG Financial Products; Lehman Brothers and Repo 105; Société Générale’s rogue trader; and the SEC and the Madoff Ponzi scheme—and conclude with a proposal to change culture via “behavioral risk management.”

Introduction: In the 1987 Oliver Stone film Wall Street, Michael Douglas delivered an Oscar-winning performance as financial “Master of the Universe” Gordon Gekko. An unabashedly greedy corporate raider, Gekko delivered a famous, frequently quoted monologue in which he eloquently described the culture that has since become a caricature of the financial industry:

The point is, ladies and gentleman, that greed, for lack of a better word, is good. Greed is right, greed works. Greed clarifies, cuts through, and captures the essence of the evolutionary spirit. Greed, in all of its forms; greed for life, for money, for love, knowledge has marked the upward surge of mankind. And greed, you mark my words, will not only save Teldar Paper, but that other malfunctioning corporation called the USA.

Despite the notoriety of this encomium to enlightened self-interest, few people know that these words are based on an actual commencement speech, at what is now the Haas School of Business of the University of California at Berkeley, delivered by convicted insider trader Ivan Boesky in 1986, only eighteen months before his conviction.
Millions of people saw Wall Street, and Gekko’s monologue became part of popular culture. Hundreds, perhaps thousands of young people were inspired to go into finance as a result of Douglas’s performance. This dismayed Stanley Weiser, the co-writer of the screenplay, who met many of them for himself, Weiser wrote in 2008, at the height of the Financial Crisis, “A typical example would be a business executive or a younger studio development person spouting something that goes like this: ‘The movie changed my life. Once I saw it I knew that I wanted to get into such and such business. I wanted to be like Gordon Gekko.’ After so many encounters with Gekko admirers or wannabes, I wish I could go back and rewrite the greed line to this: ‘Greed is Good. But I’ve never seen a Brinks truck pull up to a cemetery.’”

What makes this phenomenon truly astonishing is that Gekko is not the hero of Wall Street—he is, in fact, the villain. Moreover, Gekko fails in his villainous plot, thanks to his young protégé-turned-hero, Bud Fox. The man whose words Weiser put into the mouth of Gekko, Ivan Boesky, later served several years in a federal penitentiary for his wrongdoings. Nevertheless, many young people decided to base their career choices on the screen depiction of a fictional villain whose most famous lines were taken from the words of a convict. Culture matters.

This is a prime example of what I propose to call “the Gekko effect.” It is known that some cultural values are positively correlated to better economic outcomes, perhaps through the channel of mutual trust. Stronger corporate cultures, as self-reported in surveys, appear to have better performance than weaker cultures, through the channel of behavioral consistency, although this effect is diminished in a volatile environment.

What Is Culture?

What do we mean when we talk about corporate culture? There are quite literally hundreds of definitions of culture. In 1952, the anthropologists A.L. Kroeber and Clyde Kluckhohn listed 164 definitions that had been used in the field up to that time, and to this day we still do not have a singular definition of culture. This paper does not propose to solve that problem, but merely to find a working definition to describe a phenomenon. Kroeber and Kluckhohn settled on the following: “Culture consists of patterns, explicit and implicit, of and for behavior acquired and transmitted by symbols, constituting the distinctive achievements of human groups, including their embodiments in artifacts.”

A corporate culture exists as a subset of a larger culture, with variations found specifically in that organization. Again, there are multiple definitions. The organizational theorists O’Reilly and Chatman define it as “a system of shared values that define what is important, and norms that define appropriate attitudes and behaviors for organizational members,” while Schein defines it in his classic text as “a pattern of shared basic assumptions that was learned by a group... that has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems.”

The key point here is that the distinctive assumptions and values of a corporate or organizational culture define the group. They will be shared within the culture, and they will be taught as the correct norms of behavior to newcomers to the
culture. People who lack these values and norms will not be members of the shared culture, even though they may occupy the appropriate position on the organizational chart. In fact, these outsiders may even be viewed as hostile to the values of the culture, a point to which we will return.

It is clear from these definitions that corporate culture propagates itself less like an economic phenomenon—with individuals attempting to maximize some quantity through their behavior—and more like a biological phenomenon, like the spread of an epidemic through a population. Gordon Gekko, then, can be considered the “Patient Zero” of an epidemic of shared values (most of which are considered repugnant by larger society, including Gekko’s creator).

This biologically inspired model of corporate culture can be generalized further. Three factors will affect the transmission of a corporate culture through a group: its leadership, analogous to the primary source of an infection; its composition, analogous to a population at risk; and its environment, which shapes its response. The next sections will explore how the transmission of values conducive to corporate failure might occur, how such values emerge, and what can be done to change them.

