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LETTER FROM THE EDITOR

BY MICHAEL CARR, CMT

This month’s magazine is focused on actionable ideas for traders. After reading this issue of Technically Speaking, you will have specific ideas for designing a long or short-term trading strategy or advancing your career potential as an investment manager. We’ve also included an article that demonstrates the value of investment skill by reviewing how Berkshire Hathaway performed before Warren Buffett became involved in the company.

In addition to Technically Speaking, the MTA provides actionable ideas at chapter meetings and at the Annual Symposium. It’s time for many of us to start planning for that meeting which will kick off on April 6, 2015 and run through April 8. It will be held in New York City. You can learn more here.

You will also obtain actionable ideas at local chapter meetings. You may have noticed the word “will” in that previous sentence. It jumps out because as investment professionals, we often hedge our statements with phrases including “is likely to” or words like “could.” I am confident you will be exposed to new ideas at MTA chapter meetings and broke with tradition to make an unequivocal prediction. If you haven’t been to a chapter meeting, check for local events by clicking here.

Finally, feel free to share your own actionable ideas with readers of Technically Speaking. 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 published at Alpha Architect on November 9, 2015 and is republished here with permission.

We’re in the middle of an academic research project and we ran a simple long-term trend-following model from January 1, 1801 to September 30, 2015.

Recently, there has been some research on the performance of trend rules over long periods here (and highlighted by CXO here).

Our trend-following methodology is further described in our downside protection piece. (Editor’s note: This piece is also the next article in this month’s magazine.)

- **Absolute Performance Rule: Time Series Momentum Rule (TMOM)**
  - Excess return = total return over past 12 months less return of T-Bills
  - If Excess return >0, go long risky assets. Otherwise, go long alternative assets (T-Bills)
  - Concept made popular by Gary Antonacci

- **Trending Performance Rule: Simple Moving Average Rule (MA)**
  - Moving Average (12) = average of 12 month prices
  - If Current Price – Moving Average (12) > 0, go long risky assets. Otherwise, go long alternative assets (T-Bills).
  - Concept made popular by Meb Faber

- **Robust Asset Allocation Rule: Combination of TMOM and MA (ROBUST)**
  - 50% TMOM, 50% MA

Our study includes 6 asset classes and strategies assessed over the sample time period:

- **SPX** = S&P 500 Total Return Index spliced with generic US stock market data in early years
- **LTR** = 10-Year Treasury Total Return Index
- **SP_MA** = SPX with MA rule applied
- **60,40** = 60/40 SPX, LTR
- **SP_TMOM** = SPX with TMOM rule applied
- **SP_ROBUST** = SPX with ROBUST rule applied

Results are gross, no fees are included. All returns are total returns and include the reinvestment of distributions (e.g., dividends). Indexes are unmanaged, do not reflect management or trading fees, and one cannot invest directly in an index.

First, the laundry list of domestic equity drawdowns over time that exceed 15%. I’ve highlighted the worst performer in red across the index, 10-years, and the index with MA:

<table>
<thead>
<tr>
<th>DD Begin</th>
<th>DD End</th>
<th>SPX</th>
<th>LTR</th>
<th>SP_MA</th>
<th>60,40</th>
<th>SP_TMOM</th>
<th>SP_ROBUST</th>
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<tr>
<td>8/31/1929</td>
<td>6/30/1932</td>
<td>-83.65%</td>
<td>9.79%</td>
<td>-20.20%</td>
<td>-62.58%</td>
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<td>-51.77%</td>
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<td>-27.77%</td>
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<td>-18.53%</td>
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<td>3/31/1938</td>
<td>-49.82%</td>
<td>1.36%</td>
<td>-13.61%</td>
<td>-32.30%</td>
<td>-21.68%</td>
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<td>-27.42%</td>
<td>1.94%</td>
<td>1.94%</td>
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<td>-34.64%</td>
<td>-11.55%</td>
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<td>-24.76%</td>
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<td>-34.09%</td>
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<td>-3.87%</td>
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<td>-23.01%</td>
<td>-1.04%</td>
<td>-2.55%</td>
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<tr>
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<td>-30.64%</td>
<td>2.89%</td>
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<td>-33.79%</td>
<td>-13.85%</td>
<td>-20.22%</td>
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<td>2.38%</td>
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<td>-29.58%</td>
<td>-26.28%</td>
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<tr>
<td>10/1/1860</td>
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<td>-29.47%</td>
<td>-12.71%</td>
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<tr>
<td>1/31/1893</td>
<td>8/31/1893</td>
<td>-25.18%</td>
<td>-0.83%</td>
<td>-3.46%</td>
<td>-16.07%</td>
<td>-3.46%</td>
<td>-3.46%</td>
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<td>2.50%</td>
<td>-7.50%</td>
<td>-12.96%</td>
<td>-15.42%</td>
<td>-11.46%</td>
</tr>
<tr>
<td>9/30/1882</td>
<td>1/31/1885</td>
<td>-21.85%</td>
<td>9.75%</td>
<td>-0.97%</td>
<td>-10.24%</td>
<td>0.14%</td>
<td>-0.41%</td>
</tr>
<tr>
<td>5/31/1945</td>
<td>11/30/1946</td>
<td>-21.83%</td>
<td>-0.73%</td>
<td>-12.26%</td>
<td>-13.81%</td>
<td>-20.87%</td>
<td>-16.56%</td>
</tr>
<tr>
<td>1/31/1934</td>
<td>7/31/1934</td>
<td>-20.92%</td>
<td>6.26%</td>
<td>-12.96%</td>
<td>-10.70%</td>
<td>-10.87%</td>
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<td>-18.86%</td>
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<td>-16.11%</td>
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<td>-16.04%</td>
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<td>1/31/1966</td>
<td>9/30/1966</td>
<td>-15.71%</td>
<td>0.73%</td>
<td>-4.84%</td>
<td>-9.36%</td>
<td>-4.84%</td>
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<td>6/30/1998</td>
<td>8/31/1998</td>
<td>-15.18%</td>
<td>3.70%</td>
<td>-15.18%</td>
<td>-7.68%</td>
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<td>7/31/1957</td>
<td>12/31/1957</td>
<td>-15.05%</td>
<td>7.88%</td>
<td>-10.14%</td>
<td>-6.36%</td>
<td>1.33%</td>
<td>-4.49%</td>
</tr>
</tbody>
</table>

The results are hypothetical results and are NOT an indicator of future results and do NOT represent returns that any investor actually attained. Indexes are unmanaged, do not reflect management or trading fees, and one cannot invest directly in an index. Additional information regarding the construction of these results is available upon request.
Takeaway:

- MA rule, TMOM rule and ROBUST rule, historically, have reduced drawdowns
- Treasury bonds, historically, act like insurance assets and serve as a “crisis alpha” instrument

Robustness

Here we look at top SPX drawdowns and the associated results across the different strategies over two sample periods:

Downside Protection: 1800-1926

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Downside Protection: 1927-2015

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**Bottom line:** asset allocation and tactical market timing are interesting subjects!

After serving as a Captain in the United States Marine Corps, Wesley R. Gray received a PhD, and was a finance professor at Drexel University. Dr. Gray’s interest in entrepreneurship and behavioral finance led him to found Alpha Architect. Dr. Gray has published three books: *EMBEDDED: A Marine Corps Adviser Inside the Iraqi Army*, *QUANTITATIVE VALUE: A Practitioner’s Guide to Automating Intelligent Investment and Eliminating Behavioral Errors*, and *DIY FINANCIAL ADVISOR: A Simple Solution to Build and Protect Your Wealth*. His numerous published works has been highlighted on CBNC, CNN, NPR, Motley Fool, WSJ Market Watch, CFA Institute, Institutional Investor, and CBS News. Dr. Gray earned an MBA and a PhD in finance from the University of Chicago and graduated magna cum laude with a BS from The Wharton School of the University of Pennsylvania.