*Editor’s note: Sections 3 to 5 have been omitted.*

**Values from Economists: Responding to Incentives**

Economists have traditionally looked at theories of cultural values with skepticism, whether such theories have come from psychology, anthropology, ethnography, sociology, or management science. Part of this skepticism is due to the culture of economics, one that prizes the narrative of rational economic self-interest above all else. Given two competing explanations for a particular market anomaly, a behavioral theory and a rational expectations model, the vast majority of economists will choose the latter—even if rationality requires unrealistically complex inferences about everyone’s preferences, information, and expectations. The mathematical elegance of a rational expectations equilibrium usually trumps the messy and imprecise narrative of corporate culture. For example, Schein breaks down an organizational culture into its observable artifacts, espoused values, and unspoken assumptions. In the pure economist’s view, this is much too touchy-feely. An economist will measure observables, but look askance at self-reported values, and ignore unspoken assumptions in favor of revealed preferences. Gordon Gekko’s motivation—and his appeal to moviegoers—is simple: wealth and power. He is Homo economicus—the financial equivalent of John Galt in Ayn Rand’s Atlas Shrugged—optimizing his expected utility subject to constraints. From the economist’s perspective, Gekko’s only fault is optimizing with fewer constraints than those imposed by the legal system.

However, the economist’s view of rational self-interest is not simply axiomatic—economic self-interest is a learned and symbolically transmitted behavior. We do not expect children or the mentally impaired to pursue their rational self-interest, nor do we expect the financially misinformed to be able to maximize their self-interest correctly. Therefore, this
view of economic behavior fulfills the textbook definition of a cultural trait, albeit one that economists believe is universal and all-encompassing, as the term Homo economicus suggests.

Through the cultural lens of an economist, individuals are good if they have an incentive to be good. The same motivation of self-interest that drives a manager to excel at measurable tasks in the Wall Street bonus culture may also induce a manager to shirk the less observable components of job performance, such as following ethical guidelines.

There are a few notable exceptions to this cultural bias against culture in economics. Hermalin (2001) presents an excellent overview of economic models of corporate culture as: gametheoretic interactions involving incomplete contracts, coordination, reputation, unforeseen contingencies, and multiple equilibria (Kreps, 1990); a store of common knowledge that provides efficiencies in communication within the firm (Crémer, 1993); an evolutionary process in which preferences are genetically transmitted to descendents and shaped by senior management like horse breeders seeking to produce championship thoroughbreds (Lazear, 1995); and the impact of situations on agents’ perceptions and preferences (Hodgson, 1996). Yet the same manager might behave impeccably under different circumstances, i.e., when faced with different incentives.

Despite these early efforts, and Hermalin’s (2001) compelling illustrations of the potential intellectual gains from trade between economics and culture, the study of culture by economists is still the exception rather than the rule. One reason is that the notion of rational self-interest, and its rich quantitative implications for behavior, has made economics the most analytically powerful of the social sciences. The assumption that individuals respond to incentives according to their self-interest leads to concrete predictions about behavior, rendering other cultural explanations unnecessary. In this framework, phenomena such as tournament salaries and Wall Street bonuses are a natural and efficient way to increase a firm’s productivity, especially in a high-risk/high-reward industry in which it is nearly impossible to infer performance differences between individuals in advance. If a corporate culture appears “greedy” to the outside world, it is because the world does not understand the economic environment in which it operates. The economist’s view of culture—reducing differences in behavior to different structures of incentives—can even be made to fit group phenomena that do not appear guided by rational self-interest such as self-deception, over-optimism, willful blindness, and other forms of groupthink.

This is, of course, a caricature of the economist’s perspective, but it is no exaggeration that the first line of inquiry in any economic analysis of misbehavior is to investigate incentives. A case in point is the rise in mortgage defaults by U.S. homeowners during the Financial Crisis of 2007–2009. Debt default has been a common occurrence since the beginning of debt markets, but after the peak of the U.S. housing market in 2006, a growing number of homeowners engaged in “strategic defaults,” defaults driven by rational economic considerations rather than the inability to pay. The rationale is simple. As housing prices decline, a homeowner’s equity declines in lockstep. When a homeowner’s equity becomes negative, there is a much larger economic incentive to default irrespective of income or wealth. This tendency to default under conditions of negative home equity has been confirmed empirically. In a sample of homeowners holding mortgages...
in 2006 and 2007, Cohen-Cole and Morse (2010) found that 74% of those households who became delinquent on their mortgage payments were nevertheless current on their credit card payments, behavior consistent with strategic default. Moreover, homeowners with negative equity were found to be more likely to re-default, even when offered a mortgage modification that initially lowered their monthly payments. As Geanakoplos and Koniak (2009) observed in the aftermath of the bursting of the housing bubble:

Every month, another 8% of the subprime homeowners whose mortgages...are 160% of the estimated value of their houses become seriously delinquent. On the other hand, subprime homeowners whose loans are worth 60% of the current value of their house become delinquent at a rate of only 1% per month. Despite all the job losses and economic uncertainty, almost all owners with real equity in their homes, are finding a way to pay off their loans. It is those “underwater” on their mortgages—with homes worth less than their loans—who are defaulting, but who, given equity in their homes, will find a way to pay. They are not evil or irresponsible; they are defaulting because...it is the economically prudent thing to do.