You can subscribe to Alpha Architect to receive updates on the firm’s research. Alpha Architect believes in a systematic, evidence-based, and fully transparent approach to asset-management. Please visit their web site to learn more. Also, please remember that past performance is not an indicator of future results. Please read the full disclaimer.
AVOIDING THE BIG DRAWNDOWN: DOWNSIDE PROTECTION INVESTMENT STRATEGIES

BY WESLEY R. GRAY, PH.D.

Editor’s note: this was originally published at Alpha Architect on August 13, 2015 and is republished here with permission.

Chasing the Investing Unicorn: Give me “High Returns with Limited Risk”

Having your cake and eating it too is a great way to go. It’s great to have the cake, and it’s also great to eat the cake. But you can’t have it both ways. This trend continues when we speak with fellow investors: “Give me high, after-tax, net of fee returns, but with limited risk and volatility.” Now, we certainly love high returns with low risk. We also love high reward with low effort and high calories with low weight gain. Unfortunately, this brings us to our first problem with the investing unicorn:

Problem #1: Unicorns don’t exist, and neither do high returns with low risk.

Unless you are my youngest daughter, age 3, unicorns don’t exist. Sadly, high return assets with low risk profiles don’t exist either. Assets that earn high returns, such as equities (e.g., an S&P 500 index fund), come with a lot of risk (i.e., you can lose over half your wealth). The only way to earn high returns, but limit the risk, is to develop a timing methodology that identifies how to sell the high-returning asset before it decides to jump off a fiscal cliff. Which brings me to another kink in the high reward, low risk paradox:

Problem #2: Market-timing is extremely difficult.

Let’s start this conversation with a concise summary of a 55 page academic analysis of a variety of systems that claim to have perfect market-timing ability:

Trying to perfectly time the market is a waste of time.
There you go. You no longer need to read this classic academic paper in which Ivo Welch and Amit Goyal assess market timing variables.

Our own research over several years confirms this sad reality. We’ve reviewed hundreds of different concepts and the results are not promising. Most signals never “survive” intense empirical scrutiny and we are generally skeptical of ANY system that purports to work all the time.

Simply stated: nothing works ALL the time.

If unicorns don’t exist (high returns, low risk), is there any good news?

There is a glimmer of light at the end of this investing tunnel. Specifically, academic research indicates that investors who can stomach short-term volatility, avoid benchmark comparison, and follow a model, can systematically outperform over long periods of time. We find the same conclusion with what we call “downside protection” investment strategies.

Historically, two elements provide downside protection:

1. Focus on Strong Absolute Performance
2. Focus on Strong Trending Performance

Of course, past performance is certainly no guarantee of future performance; nonetheless, historically, these methodologies have worked. They haven’t eliminated short-term volatility and one can be sure they will underperform a buy & hold index at some point; however, they have protected portfolios from the most extreme loss situations.

Let’s explore a simple downside protection tool and what the evidence to date can show us.

Rule 1: If weak absolute performance appears, go to cash.

In the illustration below, the white line represents an asset class with poor absolute performance. In general, avoid assets with poor absolute performance.
Rule 2: If weak trending performance appears, go to cash.

In the illustration below, the purple line represents a long-term trend line (e.g., a moving average) and the white series represents real-time prices. The red circle highlights a point where the real time price falls below long-term average. In general, **avoid assets with poor trending performance.**

![Diagram](image.png)

For illustration purposes only.

**Do these simple tools work? Let’s look at the data.**

Moskowitz, Ooi, and Pedersen, in a formal academic paper, highlight that technical rules don’t work all the time, but they have been effective at providing downside protection, historically:

“We document significant **“time series momentum”** in equity index, currency, commodity, and bond futures for each of the 58 liquid instruments we consider...

...A diversified portfolio of **time series momentum strategies** across all asset classes **delivers substantial abnormal returns** with little exposure to standard asset pricing factors and performs best during extreme markets.”

—Moskowitz, Ooi, and Pedersen (2012)

While market timing systems that work 100% of the time are impossible, we see that some systems, if followed over long periods, can work over time. It all gets back to model discipline and exploiting the behavioral biases of the market (something we love).
Let’s simplify the complex analysis presented in formal academic research and focus on replicating these 2 simple rules.

Let’s call our system, the “Downside Protection Model”

The Downside Protection Model (DPM) follows two simple rules:

- Time Series Momentum Rules (TMOM)
- Simple Moving Average Rules (MA)

Let’s review the details of our simple rules:

- **Absolute Performance Rule**: Time Series Momentum Rule (TMOM)
  - Excess return = total return over past 12 months less return of T-Bills
  - If Excess return > 0, go long risky assets. Otherwise, go long alternative assets (T-Bills)

- **Trending Performance Rule**: Simple Moving Average Rule (MA)
  - Moving Average (12) = average 12 month prices
  - If Current Price – Moving Average (12) > 0, go long risky assets. Otherwise, go long alternative assets (T-Bills).

We need a way to combine these two principles in a simple way. We find that complexity does not add value and simple models beat experts. We extend this belief to downside protection by keeping it simple: We create a Downside Protection Model (DPM) rule, which is 50 percent Absolute Performance (TMOM) and 50 percent Trending Performance (MA):

**DPM Rule: 50% TMOM, 50% MA**

Below is a figure that illustrates the basic trading rules we apply to provide downside protection on portfolios:
The rule is simple: trigger one rule, go to 50% cash. Trigger both rules, go to 100% cash. No rules triggered = go long.

**How has the Downside Protection Model performed?**

We provide a series of tests on the Downside Protection Model, applied to generic market indices. Our core samples includes 5 asset classes, assessed over the 1976-2014 time period:

- **SPX** = S&P 500 Total Return Index
- **EAFE** = MSCI EAFE Total Return Index
- **LTR** = The Merrill Lynch 10-year U.S. Treasury Futures Total Return Index
- **REIT** = FTSE NAREIT All Equity REITS Total Return Index
- **GSCI** = S&P GSCI Total Return CME

Results are gross, no fees are included. All returns are total returns and include the reinvestment of distributions (e.g., dividends). Data sources include Bloomberg. Indexes are unmanaged, do not reflect management or trading fees, and one cannot invest directly in an index.

**Comparison #1: Looking at these basic rules individually: Absolute Performance (TMOM) vs. Trending Performance (MA)**

Before we compare the system as a whole, let’s compare each rule against the other to see if one is particularly more effective. From January 1, 1976 through December 31st, 2014, here is what we find:

- TMOM wins 60% of the time, MA wins 40% of the time (win = better Sharpe & Sortino; Loss = Sharpe & Sortino worse; Tie = combination of some sort)
- TMOM triggers around 20% less than MA does (number of triggers refers to number of times the rule breaks out of the asset class and goes to T-Bills).

**Bottom Line:** Both rules have been effective at providing downside protection. Below are the stats.
The results are hypothetical results and are NOT an indicator of future results and do NOT represent returns that any investor actually attained. Indexes are unmanaged, do not reflect management or trading fees, and one cannot invest directly in an index. Additional information regarding the construction of these results is available upon request.

Comparison #2: Assess the Downside Protection Model (DPM): Absolute Performance (TMOM) plus Trending Performance (MA)

Now let’s combine the rules into our simple Downside Protection Model (DPM) and see if any incremental improvement occurs. Here is what we find:

- Downside Protection Model (DPM) wins overall (win = better Sharpe & Sortino; Loss = Sharpe & Sortino worse; Tie = combination of some sort).

Bottom Line: Combining the rules into a single Downside Protection Model (DPM) appears to work

The results are hypothetical results and are NOT an indicator of future results and do NOT represent returns that any investor actually attained. Indexes are unmanaged, do not reflect management or trading fees, and one cannot invest directly in an index. Additional information regarding the construction of these results is available upon request.
Are these results sustainable?

The basic results above highlight that DPM significantly reduces the realized maximum drawdown on a portfolio. But perhaps the entire exercise above is an example of data-mining and over-optimization. Nobody can ever prove, beyond any doubt, that a Downside Protection Model works. There is always a chance that any historical finding is driven by randomness, and thus, past performance will not reflect future performance. In the appendix section below, we stress test this system across numerous time periods and different markets, all of which present similar conclusions.