Economists can confidently point to these facts when debating the relative importance of culture versus incentives in determining consumer behavior.

However, the narrative becomes more complex the more we dig deeper into the determinants of strategic default. In survey data of 1,000 U.S. households from December 2008 to September 2010, Guiso, Sapienza, and Zingales (2010, Table VI) have shown that respondents who know someone who strategically defaulted are 51% more likely to declare their willingness to default strategically. This contagion effect is confirmed in a sample of over 30 million mortgages originated between 2000 and 2008, observed from 2005 to 2009 by Goodstein, Hanouna, Ramirez, and Stahel (2013), who found that mortgage defaults are influenced by the delinquency rate in surrounding zip codes, even after controlling for income-related factors. Their estimates suggest that a 1% increase in the surrounding delinquency rate increases the probability of a strategic default up to 16.5%.

These results show that there is no simple dichotomy between incentives and culture. Neither explanation is complete because both are inextricably intertwined and jointly affect human behavior in complex ways. Reacting to a change in incentives follows naturally from the unspoken assumptions of the economist. Economic incentives certainly influence human decisions, but they do not explain all behavior in all contexts. They cannot, because humans are incentivized by a number of forces that are non-pecuniary and difficult to measure quantitatively. As Hill and Painter (2015) have discussed, these forces may include status, pride, mystique, and excitement. In addition, as they point out, “what confers status is contingent, and may change over time.” These cultural forces often vary over time and across circumstances, causing individual and group behavior to adapt in response to such changes.
However, economists rarely focus on the adaptation of economic behavior to time-varying nonstationary environments—our discipline is far more comfortable with comparative statics and general equilibria than with dynamics and phase transitions. Yet changes in the economic, political, and social environment have important implications for the behavior of individual employees and corporations alike as Hermalin (2001) underscores. To resolve this problem, we need a broader theory, one capable of reconciling the analytical precision of Homo economicus with the cultural tendencies of Homo sapiens.

**Values from Evolution: The Adaptive Markets Hypothesis**

If corporate culture is shaped from the top down, from the bottom up, and through incentives in a given environment, the natural follow-on question to ask next is how? A corporation’s leadership may exert its authority to establish norms of behavior within the firm, but a corporation’s employees also bring their preexisting values to the workplace, and all of the actors in this drama have some resistance to cultural sway for non-cultural, internal reasons. None of them are perfectly malleable individuals waiting to be molded by external forces. This resistance has never stopped corporate authority from trying, however. Notoriously, Henry Ford employed hundreds of investigators in his company’s Sociological Department to monitor the private lives of his employees, to ensure they followed his preferred standard of behavior inside the factory and out. The success or failure of such efforts depends critically on understanding the broader framework in which culture emerges and evolves over time and across circumstances.

Determining the origin of culture, ethics, and morality may seem to be a hopeless task more suited to philosophers than economists. However, there has been surprising progress from anthropology, evolutionary biology, psychology, and the cognitive neurosciences, work that has important implications for economic theories of culture. For example, evolutionary biologists have shown that cultural norms such as altruism, fairness, reciprocity, charity, and cooperation can lead to advantages in survival and reproductive success among individuals in certain settings. E. O. Wilson has argued even more forcefully, when he coined the term “sociobiology” in the 1970s, that social conventions and interactions are, in fact, the product of evolution. More recent observational and experimental evidence from other animal species such as our close cousins, the chimpanzees, has confirmed the commonality of certain cultural norms, suggesting that they are adaptive traits passed down across many generations and species. A concrete illustration is the notion of fairness, a seemingly innate moral compass that exists in children as young as 15 months as well as in chimpanzees.

This evolutionary perspective of culture has a more direct instantiation in financial economics in the form of the Adaptive Markets Hypothesis, an alternative to the Efficient Markets Hypothesis in which financial market dynamics are the result of a population of individuals competing for scarce resources and adapting to past and current environments. The Adaptive Markets Hypothesis recognizes that competition, adaptation, and selection occur at multiple levels—from the subtle methylation of sequences in an individual’s DNA, to the transmission of cultural traits from one generation to the next—and they can occur simultaneously, each level operating at speeds dictated by specific environmental forces.
understand what individuals value, and how they will behave in various contexts, we have to understand how they interacted with the environments of their past.

The Adaptive Markets Hypothesis explains why analogies to biological reasoning are often effective in the social sciences. Darwinian evolution is not the same process as cultural evolution, but they occur under similar constraints of selection and differential survival. As a result, one can fruitfully use biological analogies, as well as biology itself, to explain aspects of culture, even of corporate culture, a phenomenon that did not exist until the late nineteenth and early twentieth centuries. These explanations fall into two categories: explanations of individual behavior by itself, and explanations of the interactions between individuals that lead to group dynamics into the nature of moral and ethical judgments. These judgments arise from one of two possible neural mechanisms: one instinctive, immediate, and based on emotion; and the other more deliberative, measured, and based on logic and reasoning. The former is fast, virtually impossible to override, and relatively inflexible, while the latter is slow, much more nuanced, and highly adaptive. This “dual-process theory” of moral and ethical decision-making—which is supported by a growing body of detailed neuroimaging experimental evidence—speaks directly to the question at hand of the origin of culture. At this level of examination, culture is the amalgamation of hardwired responses embedded in our neural circuitry, many innate and not easily reprogrammed, and more detailed complex analytic behaviors that are pathdependent on life history, which can be reprogrammed (slowly) and are more in tune with our social environment.

Apart from its pure scientific value, the dual-process theory has several important practical implications. Current efforts to shape culture may be placing too much emphasis on the analytical process, while ignoring the less malleable and, therefore, more persistent innate process. A deeper understanding of this innate process is essential to answering questions about whether and how culture can be changed. One starting point is the work of social psychologist Jonathan Haidt, who proposed five moral dimensions that are innately determined and whose relative weightings yield distinct cultural mores and value systems: harm vs. care, fairness vs. cheating, loyalty vs. betrayal, authority vs. subversion, and purity vs. degradation. Since the relative importance of these moral dimensions is innately determined, they naturally vary in the population along with hair color, height, and other traits.

Haidt and his colleagues discovered that, far from being distributed in a uniformly random way across the population, these traits had strong correlations to political beliefs (see Figure 1). For example, people in the U.S. who identified themselves as liberal believed that questions of harm/care and fairness/cheating were almost always relevant to making moral decisions. The other three moral foundations Haidt identified—loyalty/betrayal, authority/subversion, and purity/degradation—were much less important to liberals. However, those who identified themselves as conservative believed that all five moral foundations were equally important, although none were given as high a level of importance as liberals gave to fairness/cheating or harm/care. These innate traits had predisposed people to sort themselves into different political factions.
It takes little imagination to see this sorting process at work across professions. Someone who believes that fairness is the highest moral value will want to choose a vocation where they can exert this value, perhaps as a public defender, a teacher of underprivileged children, or a sports referee. Those who believe, instead, that fairness is an unimportant value might find themselves drawn to the prosecutorial side of the law, or high-pressure sales, or indeed, Gordon Gekko’s caricature of predatory finance. This is not to say that everyone in those professions shares those values, of course, but rather that individuals with those values may find such professions more congenial—a form of natural selection bias—and will, therefore, eventually be statistically over-represented in that subpopulation.

At the same time that evolution shapes individual behavior, it also acts on how individuals relate to one another. We call the collective behavior that ultimately emerges from these interactions “culture.” Many forms of collective and group behavior have been conceptually difficult for classical evolutionary theory to explain since it is primarily a theory centered on the reproductive success of the individual, or even more reductively, of the gene. Recent research in evolutionary biology, however, has revived the controversial notion of “group selection,” in which groups are the targets of natural selection, not just individuals or genes. Although many evolutionary biologists have rejected this idea, arguing that
selection can only occur at the level of the gene, an application of the Adaptive Markets Hypothesis can reconcile this controversy, and also provide an explanation for the origins of culture.

The key insight is that individual behavior that appears to be coordinated is simply the result of certain common factors in the environment — “systematic risk” in the terminology of financial economics—that impose a common threat to a particular subset of individuals. Within specific groups under systematic risk, natural selection on individuals can sometimes produce grouplike behavior. In such cases, a standard application of natural selection to individuals can produce behaviors that may seem like the result of group selection, but are, in fact, merely a reflection of systematic risk in the environment.

For example, consider the extraordinary behavior of Specialist Ross A. McGinnis, a 19-year-old machine-gunner in the U.S. Army during the Iraq war who sacrificed himself when a fragmentation grenade was tossed into a Humvee vehicle during a routine patrol in Baghdad on December 4, 2006. He reacted immediately by yelling “grenade” to alert the others, and then pushed his back onto the grenade, pinning it to the Humvee’s radio mount, and absorbing the impact of the explosion with his body, saving the lives of his four crewmates.