However, we believe there is a behavioral story underlying the success of our simple downside protection rules. Consider the concept of dynamic risk aversion, which is the idea that human beings don’t stick to a set risk/reward behavior—their appetite for risk can change depending on their recent experience.

For example, imagine we are making a decision to build a new house in California along the San Andreas Fault. If we just lived through an earthquake, taking on the risk of building a new house on the San Andreas Fault is probably scarier, even though the probability of another earthquake may not have changed. In contrast, when there hasn’t been an earthquake in fifty years, building a new house along a fault is not a big deal. As this example shows, our perception of risk is not constant and can change based upon recent experience (if you doubt this example, kindly look at a picture of San Francisco’s skyline). In terms of market crashes, we will likely overreact to extreme times and underreact to peaceful times despite the statistical probability to the contrary.

Another assumption economists sometimes make is that risk, often measured in terms of standard deviation, or “volatility,” is relatively constant. These assumptions are challenged when extreme stock market drawdowns occur. Let’s look at another example: a 50% market correction when fundamentals imply a 20% correction is sufficient.

As market prices drop below the twenty percent threshold, an economist assumes that the new price is a bargain. Expected returns have gone up after prices have moved down, while volatility and risk aversion are assumed to be relatively constant. Implicitly, investors should swoop in to buy these cheap shares and bring the market to equilibrium (which in our example is their so-called fundamental value).

But this doesn’t happen. Stocks can—and have—gone down over fifty percent, and these movements are much more volatile than the underlying dividends and cash flows of the stocks they represent! Remember 2008/2009? How many investors swooped in to buy value versus threw the baby out with the bathwater and kept selling?

One approach to understanding this puzzle is by challenging the assumption that investors maintain a constant aversion to risk. Consider the possibility that investors change their view on risk after a steep drawdown (i.e., they just lived through
an earthquake). Even though expected returns go up dramatically, risk aversion shoots up dramatically as well. This change means *prices have to go down a lot further to justify an investment* in these “cheap” stocks. This heightened aversion to risk, following a steep price drop, leads to more selling, and more selling leads to even more hate for risk, which leads to more selling, and so forth. What you end up with is a stampede for the exit and an intense sell-off in the marketplace—below fundamental value and well beyond what a traditional economist would consider “rational.” (One can review *how market volatility affects our brains* in more detail.)

The discussion above is a simplified story of investor psychology in the context of a stock market drawdown. For exposition purposes, we are leaving out many potentially important details. However, if one believes that investors rethink their tolerance for risk during a market debacle, and tend to sell shares at any price, this might help explain why long-term trend-following rules, which systematically get an investor out of a cliff-diving bear market before everyone has jumped ship, have worked over time.

Of course, technical rules will only work if the massive bear market doesn’t happen in a short time period before the long-term trend rules can signal an exit. Technical rules will not save an investor from a 1987 type “flash” crash, but they can save an investor from a 1929 or a 2008 type crash, which can take a few months to develop. In the end, if one believes in a price dynamic that involves steep and relatively sharp declines, followed by slow grinding uphill climbs, simple technical rules will, by design, improve risk-adjusted performance.

**Conclusion**

Simple timing rules, focused on absolute and trending asset class performance, seem to be useful in a downside protection context. Our analysis of the downside protection model (DPM), applied on various market indices, indicates there is a possibility of lowering maximum drawdown risk, while also offering a chance to participate in the upside associated with a given asset class. Important to note, applying the DPM to a portfolio will not eliminate volatility and the portfolio will deviate (perhaps wildly) from standard benchmarks. For many investors, these are risky propositions and should be considered when using a DPM construct.

Note: We will be implementing a version of our downside protection model with our new automated advisor offering, *Alpha Architect Advisor*. 
Launched in 2009, the NAAIM Wagner Award is designed to expand awareness of active investment management techniques and the results of active strategies through the solicitation and publication of research on active management. $10,000 is presented annually for the best paper submitted to the competition.

The competition is open to all investment practitioners, academic faculty and doctoral candidates who submit an innovative topic in the area of active investing. This can be either a documented and justified investing approach or an exploration into the validity of active investing. Active investing topics can involve making investment decisions using technical analysis, quantitative analysis, etc. Papers can also address related topics such as position sizing techniques, money management approaches, scaling into and out of trades, exit strategies, etc.

The NAAIM Website has a new feature that allows anyone to search for and download (up to 3 at a time) any of the previously-submitted white papers. Get your Intent to Submit form in before the end of the year to make sure you get all the necessary communications and reminders. Deadline for the final paper is February 29, 2016.
How would you describe your job?

My current role within Merrill Lynch’s Private Banking and Investment Group as the Investment Analyst entails a 75/25 mix of investment and portfolio work vs. client interaction. Much of what I do is rebalancing portfolios and filtering the vast research of Bank of America Merrill Lynch for the benefit of clients. I find this role to be quite unique in finance from the perspective that I need to be fluent in a range of asset classes which spans equities, bonds, private equity, hedge funds, currencies, futures and option strategies.

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

I’m not sure if I would call myself a specialist in any particular market, but more of a specialist in blending the investable markets together. Before my current position, I was exposed to nearly all of the asset classes I now deal with on a daily basis over the previous six years. I did not realize it at the time but essentially I was beginning to specialize in asset allocation.

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

I generally do not use fundamental or economic inputs routinely as tools for developing opinions but more as a feedback mechanism or confirmation of what has already happened. If you want to take risks, you need to be in front of the data validating the end result (the price movement), otherwise you are investing based on what has already happened. Those events are likely priced in. In general, I take a more conservative approach and wait for confirmation of industries, sectors or regions turning before making recommendations. In my current role, I do not choose or promote individual securities. I leave that up to specialists and instead spend my time researching identifying potential global alpha because there are always markets that are rising and falling. My goal is to manage global risk and reward, providing a steady return for investors. For example, I look at European hedged vs. unhedged equities or US Fixed Income vs. US equities.

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

Make it a point after reading a particularly convincing bearish or bullish article to find the opposite viewpoint. It is very easy to seek out opinions that agree with your own. Being well versed, or at lease competent, in multiple markets will give you greater flexibility and understanding of how markets work together and are priced. It will also give you an edge over
anyone who is focused on solely one discipline. This includes understanding technical analysis as well as fundamental analysis. Even if you are looking to purchase a stock, taking a look at its options will tell you the direction the market thinks the stock will go in the future and by how much. This can give you a clearer perspective on perceived future risk in the market as opposed to rearward looking historical data. My last bit of advice would be to find a mentor. I’ve been fortunate to have a few really great ones, including a professor (day trader) from Duquesne University who got me interested in the futures markets and my Grandfather (dividend investor), who was an amateur student of Warren Buffet and taught me the importance of valuing dividends over the long run. These two mentors gave me both technical and fundamental perspectives that I still guide me today. With that in mind, I am happy to mentor/give advice to anyone reading this that thinks I may be able to help them. Please contact me via LinkedIn.

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

The most interesting piece of research that I’ve review recently looked at predicting US equity market peaks and valleys by using moving average relationships of international equity markets. What made it interesting to me was that the piece initially identified the business cycle and then broke down sectors that were likely to out/underperform based on this information.

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

First would be Intermarket and asset class analysis from the perspective of options and futures pricing is where I see the greatest potential. For instance, if you wanted to know the probability of the Fed raising rates or holding them, you could have seen the probabilities drop in the futures market. The CME has a great website which calculates this probability for various periods and rates for the 30-day Fed Funds rate. The second works from a demographics perspective and may include country vs. country investments and even states or regions within the United States with further sector breakdowns based on age groups of a population. A third area would be options pricing technicals to predict future price movements.

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“Please excuse my language, but holy crap, MA continues to blow me away. Difficult time stringing words together but feature after feature astounds me... i.e., the ability to highlight numerous tools/lines/etc and make it a quick button up top is crazy. Multi-time frame analysis with different periods/averages on the same chart... multi-currency - wow. Flexibility to deal with multiple markets at the same time.”