Although this was a remarkable act of bravery and sacrifice, it is not an isolated incident. Acts of bravery and sacrifice have always been part of the military tradition, as documented by the medals and other honors awarded to our heroes. Part of the explanation may be selection bias—the military may simply attract a larger proportion of altruistic individuals, people who sincerely believe that “the needs of the many outweigh the needs of the few.”

A more direct explanation, however, may be that altruistic behavior is produced by natural selection operating in the face of military conflict. Put another way, selfish behavior on the battlefield is a recipe for defeat. Military conflict is an extreme form of systematic risk, and over time and across many similar circumstances, our military has learned this lesson. On the other hand, altruistic behavior confers survival benefits for the population on the battlefield, even if it does not benefit the individual. Accordingly, military training instills these values in individuals—through bonding exercises like boot camp, stories of heroism passed down from seasoned veterans to new recruits, and medals and honors for courageous acts—so as to increase the likelihood of success for the entire troop. Military culture is the evolutionary product of the environment of war.

Now consider an entirely different environment; imagine a live grenade being tossed into a New York City subway car. Would we expect any of the passengers to behave in a manner similar to Spc. McGinnis in Baghdad? Context matters. And culture is shaped by context, as Milgram and Zimbardo discovered in their experiments with ordinary subjects placed in extraordinary contexts.

Context matters not only on the battlefield, but also in the financial industry. Recently, Cohn, Fehr, and Maréchal (2014) documented the impact of context on financial culture in an experiment involving 128 human subjects recruited from a
large international bank. These subjects were asked to engage in an exercise that measured their honesty, using a simple cointossing exercise in which self-reported outcomes determined whether they would receive a cash prize. Prior to this exercise, subjects were split into two groups, one in which the participants were asked seven questions pertaining to their banking jobs, and the other in which the participants were asked seven non-banking-related questions. By bringing the banking industry to the forefront of the subjects’ minds just prior to the exercise, the authors induced the subjects to apply the cultural standards of that industry to the task at hand. The subjects in the former group showed significantly more dishonest behavior than the subjects in the latter group, who exhibited the same level of honesty as participants from non-banking industries. The authors concluded “the prevailing business culture in the banking industry weakens and undermines the honesty norm, implying that measures to re-establish an honest culture are very important.” However, innate variation determines how much the individual is influenced by context. Gibson, Tanner, and Wagner (2015) have shown that even in cultures where there has been a crowding-out of honest behavior by situational norms, individuals with strong intrinsic preferences to honesty as a “protected” value resist the bad norm, and may potentially be able to form the nucleus of a good norm in an altered situation.

Two recent empirical studies of fraud provide additional support for the impact of context on financial culture. Dyck, Morse, and Zingales (2013) used historical data on securities class action lawsuits to estimate the incidence of fraud from 1996 to 2004 in U.S. publicly traded companies with at least $750 million in market capitalization. They document an increasing amount of fraud as the stock market rose, which eventually declined in the wake of the bursting of the Internet Bubble in 2001–2002 (see Figure 2). This interesting pattern suggests that the business environment may be related to changes in corporate culture that involve fraudulent activity and corporate risk-taking behavior. Deason, Rajgopal, and Waymire (2015) found a similar pattern in the number of Ponzi schemes prosecuted by the U.S. Securities and Exchange Commission (SEC) between 1988 and 2012 (see Figure 3): an upward trend during the bull market of the late 1990s, a decline in the aftermath of the Internet Bust of 2001–2002, and another increase as the market climbed, until the Financial Crisis and the subsequent stock market decline between 2008 and 2009, after which the number of Ponzi schemes declined sharply. In fact, Deason, Rajgopal, and Waymire estimate a correlation of 47.9% between the S&P 500 quarterly return and the number of SEC-prosecuted Ponzi schemes per quarter, which they attribute to several factors: Ponzi schemes are harder to sustain in declining markets; SEC enforcement budgets tend to increase after bubbles burst; and there may be more demand for enforcement by politicians and the public. They also found that Ponzi schemes are more likely when there is some affinity link between the perpetrator and the victim, such as a common religious background or shared membership in an ethnic group, or when the victim group tends to place more trust in others (e.g., senior citizens), reminding us that culture can also be exploited maliciously.
These two studies confirm what many already knew instinctively: culture is very much a product of the environment, and as environments change, so too does culture. Therefore, if we wish to change culture, we must first understand the forces that shape it over time and across circumstances. This broader contextual, environmental framework—informed by psychology, evolutionary theory, and neuroscience, and quantified through empirical measurement—will play a key role in Section 11 where we consider what can be done about culture from a practical perspective.
Examples from the Financial Industry

Moving from the general to the specific, several recent financial debacles demonstrate the role of corporate culture in financial failure. Let us start with a control case, the fall of Long-Term Capital Management (LTCM). In organizational theorist Charles Perrow’s terminology, its collapse was a “normal accident.” That is, it was caused by a combination of “tight coupling” in the engineering sense—in which the execution of one process depends critically on the successful completion of another—and complex interactions within the financial system. To summarize a well-known story very briefly, LTCM’s sophisticated models were caught off guard by the aftermath of Russia’s default on its GKO bonds on August 17, 1998, triggering a short and vicious cycle of losses and flights to liquidity, and ultimately leading to its bailout on September 23, 1998.

On paper, LTCM’s corporate culture was excellent. Its composition was elite: founded by John Meriwether, the former head of bond trading at Salomon Brothers, and future Nobelists Robert C. Merton and Myron Scholes. Its culture was individualistic, as many trading groups are, but it derived its authority from a legal-rational basis, the superiority of its mathematics. Its corporate culture played little direct role in its failure. In fact, with much of their personal fortunes invested in the business, LTCM’s managing partners were perfectly aligned with their investors. Not a single client has sued them for inappropriate behavior. Not a single regulator has cited them for violations of any sort.

However, Wall Street’s corporate culture was apparently caught off-guard by LTCM’s predicament. It had perceived LTCM to be a paragon of Wall Street’s highest values—a combination of intelligence, market savvy, and ambition that was sure to succeed—when a more accurate assessment of LTCM might have been as an experimental engineering firm, working daringly (or hubristically, as some have argued) on the cutting edge. Their creditors notoriously gave LTCM virtually no “haircut” on their loans, on the assumption that their trades were essentially risk-free. In addition to these very low, or even zero, margin requirements, LTCM was able to negotiate other favorable credit enhancements with its counterparties, including two-way collateral requirements, rehypothecation rights, and high thresholds for loss. These were often made on the strength of their reputation, rather than detailed examination of LTCM’s methods. Daniel Napoli, then Merrill Lynch’s head of risk management, was quoted as saying, “We had no idea they would have trouble—these people were known for risk management. They had taught it; they designed it [emphasis in original].” (Napoli himself lost his position shortly after LTCM’s collapse.) LTCM’s failure may be viewed as akin to the failure of a bridge whose experimental materials were exposed to an unfamiliar stress, but the behavior of LTCM’s creditors is more likely a failure of their corporate culture.

Corporate cultures can be overconfident in their abilities to assess risk. This can be seen in the fall of the large multinational insurer, American International Group (AIG), in 2008. Under its original chairman, Maurice “Hank” Greenberg, AIG was run not merely hierarchically, but almost feudally, with reciprocal chains of loyalty and obligation centered on Greenberg. In fact, Greenberg had structured AIG’s compensation plan deliberately to promote lifetime loyalty to the firm. Greenberg
was, in Weberian terms, a charismatic authority, overseeing each division of his large multinational organization personally. In particular, in regular questioning sessions Greenberg demanded to know exactly what risks each unit of AIG was taking, and what measures were being used to reduce them. Many observers ascribed AIG’s continued growth to AIG’s excellent practice in insurance underwriting, closely monitored by Greenberg.

However, the “headline risk” of Greenberg’s possible role in financial irregularities caused AIG’s board of directors to replace him with Martin Sullivan in early 2005. Sullivan had risen through the ranks of AIG, originally starting as a teenage office assistant. Sullivan assumed that AIG’s vigorous culture of risk management would maintain itself without Greenberg at the helm. Meanwhile, Joseph Cassano, the head of AIG’s Financial Products (AIGFP) unit, had a working relationship with Greenberg that did not transfer to Sullivan. Cassano’s conduct grew more aggressive without Greenberg’s check on his behavior.

AIGFP’s portfolio contained billions of dollars of credit default swaps on “toxic” collateralized debt obligations. This was not the only toxic item on AIG’s balance sheet, which also had significant problems in its securities lending program, but it was the largest, and it created the most visible effects during the financially dangerous autumn of 2008. While AIGFP’s first sales of credit default swaps on collateralized debt obligations began in 2004, during Greenberg’s tenure, they accelerated into 2005, before executives within AIGFP convinced Cassano about declining standards in the subprime mortgage market. AIGFP’s final sale of credit default swaps took place in early 2006, leaving a multibillion-dollar time bomb on its balance sheet. Cassano defended his actions in an increasingly adverse environment until his ouster from AIG in early 2008.