DAVID COX, CFA, CMT - Portfolio Manager, CIBC Wood Grundy
THE IMPORTANCE OF ACTUAL RETURNS IN THE DUE DILIGENCE PROCESS: SEVEN REASONS WHY INVESTMENT MANAGERS SHOULD DOCUMENT ACTUAL PERFORMANCE

BY MIKE POSEY

Editor’s note: This article was originally published by Theta Research and reprinted here with permission.

Introduction

Everyone is familiar with the old Chinese proverb saying, “A journey of a thousand miles begins with a single step.” The same can be said about the journey to become an Investment Manager, whether it is for direct clients, on behalf of other Advisors serving as asset accumulators and subadvisors, or both.

Laying the proper groundwork can set the stage for a successful Investment Manager to attract millions (or maybe billions) of dollars in assets. Failure to do so can result in just the opposite, even if the investment model is viable. The important thing to remember is that the journey is a process, not an event, so planning is a must.

Once the heavy lifting of developing a model strategy is done, the next step is to prepare for the due diligence process. Investopedia defines due diligence as, “An investigation or audit of a potential investment. Due diligence serves to confirm all material facts in regards to a sale.” To say the least, due diligence is an integral part of the investment industry and is among the first hurdles that must be cleared by new Investment Managers.

The role of a due diligence team is to dissect an investment from every way possible. It not only includes detailed analysis of performance data, but also administrative and operational reviews as well. Some have described the due diligence process as a cross between an IRS audit and a police interrogation, where no stone is left unturned.

“...imperfect as it is, actual performance beats whatever is in second place by a country mile.”

BY MIKE POSEY
While the subject of due diligence covers a lot of territory, this white paper will focus on the importance of documenting and verifying actual performance of model investment strategies during the due diligence review process. In doing so, it will also expose the limitations of backtesting and hypothetical returns. It is intended to be a resource for both investment management professionals providing third-party investment management as well as due diligence professionals seeking out this talent.

**Background**

Everyone in the investment industry is very familiar with the disclosure, “past performance is not necessarily indicative of future results.” However, having spent more than 16 years of my career participating in due diligence reviews of third-parties, I know that large individual investors, institutions and third-party Investment Advisors are often drawn to impressive historical performance. After all, imperfect as it is, actual past performance beats whatever is in second place by a country mile.

That’s why, during the due diligence process, an actual track record is often the first item of documentation requested. It’s only natural that a due diligence team would want to verify the returns that attracted them to the Investment Manager in the first place. Unfortunately, the due diligence process is often derailed when it is discovered that all or part of a promising long-term track record is hypothetical, based on backtesting of a quantitative model after-the-fact.

The presence of hypothetical performance often represents little more than a best guess generated by a mathematical algorithm applied to historical market data. It is therefore important for the due diligence professional to understand the limitations of backtested data as well as know the advantages of actual performance that has been verified by an independent third party. This white paper will address both of these issues.

Thoughts and opinions expressed in this paper are based on the research and experience of the author and are not intended to constitute legal or compliance advice.

For purposes of this white paper, the tracking of actual investment performance will be defined in terms of managed accounts using quantitative model strategies in which one representative account reflects the performance of all similarly situated accounts.

**Tracking Guidelines for New Strategies**
Before getting into the advantages of actual performance, let’s discuss strategies that have never been traded in an actual account. The reasons for this vary. Some models have been sold as signals to other Advisors or published in a newsletter and not traded in a real-time account by the model developer. Others represent concepts that are too new to have an extensive actual track record. Still others do have some actual performance but supplement a short actual track record with backtesting to provide a longer-term view, albeit hypothetical.

It is extremely important to have a realistic view of backtesting and hypothetical performance. While backtesting can be an invaluable tool in the search for investment management talent, it is of limited use in a due diligence review.

Why? Because if a trading model does not produce an acceptable backtested return, you’ll never see it. Unsuccessful models are usually scrapped or modified until they do work. That means there can be a significant optimization or “curve fitting” built into the model that you eventually get to see. Only actual trading of the model over time can tell whether or not the concept and methodology are viable.

While Investment Managers with new models have no choice but to rely on hypothetical figures based on backtesting, they should start tracking actual performance as soon as possible using the following guidelines:

1. **Innovate and Then Incubate:** The first suggestion should be common sense but there are some Investment Managers who neglect to trade their model in a test account at all. Rule number one is that test accounts should be established and traded strictly according to the model’s discipline.

   There are some model developers who currently seek only to sell or publish signals and not actually manage money. Unfortunately, proof of issuing a signal is not necessarily the same as actual real-time trading results when it comes to due diligence. Should the model developer later decide to start managing assets, performance from historical signals may be deemed only hypothetical. Since no one knows what the future holds, it’s a good idea to establish a tracking account for each model as early as possible even if only selling signals, just in case there’s a change in plan.

2. **Keep It Simple:** Select an account or fund a new one with few or no planned additions and withdrawals to make performance verification easier. The tracking account should also be net of fees, wherever possible.

3. **Avoid Commingled Accounts:** Trading multiple models in a single brokerage or mutual fund account can make a due diligence team’s verification of a single model’s performance difficult if not impossible. The team is required to figure out which trades go with what models as they seek to reconstruct the historical performance. In
situations where it’s impossible or impractical to separate the performance of multiple models in one account, the Investment Manager could see years’ worth of actual performance simply disregarded.

4. **Third-Party Verification:** Establish a relationship with an independent third party to verify results. Whether it is an accounting firm, online tracking and publishing service or other provider, arrange to have performance documented and verified. Some providers can only verify future performance while others can reconstruct an historical track record if sufficient documentation exists.

While new models must rely on backtesting and hypothetical results, the ultimate goal of the model developer is often to serve as an Investment Manager. That, in turn, means scrutiny by due diligence teams who will want to see actual, verified returns. That’s why this paper recommends moving away from backtested performance results in favor of actual, verified returns as soon as possible. As a successful Investment Manager colleague puts it, “*One thing you cannot do is re-create an actual track record – what you can do is start.*”

**Seven Advantages of Actual Performance**

It should be clear by now that actual performance is superior to virtually any kind of backtested or hypothetical track record. In addition, there are a number of other advantages of actual performance that are evident for purposes of due diligence:

1. **Trust is Not a Due Diligence Tool:** Self-reported performance numbers are often not verified by a third party before being published. Obviously, mutual funds and hedge funds are required to have audited returns, as are firms that comply with the Global Investment Performance Standards (GIPS), but many separate managed accounts depend upon the accuracy and honesty of the Investment Manager for historical returns.

   While most managers are professional and honest, there are those who “cook the books” to appear better at managing money than they really are. If you don’t believe me, just look over the misrepresentation cases brought by the SEC and FINRA every year.

   In the due diligence process, it is important not to let trustworthiness replace documentation and verification. To do otherwise could put your clients’ accounts in harm’s way. Just remember, clients of Ponzi scheme promoter Bernie Madoff had the utmost confidence and trust in his performance numbers, even after they had been called into question.
From the Investment Manager’s point of view, don’t get bent out of shape if a due diligence team seeks verification of your published track record. They’re just doing their job.

2. **Pulling the Trigger:** Actual performance during pivotal market environments allows you to see how investment models actually handle these different scenarios rather than how they might have (or should have) handled them as illustrated by backtesting.

Look at it this way, if you are hiring an Investment Manager to manage part of your clients’ assets, isn’t it important to know how accurately trades are executed? An excellent model strategy can be rendered substandard if not executed properly. In a backtesting scenario, market environments, computer breakdowns, vacations or lack of a viable backup trader never come into play, but they do when actually trading funds.

3. **I Second That Emotion:** Another benefit of actual performance is that it shows how the model was actually traded during periods of elevated volatility when stress and emotions run high. In other words, actual performance includes the effects of emotional trading, if any. Some Investment Managers claim to have a 100% mechanical system when, in reality, they find it hard to follow the model during volatile market environments.

   “I wish I had a nickel for every time an Investment Manager told me that he made some adjustments to his model to ‘smooth out’ high and low spikes in backtested returns.”

   Backtesting simply cannot illustrate an emotional decision to trade or not trade based on a swirl of negative global events. Most quantitative investment models are 100% mechanical, meaning that they produce a trading signal without regard to any human discretion.

   However, is that how it would be traded in an actual market environment in which the manager is being influenced by his or her own emotions? Or angry calls from clients? Think October of 1987 or September of 2001 or even October of 2008.

   When the wheels appeared to be coming off of the market, did the manager trade the signal or override it? Backtested results say the trade would be made because emotions do not come into play. However, you can never know for sure what the effect of emotions might have been unless you see how the model was actually traded.

4. **Making Life Easier for the Due Diligence Team:** Due diligence teams often ask for a strategy’s actual performance as one of their first items of business. The reason is that these returns are usually input into a variety of sophisticated software products designed to slice and dice the data for further analysis.
Having access to actual performance that has been verified by a third party saves a step in the due diligence process. Otherwise, absent an audit or other performance verification, the due diligence team will have to go through stacks of statements to prove the track record is the same as is being marketed. Access to actual, verified performance ready for review can make the due diligence team’s life a lot easier.

Fortunately, there are online performance tracking and publishing firms that provide third-party verification of actual trading results. The service provided by these firms allows due diligence professionals to go straight into analysis without having to go through the time-consuming process of verifying performance.

5. **Pig in the Python:** It’s common knowledge that long-term averages are sometimes skewed by large short-term gains and losses. Actual performance lets you see how the strategy performs during good markets and bad, including large up and down spikes.

I wish I had a nickel for every time an Investment Manager told me that he made some adjustments in his model to “smooth out” high and low spikes in backtested performance. Actual performance allows the due diligence team to see these roller coaster rides and make up their own minds as to whether the Investment Manager was lucky or smart.

On a related note, actual performance also allows a due diligence team to witness any effects of capacity constraints in real-time trading. It can also document any performance consequences from a large influx of assets under management (AUM) which often occur after a large spike in performance. Here again, backtesting simply cannot factor in capacity and AUM constraints that occur in the real world.

6. **Don’t Forget the Downside:** While it’s true that past actual performance cannot predict favorable future results, studies have also shown that past risk is a pretty good indicator of future risk. Unfortunately, many individual investors look only at return metrics and leave risk out of the equation, which is why due diligence teams tend to concentrate so much on risk management.

One of the more important risk metrics available from actual performance is that of “maximum drawdown.” In a nutshell, max drawdown is a measure of an investment’s performance from a peak in value down to a subsequent low. Knowing a model’s history of drawdowns, how long they lasted and how long it took to break even again are all important facets of a strategy’s performance.

“Unfortunately, many investors look only at return metrics and leave risk out of the equation, which is why due diligence teams tend to concentrate so much on risk management”
You might be thinking that backtested data would also show these drawdown statistics, and you’d be right. However, remember what I said earlier about wishing I had a nickel for every time an Investment Manager tweaked a model to smooth out peaks and valleys. The result of this smoothing is that you’ll likely never see a hypothetical performance record with a major negative drawdown.

7. **Beware of Style Drift:** A final feature of actual performance that is superior to backtested results is that of style drift. Normally, style drift refers to mutual funds whose actual portfolio is not in tune with their stated objectives. In relation to managed accounts, style drift occurs when trading patterns are modified and/or investments are traded that are not in line with the original strategy of the model.

A good example of such a style drift would be a model developed to trade Nasdaq 100 index funds suddenly performing well when using the Dow Jones Index instead. Such an event is likely to happen with almost any strategy, but it’s rarely a lasting phenomenon.

**Conclusion**

For the Investment Manager seeking to build assets under management through the use of model strategies, it’s important to plan for the eventual due diligence process. The above discussion has sought to provide guidance regarding the documentation and verification of an actual track record as one of the initial steps toward becoming a successful Investment Manager.

It should be noted that tracking and verification of actual track records are not only beneficial for model developers, but also Advisors and investors seeking out effective third-party investment management talent. It’s one of many tools required for a comprehensive due diligence review, but I would argue that it’s one of the most important such tools available.

Tracking and verification of actual performance data is provided by a number of different firms in the industry, ranging from accounting firms to online providers. Theta Research is one such firm, specializing in verification of actual performance based on data from third-party sources. For more information on Theta’s services and prices, call or e-mail Mike Posey using the contact information below.

As always, keep in mind that past performance, no matter how well documented, cannot guarantee favorable future results of any investment strategy. This publication is not intended to provide any individual investment, financial, legal, regulatory, accounting or tax advice. You should consult with your own professionals for information regarding your specific situation.
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ENTRY TRIGGERS FOR SUCCESSFUL TRADING

BY JEFFERY TIE

Editor’s note: This article was originally published at The Educated Analyst, an education blog maintained by Market Analyst.

Although this article is focused on Entry Triggers for trade initiation, the successful trader knows that Entry Triggers are just one component of success. In order to have a comprehensive understanding of success in trading, any discussion on the Entry Trigger topic must also address the perspective and context of the underlying market condition.

Perhaps I should start by expressing my thanks to Ray Barros, who taught and guided me at a crucial phase of my growth as a trader. Essentially, Ray's philosophy is to identify the direction and trend of the higher timeframes (he calls this the Perspective). The Perspective timeframes have a strong impact on the direction of the lower timeframe Trader's Trend.

**Perspective**

If the higher timeframe direction is up, the lower timeframe trend is likely to be up. As long as the analysis suggests that the uptrend is in place and is likely to continue, then the trading Stance is set. In a continuing uptrend, the odds favor a buy-first strategy, and obviously, in a continuing downtrend, the odds will favor a sell-first strategy. In a nutshell, this is a simplified statement on how I determine Perspective, my Trader's timeframe trend, and therefore, my stance.

It is not within the scope of this article to discuss analysis methods to determine whether the prevailing trend is likely to change. Once this can be assessed, then I can initiate a trade against the prevailing trend in the belief the current trend is exhausting, and that a new change in trend is likely to occur. For example, the prevailing trend in the US markets just before the 2007 peak was up. It is a matter of historical record the market rapidly declined after the 2007 peak. Obviously, trading in the direction of the prevailing uptrend at the 2007 peak can result in financial loss. It is also obvious that changing the stance by initiating sell trades against the prevailing trend, resulted in joining the new downtrend early - before the downtrend was established.

In other words, **Perspective** gives me the context to decide my **Stance**.
To recap:

1. In a continuing uptrend, I initiate buy trades. In an exhausted uptrend, I initiate sell trades.
2. In a continuing downtrend, I initiate sell trades. In an exhausted downtrend, I initiate buy trades.

**The Low-risk Trade Entry Zone**

Once the Stance is set, the next step is to locate low risk, high probability zones to start the hunting process for the trade entry. Ray has emphasized that in an uptrend it will be less risky, and more rewarding to buy the undervalued correction. In other words, buy at what I assess to be where the correction is likely to end. The next bullish impulse is probably a large and strong move after the resting phase of the correction ends. Aggressive traders can elect to buy the upside breakout - buying high - in the expectation of a strong explosive move to stratospheric prices!

Obviously, if I assess the trend to be bearish, my preference will be to sell at the end of the bear market rally in the expectation the next bearish impulse will be large and prolonged. The aggressive trader can also elect to sell a bearish breakout - selling low - in the belief the future price can be significantly lower, sooner rather than later. One simple tool I use is the Slow Stochastic. This tool identifies:

1. overbought or overvalued highs,
2. oversold or undervalued lows.

Therefore, if I assess the trend to be bullish and likely to continue, I need to see Slow Stochastic in its oversold, undervalued zone

Obviously, if I assess the trend to be bearish and likely to continue, I need to see Slow Stochastic in its overbought or overvalued zone.