It is probably too easy to ascribe AIGFP’s extended period of credit default swap sales to Greenberg’s departure. As noted, Cassano’s unit began selling credit default swaps well before Greenberg’s exit. However, Robert Shiller’s insight into the Milgram experiment is pertinent here. Greenberg’s culture of risk management, which was accompanied by consistently high growth in the traditionally low-growth insurance industry, led Cassano and Sullivan to believe that AIG’s risk management procedures were consistently reliable in conditions where they were not. Paradoxically, the moral hazard of past success may have led AIG to make much riskier investments than a company with a poorer track record of risk management.

Some corporate cultures actively conceal their flaws and irregularities, not only from the public or from regulators, but also from others within the corporation itself because of the risk that this knowledge might undermine their position. For example, let us look at Lehman Brothers’ use of the so-called “Repo 105” accounting trick. Briefly, this was a repo, or repurchase agreement, valued at $1.05 for every dollar, which was designed to look like a sale. Lehman Brothers paid more than five cents on the dollar to temporarily pay down the liabilities on its balance sheet before it repurchased the asset. Lehman Brothers used this accounting trick in amounts totaling $50 billion in late 2007 and 2008 to give the firm a greater appearance of financial health—which of course was ultimately a failure.
Was this tactic legal? No American law firm would agree to endorse this practice, so Lehman Brothers engaged in regulatory arbitrage, and found a distinguished British law firm, Linklaters, willing to give the practice its imprimatur. Linklater’s endorsement of Repo 105 was kept secret from the outside world, except for Lehman’s outside auditors, Ernst & Young, who also allowed the practice to pass. However, Lehman’s use of Repo 105 was also kept from its board members. Lehman Brothers omitted its use of Repo 105 in its quarterly disclosures to the SEC, and also neglected to tell its outside disclosure counsel.

In contrast to LTCM, the corporate culture at Lehman Brothers resembled less a cutting-edge engineering firm experiencing an unforeseen design failure, and more like Zimbardo’s Stanford experiment. An internal hierarchy within Lehman’s management deliberately withheld information about its misleading accounting practices to outsiders who might have objected, even within the firm, because it believed that was its proper role. When Lehman’s global financial controller reported his misgivings to two consecutive chief financial officers that Repo 105 might be a significant “reputational risk” to the company, his concerns were ignored. Lehman’s hierarchical culture defended its values against voices from its border, even though they occupied central positions on its organizational chart. Instead of taking measures to avoid headline risk, it instead buried its practices in secrecy.

The case of rogue trader Jérôme Kerviel illustrates another possible type of failure of corporate culture, that of neglect. In January 2008, Kerviel built up a €49 billion long position on index futures in the corporate and investment banking division of the French bank, Société Générale, before his trades were detected. For comparison purposes, Société Générale’s total capital at that time was only €26 billion. Unwinding his unauthorized position cost Société Générale €6.4 billion, an immense loss that threatened to take down the bank. Kerviel’s legal difficulties are still ongoing, but he has stated Société Générale turned a blind eye to his activities when they were making money—and Société Générale’s own internal investigation reports that he made €1.5 billion for the bank on his unauthorized trades in 2007.

However, the internal investigation paints a very different, if equally unflattering, picture of Société Générale’s corporate culture. Kerviel’s first supervisor did not notice his early fraudulent trades or their cover-up, but in fact allowed Kerviel to make intraday trades, a privilege well above Kerviel’s status as a junior trader. In January 2007, Kerviel’s supervisor quit, and his trading desk was left effectively unsupervised for three months. During this time, Kerviel built up a futures position of €5.5 billion, his first very large position. His new desk manager, hired in April 2007, had no prior knowledge of trading activities, and did not use the monitoring programs that would have detected Kerviel’s trades. Moreover, Kerviel’s new manager was not supported by his supervisor in assisting or supervising his new activities. The Société Générale report found that a culture of inattention and managerial neglect existed up to four levels above Kerviel’s position, to the head of Société Générale’s arbitrage activities. Ultimately, it was the attention and perseverance of a monitor in Société Générale’s accounting and regulatory reporting division which caught Kerviel, after the monitor noticed an unhedged €1.5 billion position while calculating the Cooke ratio for Société Générale’s Basel compliance requirements.
This is Douglas’s individualistic culture taken to a point of absurdity. Mark Hunter and N. Craig Smith believe that the roots of Société Générale’s Corporate and Investment Banking division’s inept management culture can be found in its complex corporate history. Société Générale was a private retail bank nationalized after the Second World War, and then privatized again in 1986. Throughout its postwar history, however, it was a proving ground for French elite graduates, similar to the way Wall Street investment banks recruit from Ivy League universities in the U.S. The key difference is that the elite focused on Société Générale’s retail banking oversight because of its close connection to French policymakers in the public and private sectors, rather than its proprietary trading desks. Société Générale’s corporate culture viewed the Corporate and Investment Bank as a “cash machine,” not central to its elite outcomes. Kerviel was a graduate of provincial universities, and was not expected to rise in the elite hierarchy. Therefore, little attention was paid to his activities, even when he made surprisingly large amounts of money.