**The Trade Trigger**

Once the **Perspective**, **Stance** and **Low Risk Zone** are determined, I need to initiate, or trigger the trade entry. The analogy here is I am now ready to draw my sword, and need to correctly time my deployment. I will shortly be sharing ten Trade Triggers I use - but bear with me as I need to address other key components of my trading methodology first.

**Money, Risk, and Trade Management**

Once the trade is triggered, the next step is to pre-plan the exit strategy. This is a crucial requirement for trading longevity because you can control the exit of a loss and make it relatively small compared to the profit exit - which has to be relatively large as compared to the planned loss. This determination of risk and reward in turn allows for correct position sizing,
which is again a key consideration in my survival as a trader. Trade Management is simply the staggered profitable exit of the initiated trade entry. I subscribe to the "Single Entry, Multiple Exit" strategy - my initial trade size must allow for multiple lot size.

It is not within the scope of this article to focus on Money, Risk, and Trade Management, however this cursory discussion is still essential to illustrate my overall trading methodology.

**Aiki Trading: Trading in Harmony with the Markets**

I have explained my trading philosophy as taught to me by Ray Barros. However, every one of us can’t be a carbon copy of our mentors. I needed a different metaphor to better internalize what I learned from Ray.

I have always had a strong interest in Japanese Martial Arts and have had training in Aikido. The underlying concept in Aikido is that a small force can control and direct a large force; a weaker or smaller trainee can control and direct the motion and momentum of a larger, stronger opponent. This is done by the application of techniques or waza based on the idea of harmonizing the defender’s actions with the attacking student's speed and momentum. As the student progresses, his understanding, application, and timing become better. His control of the opponent becomes competent.

In the trading context, all traders, both individual and institutional, are like combatants. The market itself is the opponent we need to win from. The issue here is the capitalization of each trader (individual or institutional) is small compared to the overall market. Think of the Central Banks who are grouped with the large institutions. Remember the Bank of England trying to defend the Pound in 1992? Despite their reputation and size, the market force was against them. Eventually, even the Bank of England capitulated.

What chance does the smaller individual trader have in forcing the market to move just because he is in a trade? The chance is like finding ice in a hot desert. The best approach is to think of harmonizing with the market - like in Aikido. Knowing the Perspective allows me to be with the Force. My entry is when the counter-attack (the correction) is likely to end, and where I assess the main Force is likely to resume.

Knowing my capital is relatively very small compared to the market ensures I only engage in high probability low-risk trades, and that I manage drawdown very carefully, and become aggressively adventurous when equity grows positively.

I will now look at the ten specific trade triggers I use.

**Ten Trade Triggers**

1. The Turtle Soup
The Turtle Soup setup was codified and named by Lawrence Conner and Linda Bradford Raschke in their book *Street Smarts; High Probability Short Term Trading Strategies*.

Essentially, this is a setup that is backed by the trading statistics of the Turtle Trades. It is beyond the scope of this article to tell the impressive story of how the Turtles as a group were created. Readers who wish to find out more about the Turtle Traders can read *Market Wizards* by Jack D. Schwager. The Turtle Trades employ a breakout strategy. Looking to buy upside breakouts and sell downside breakouts in the expectation the next impulsive move should accelerate after the congestion or rest phase defined by a sideways trend. This strategy has rewarded the Turtles with significant, consistent and profitable returns over time. But statistically the Turtles have a relatively low hit rate of approximately 30%. This means statistically 70% of breakouts are false, and the market remains in range bound action - moving from the sideways high to sideways low and rotating back and forth from the sideways boundaries. This type of market action has been identified by Wyckoff as the up thrust and the spring. Personally, I like the Turtle Soup moniker, as I can visualize the Turtles becoming Soup when they take a loss!

In my version of the Turtle Soup setup, I will initiate the trade only in the direction of the higher timeframe direction. So in an uptrend of my trader's timeframe, I need the market to enter a sideways range as defined by the Barros Swing, in either my timeframe or one timeframe lower. For myself, my trading timeframe is based on the 18D Barros Swing. Ray defines this as the trend of the monthly timeframe. I can accept either 18D or 5D sideways range to setup the Turtle Soup trade. I then await a downside breakout of the sideways swing action, and validate this zone by checking if the Stochastic is at over-sold zone. This is the setup I need to see. The actual buy-trigger is a bullish candle that closes inside the original sideways zone. This implies the attempted downside break is a false break that is likely to expand the sideways range marginally.

Obviously, in a downtrend, I will be hunting for a Turtle Soup setup to initiate a sell trade. The market must be in a downtrend and ranges in either the 18D or 5D Barros Swing, then attempting an upside breakout, which fails by closing inside the sideways range.
2. The Six Japanese Candlesticks as triggers

Although the Turtle soup setup gives me the highest probability trade entry, it does not occur as often as I would like.

I use these six Japanese Candlestick patterns to trigger my trade entries as standalone triggers. If they occur as part of the Turtle Soup setup, my confidence level in the validity of the signal will rise. These six Japanese candlestick patterns have specific names and have been discussed in many books dealing with Japanese Candlesticks. Readers may wish to consult Steve Nison's excellent book, *Beyond Candlesticks: New Japanese Charting Techniques Revealed*, published by Wiley in 1994. I will describe these six Japanese Candlestick patterns in three sets of two patterns each because the patterns are the same in its nature. One triggers a buy trade, and the other triggers a sell trade.

It will be appropriate for me to define how candlesticks were originally drawn, and what I consider to be bullish candles and bearish candles.

Traditionally, Japanese candlesticks were drawn with black ink on white paper. Bearish candles contained filled in black candle real bodies and were originally called Black Candles. Bullish candles had the body outlined in ink, but were not filled in. They were originally called White Candles.

A bullish candle must have a relatively large white real body, opening near the candle's low and closing near the candle's high. Obviously, a bearish candle must have a relatively large black real body, opening near the candle's high and closing near the candle's low.

In addition, these candles must be of normal size. Normal size is as defined by the ATR (I use the 60 period as my setting for ATR). This is because the distance traveled from the high to the low, or vice versa, represents the strength and intensity of the force creating that particular candle.
a. The Hammer

The **Hammer** candle has a small real body that closes within the upper 33% of the candle's high-low range. It must have a long shadow (from the bottom of the real body to the candle's low). The **Hammer** candle's range must be at least of normal size. Obviously, if the real small body is closer to the candle's high, clearer is the trigger to buy. If the candlestick's shadow is very long, it would suggest sellers were strongly repelled by the end of that trading session and the market is potentially changing direction from down to up. Using a Martial Arts analogy, sellers push prices 5 paces down, but a strong counter-attack by buyers reclaimed the 5 paces won initially by the selling bears. The **Hammer** is so named because the Japanese technical analysts of that period consider this action as that of the market Hammering Out A Bottom.

![Hammer Candle Chart](image)

b. The Shooting Star

The **Shooting Star** candle has a small real body that closes within the lower 33% of the candle's high-low range. It must have a long shadow (from the top of the real body to the candle's high. The **Shooting Star** candle's range must be at least of normal size Obviously, if the real small body is closer to the candle's low, clearer is the trigger to sell. If the candlestick's shadow is very long, it would suggest buyers were strongly repelled by the end of that trading session and the market is potentially changing direction from up to down. Using a Martial Arts analogy, buyers push prices 5 paces up, but a strong counter-attack by sellers reclaimed the 5 paces won initially by the buying bulls. The **Shooting Star** is so named because the Japanese technical analysts of that period compare this action to the **Shooting Stars** seen falling to earth in the night sky.
c. The Piercing Candle

The **Piercing Candle** is a two candle pattern. I will describe this pattern based on the end of day chart. Readers can, of course, use and define the candles to suit their trading timeframe. The principles remain the same.

The first candle that forms the **Piercing Candle** pattern must be a bearish candle and the market closes with negative dark despondency. On the next trade day, a bullish candle of normal size pierces partially into the previous day's bearish body. To me the analogy is clear; a ray of white light is piercing into the black darkness and signals the potential start of an upward move in the market.
d. The Dark Cloud

The **Dark Cloud** is a two candle pattern. I will describe this pattern based on the end of day chart. Readers can, of course, use and define the candles to suit their trading timeframe. The principles remain the same.