*Editor’s note: the remaining sections and references have been omitted but are available at Dr. Lo’s [web site](#).*

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ETHICS CORNER: DOES YOUR FINANCIAL ADVISER 'SPECIALIZE IN MISCONDUCT?'

BY NATASHA GURAL-MAIELLO

Editor’s note: This is adapted from a February 29, 2016 blog post at the University of Chicago blog, Capital Ideas. It is based on a research paper: Mark Egan, Gregor Matvos, and Amit Seru, “The Market for Financial Adviser Misconduct,” Working paper, February 2016.

Financial advisers are often perceived as dishonest, and consistently rank among the least trustworthy professionals. New research suggests this public perception may be deserved.

In the first large-scale study documenting the economy-wide extent of misconduct among financial advisers and financial advisory firms in the United States, researchers find that most financial advisers who engage in misconduct get to keep their jobs—or are quickly rehired by another firm in the industry.

Some of the largest financial advisory firms in the US have the highest rates of misconduct, according to University of Minnesota’s Mark Egan and Chicago Booth’s Gregor Matvos and Amit Seru. At one large firm, 20% of advisers have been disciplined for misconduct, the researchers find. At another, 18%, and 15% at two well-known firms. At other large, well-known firms, rates are closer to 1%.

“We find evidence suggesting that some firms specialize in misconduct,” the researchers write. “Such firms are more tolerant of misconduct, hiring advisers with unscrupulous records. These firms also hire advisers who engage in misconduct to a lesser degree.”

And firms that hire advisers who have left or lost jobs because of misconduct appear to have a culture of it. “This ‘match on misconduct’ reemployment undermines the disciplining mechanism in the industry, lessening the punishment,” the researchers write.

To research the industry, Egan, Matvos, and Seru used data from the Financial Industry Regulatory Authority (FINRA), a self-regulatory organization that oversees 650,000 licensed salespeople. Most of these salespeople are officially known as registered representatives, though they use a variety of other titles, including adviser and broker. These salespeople help to manage more than $30 trillion of investible assets, according to the researchers.
FINRA runs a public database, BrokerCheck, which investors can use to research representatives and firms. The researchers used the FINRA data to build their own database, including in it the 1.2 million financial advisers registered in the US from 2005 to 2015. The researchers’ database represents about 10% of people employed in the finance and insurance sectors.

The data reveal that more than 12% of active financial advisers’ records have a disclosure, which can indicate any sort of dispute or disciplinary action, alleged or established. Approximately 7% of active advisers have been disciplined for misconduct or fraud. Of the advisers who have engaged in misconduct, 38% are repeat offenders. “This simple summary statistic strongly suggests that misconduct does not arise due to bad luck or random complaints by dissatisfied customers,” write Egan, Matvos, and Seru.

More than half of misbehaving advisers stay with the same firm after a year, according to the data. Of those who leave, 44% quickly (within a year) find new jobs in the industry.

Some consolation for investors: even accounting for reemployment, advisers who engage in misconduct are more likely to leave the industry or have longer periods of unemployment. When they find new jobs, they tend to take pay cuts of 10%, and land at companies considered less desirable places to work.

Financial advisers’ misconduct records are public information, which should help to prevent and punish misconduct. But according to the research, neither market forces nor regulators are successfully preventing crooked advisers from continuing to provide their services.
This month we are taking a long-term look at markets through Ichimoku clouds. These charts consist of five components:

1. Turning Line – midpoint of the high and low of the last 9 sessions.
2. Standard Line - midpoint of the high and low of the last 26 sessions.
3. Cloud Span A – midpoint of turning line and standard line shifted forward 26 bars forward.
4. Cloud Span B - midpoint of the high and low of last 52 sessions shifted 26 bars forward.
5. The Lagging Line – the price line (close) shifted back 26 bars.

For simplicity, just the cloud spans are shown below. Although more detailed analysis is possible, they can be interpreted simply with the following guidelines:

- Prices above the cloud are bullish.
- Prices below the cloud are bearish.
- Prices in the cloud are bullish if they came from the bullish zone.
- Prices in the cloud are bearish if they came from the bearish zone.
- Historically thick clouds after a run in prices might signal an imminent trend change.

The pullback in markets at the beginning of 2016 pushed major market indexes into a bearish reading on the charts below. At the end of March, only the S&P 500 index had moved back into bullish territory.
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