The first candle that forms the **Dark Cloud** pattern must be a bullish candle and the market closes with positive, white vibrancy. On the next trade day, a bearish candle of normal size partially enters into the previous day's bullish body. To me the analogy is clear; a black dark cloud is partially covering the previous happy white vibrant day and signals the potential start of a stormy period for the market.

![EURGBP Chart](image)

![EURGBP Chart](image)

**e. Bullish Engulfing Candle**

The **Bullish Engulfing Candle** is also a two candle pattern. The first day of this pattern must be a bearish candle. The second trigger day must be a bullish candle that engulfs the previous day's entire high/low range. In traditional Candlestick definition, the white body of the trigger day must engulf the entire previous day's candle. In today's context - especially with 24 hour markets - gaps are rare, so engulfing candles are also rare. I will accept an engulfing body, where the white real body engulfs the previous day's black body, or where the trigger day's range engulfs the previous day's range.
f. Bearish Engulfing Candle

The **Bearish Engulfing Candle** is also a two candle pattern. The first day of this pattern must be a bullish candle. The second trigger day must be a bearish candle that engulfs the previous day's entire high/low range. In traditional Candlestick definition, the black body of the trigger day must engulf the entire previous day's candle. In today's context - especially with 24 hr markets - gaps are rare, so engulfing candles are also rare. I will accept an engulfing body, where the white real body engulfs the previous day's black body, or where the trigger day's range engulfs the previous day's range.
3. The Three American Candlestick Triggers

I am quite certain some readers will be searching the internet for American Candlesticks, and are likely to be disappointed by Google directing them to view brass or glass instruments that hold actual candles for lighting purposes.

There is a local Singapore story about how American Candlesticks, as used in Technical Analysis, came to be named. In 1998, Dow Jones Telerate (live data vendors and resellers of the TradeStation charting software) invited Thomas DeMark Junior to Singapore. I was fortunate to have been nominated by my then employer as the company’s representative to the Demark one-day seminar.

Mr. DeMark Junior showcased a short-term trading methodology. It was based on a comprehensive set of rules. It reminded me of the rules used in Japanese candlestick charting. The group of attendees I was with collectively and cheekily renamed the Demark set of short-term trading triggers as ‘American Candlesticks’ - precisely because these rules were devised by the very American Mr. Thomas DeMark Senior. You may want to read DeMark Indicators, written by Jason Perl. This book is authorized by Thomas Demark Senior, and is published by Wiley Press. In this book these three "American Candlesticks" are discussed in detail. Here are the three American setups I use:

A. TD Camouflage buy setup

- On the trigger day, the market must close lower than the previous trade day (T-1, or Trigger day -1), and T-1 should be a black candle.
- However, on Trigger day, the market must close with a white or bullish candle.
- The qualification rule to validate the setup is the low of the Trigger day must be lower than the true low of two trade days before Trigger day (T-2). This qualification rule is an attempt to locate a "spring".
- The market is potentially camouflaging its true intention. The lower close will be reported as a down day, but the white candle shows buyers in control.

What I am looking for is the zone where I expect the correction to end, so I have the stochastic oscillator in oversold, or undervalued zone. The market must have dipped to reflect the stochastic in oversold zone, and the market is now potentially ready to run up strongly. Therefore TD Camouflage buy setup triggers my trade at (or just before) the end of the day.
a. TD Camouflage sell setup

- On the trigger day, the market must close higher than the previous trade day (T-1, or Trigger day -1), and T-1 should be a white bullish candle.
- However, on Trigger Day, the market must close with a black or bearish candle.
- The qualification rule to validate the setup is the high of the Trigger day must be higher than the true high of two trade days before Trigger day (T-2). This qualification rule is an attempt to search for an "up thrust"
- The market is potentially camouflaging its true intention. The higher close will be reported as an up day, but the black candle shows sellers in control.

What I am looking for is the zone where I expect the correction to end, so I have the stochastic oscillator in overbought, or overvalued zone. The market must have rallied to reflect the stochastic in overbought zone, and the market is now ready to start its next down impulse. Therefore **TD Camouflage sell setup triggers my trade at (or just before) the end of the day.**
B. TD Open buy setup

- On the trigger day, the market must open with a gap below the low of the previous day (T-1).
- Place a buy stop at the low of the previous day (T-1).
- Hold the trade if the day closes with a white piercing or bullish engulfing candle.

This is an aggressive entry that is placed early, just after the start of the day. If the setup works, the entry is triggered at a superior trade fill, compared to taking the trade at the end of the day.

I'd like to stress I only deploy these trade triggers when I am in a low-risk trade zone, so to use TD Open buy setup, I must be in a stochastic low zone.

b. TD Open sell setup

- On the trigger day, the market must open with a gap above the high of the previous day (T-1).
- Place a sell stop at the high of the previous day (T-1).
- Hold the trade if the day closes with a black dark cloud or bearish engulfing candle.

This is an aggressive entry that is placed early, just after the start of the day. If the setup works, the entry is triggered at a superior trade fill, compared to taking the trade at the end of the day.

I'd like to stress I only deploy these trade triggers when I am in a low-risk trade zone, so to use TD Open sell setup, I must be in a stochastic high zone.
C. TD Trap sell setup

- On the trigger day, the market must open within the high/low range of the previous day (T-1).
- Place a sell stop at the low of the previous day (T-1).
- Hold the trade if the day closes with a black candle.

This is an aggressive entry that is placed early, just after the start of the day. If the setup works, the entry is triggered at a superior trade fill, compared to taking the trade at the end of the day.

I’d like to stress I only deploy these trade triggers when I am in a low-risk trade zone, so to use TD Trap sell setup, I must be in a stochastic high zone.

Furthermore, as I am primarily an end of day chartist, I can deploy intraday entries like TD Open and TD Trap only if I am in equity run up mode. If I am doing well, I can be aggressive and adventurous in my trade entries. But if I am in drawdown mode, I will not be initiating these two intraday trade setups.
I have reached the end of this journey with you. I can say I have used all the triggers described above. Most of my entries are based on the end of day chart. Trading in US Equities, therefore, requires me to be watching the US equity market one hour before the close. I am usually awake at 4 am Singapore time, in order to scan my watch list and to trigger low-risk high probability trades before the market closes at 5 am Singapore time. By default, I also use the close of New York as the arbitrary close for my FX analysis.

CAVEAT: Please note - all trades are supposed to be triggered at the close. I will execute the trade within the last 30 minutes of the trading session as it will be exceedingly difficult to execute trades at the close of the day. Therefore, my actual trade entries will not be exactly at the close, but will be fairly near where the market closes. Good Luck, and Trade Well.

Jeffery Tie is a successful trader and trainer with more than 25 years of experience in financial markets. His stock market career began in 1977 with JM Sassoon and continued with Kim Eng Securities. In 1997, Jeffery joined Refco Singapore where he developed new expertise in international futures markets and foreign exchange. Jeffery's experience and training at stock broking and futures broking enhanced his understanding of technical analysis and trading. This expertise was augmented by his association and friendship with a well-known fund manager and trading coach. Jeffery's proficiency in technical analysis was recognized by the Singapore Exchange (SGX) who invited him to its panel of educators where he consistently gets very positive feedback from attendees of his seminars and courses. Jeffery has spoken to international audiences in Singapore, Jakarta, Mumbai, and Sri Lanka.

Jeffery is also an instructor registered with the International Shinkendo Federation (ISF), an organization that promotes Japanese swordsmanship and martial arts. This interest has allowed him to notice the similarity in the philosophy of martial arts and the philosophy of trading. Jeffery joined CMC in April 2007 where he was responsible for the content and presentation of CMC's educational programs. He currently focuses on both trading and conducting technical analysis courses and workshops with the SGX and the Financial Training Institute@SMU.
Everyone is aware of the incredible returns that Berkshire Hathaway has provided shareholders during the past fifty years that Warren Buffett has run the company. In the late 1960s, when Warren Buffett became CEO of Berkshire Hathaway, shares in the company were trading at under $20. Today, shares trade around $200,000. During the same period of time, the S&P 500 Total Return Index went from around 38 to 3800. While the S&P 500 increased 100-fold, Berkshire Hathaway increased 10,000-fold. That is what I call value added.

But how well did Berkshire Hathaway perform before Warren Buffett took over the company? Had the company performed well even before Warren Buffett took over, or did Buffett change the company’s performance dramatically?

**Berkshire Fine Spinning Associates is Formed**


Berkshire Fine Spinning Associates Inc. manufactured fine grades of cotton textiles and specialized in fine lawns, batistes, nainsooks, organdies, dimities, handkerchief cloths, broadcloths, oxfords, sateens, rayon and silk mixtures. Plants were located in New Bedford, Massachusetts.

Berkshire offered 33,000 shares of common stock in 1929 at $40 per share as well as 4,860 shares of 7% Preferred stock, also at $40 per share. Unfortunately, the shares were offered in the middle of the 1929 bull market, and the share price collapsed soon after. In November 1929, the ask price for Berkshire stock was still at $40, but in November of 1931, shares sank to $0.50. Sales for the company declined and Berkshire ran losses until 1936.

As late as 1940, shares traded as low as $3, but profits and the share price picked up with the war. Berkshire did well enough that it was able to reinitiate a regular dividend in 1942 (the dividend had been suspended in March 1930), and in September 1947, the company had a 3-for-1 split. Of course, the split marked the high mark for Berkshire and the stock began a downward trend that lasted until 1962.

The graph below shows the performance of Berkshire Hathaway Inc. stock from 1929 until 1967 when Warren Buffett took over the company. As you can see, there was little change in the stock price in the forty years before then. Berkshire
lost money between 1930 and 1936, and it lost money in 1957, 1958 and 1961 to 1963. Despite the fact that sales had tripled between the 1930s and the 1960s, there was no comparable increase in profits. In 1963, Berkshire stock was still trading below the price it had been offered at in 1929!

**Buffet Buys Berkshire**

Buffett began buying shares in Berkshire Hathaway at less than $8 in 1962 and by 1966, Buffett and his partners had taken over the company.

As soon as Buffett took over Berkshire, he began focusing on insurance and other businesses rather than textiles. Buffett had invested in American Express when Anthony de Angelis’s fraud caused the price of American Express to drop dramatically in 1964. In the 1970s, Buffett expanded his investments to include media companies (The Washington Post and ABC) as well as other companies that fit his investment criteria. The final Berkshire mill was closed down in 1985.

Berkshire Hathaway paid a regular dividend between 1942 and 1960 when the dividend was suspended due to losses. Buffett paid a $0.10 dividend in November 1967, but that was the only dividend the company ever paid under Buffett. Thenceforward, profits were reinvested in the company to allow the share price to grow. Buffett lived off of his $50,000 salary and outside investment income.

Berkshire Hathaway stock continued to trade OTC until October 1976 when it listed on NASDAQ. The shares moved to the New York Stock Exchange in November 1988 and in May 1996, Berkshire issued lower-priced Class B shares to investors who could no longer afford to buy a share of Berkshire Hathaway, Class A shares, which by that time had risen in price to $35,000.

**Berkshire Booms**
The impact of Buffett on Berkshire was incredible. Shares in Berkshire which had gone nowhere for 40 years began increasing at a rapid pace. The stock closed at $18.625 in 1966. Shares first broke the $100 mark in 1977, the $1000 mark in 1983, the $10,000 mark in 1992 and the $100,000 mark 2006. Shares now trade around $200,000.

Buffett could have bought any company and the results would have been the same. As soon as Buffett took over Berkshire Hathaway, he began to focus on other businesses and ignore the company’s core manufacturing business. In fact, at one point, Buffett said that buying the textile business had been the worst trade of his life. I guess everyone is allowed one mistake.

Dr. Bryan Taylor serves as President and Chief Economist for Global Financial Data. He received his B.A. from Rhodes College, his M.A. from the University of South Carolina in International Relations, and his Ph.D. from Claremont Graduate University in Economics. In 1990, Dr. Taylor began collecting and transcribing financial and economic data from historical archives around the world, which are now collectively known as the GFDatabase. Dr. Taylor enjoys analyzing financial markets in which he authors articles and blogs utilizing data derived from all of GFD’s databases. GFD specializes in providing Financial and Economic Data that extends from the 1200s to present—beyond what traditional data vendors provide. For nearly twenty years Global Financial Data has been accumulating and transcribing rare data sources into research-quality databases. The company distributes current market data from traditional data feeds and also offers the historical data that are not available from these common electronic sources. For more information, please visit Global Financial Data.
The most successful traders tend to use tools that aren’t widely followed. That doesn’t mean they have secret techniques, it just means they use indicators many traders ignore. The Aroon indicator is among the trading tools that are widely available but not widely used.

Market analyst Tushar Chande introduced the Aroon indicator to traders in a 1995 magazine article. He designed the indicator specifically to identify the beginnings of a trend. He wanted an indicator to signal at dawn’s early light, or as he explained:

> You can count on the markets changing direction, just as you can count on day following the night. Like the sun, trends emerge, rise to a peak, weaken and fade away. In Sanskrit, Aroon is the word for dawn’s early light, the first sign of a new day or a change from night to day. Thus, "Aroon" is an apt name for an indicator that is sensitive to the beginning of a new trend. This new indicator combines price and time in a way that illuminates the evolution of the price trend, and you can use it to identify periods when trend-following or antitrend strategies are likely to succeed.

Aroon is different than most indicators. Typically, an indicator uses the closing price in its calculation. Aroon uses the day’s high and low to spot trend reversals.

Chande also wanted an indicator that was easy to use. For Aroon, trading signals are shown as X crossovers on the chart.

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1 Stocks & Commodities V13 (369-374): The Time Price Oscillator by Tushar S. Chande
Aroon consists of two lines. The formulas for each line are shown below:

Aroon(Up) = \((N - X) / N\) * 100 

(1)

Where \( N \) = the number of days used in the calculation with 25 days being the default

\( X \) = the number of days since the most recent \( N \)-day high

Aroon(Down) = \((N - Y) / N\) * 100 

(2)

Where \( N \) = the number of days used in the calculation with 25 days being the default

\( Y \) = the number of days since the most recent \( N \)-day low

Chande used 25 as the default value of the calculation. Many analysts use values between 20 and 25 in their calculations because that is about the number of trading days in one month.

The \( N \)-day high used in Formula 1 is the highest price seen in the past \( N \) days. In this case it would be the highest high in the past 25 days. To find this value, the high for each of the past 25 days is reviewed and the highest value is selected. This value is updated each day using the most recent 25 days of market action. Similarly, the \( N \)-day low is the lowest low of the past \( N \) days and is again 25 days in this example.
To find the Aroon values, we need to look at 25 days worth of data. To calculate X in the formula for Aroon(Up) we first identify the highest high of the past 25 days and then count the number of days that have elapsed since that high was recorded. If a new high was recorded today, the number of days elapsed would be 0. If the high was recorded 25 days ago, the number of elapsed days would be 25. A similar calculation would be required to find Y in the formula for Aroon(Down).

Once all of the variables are identified (N, X and Y), completing the math is a trivial process. The final answer is multiplied by 100 to convert it to a whole number. Aroon will always be a number between 0 and 100. Higher values indicate a stronger trend.

Traders can use different values in their calculation. For example, you could use 40 days in the calculation. This would lead to fewer trading signals that usually come later than the signals generated with 25 days in the formula. By the time a signal is given, the trend would likely be more established and that increases the probability of winning trades.

Traders can also use less than 25 days in the formula. This would result in more trading signals and a shorter holding period. Intraday traders could find this to be advantageous.

In addition to changing the number of days in the calculation of Aroon, you could also change the time period used in the calculation. A weekly chart is shown below.

A monthly chart of the Nifty 50 offers a warning.
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Mebane Faber, Cambria Investment Management