LETTER FROM THE EDITOR

The MTA recently announced this year’s award winners:

- Walter Deemer – Annual Award
- Frederic Dickson – Memorial Award
- Brad Herndon – Service Award
- Stanley Dash – Recognition Award
- Amber Hestla-Barnhart – Charles H. Dow Award

In this month’s newsletter we provide more insight into why Walt Deemer and Amber Hestla-Barnhart were honored. Walt is a true legend in the analysis community and the short articles we offer provide a small glimpse of his work. Amber shares details about the process she followed to win the prestigious Charles H. Dow Award in the hope of encouraging more submissions to next year’s competition.

We will have more details on the honorees in next month’s newsletter.

Later this month, hundreds of MTA members will spend time together at the Annual Symposium. Attendees will spend time hearing the thoughts of extraordinary market analysts in formal presentations and in informal settings that are an equally important part of the Symposium. I hope I will get to meet everyone attending the Symposium but the odds of that are low because the Symposium only lasts two days. If you will be attending and have ideas on how we can improve Technically Speaking, please send me a note at editor@mta.org so I can get your feedback in person.

Sincerely,

Michael Carr
Walter Deemer began his Wall Street career in July, 1963 as a Merrill Lynch research trainee. In April, 1964, he moved to their Market Analysis Department, where he worked directly under Bob Farrell, and he has been a full-time market analyst ever since.

In February, 1966, Walter joined Tsai Management and Research just before the initial offering of the Manhattan Fund. In May, 1970, he went to the Putnam Management Company in Boston, one of the most prestigious money management firms in the world at the time(!) and headed Putnam's Market Analysis Department throughout the ten years he worked there. For part of that time, Walter was a full member of Putnam's Investment Policy Committee, and he was promoted to Senior Vice President in 1976.

Walter formed his own company, Deemer Technical Research Inc., in July 1980, which has successfully offered his market strategies and insights to institutional clients since that time.

Walter Deemer is a founding member and past president of the Market Technicians Association, a professional group affiliated with the New York Society of Security Analysts, and a founding member of the American Association of Professional Technical Analysts. He has twice addressed the Conference on Technical Analysis, held in Cambridge, England, and has also addressed the Boston Security Analysts Society, the San Francisco Society of Security Analysts, and the Contrary Opinion Forum. He has appeared on the Nightly Business Report and has been the special guest on Wall Street Week. He was the featured technical analyst in "Dean LeBaron's Treasury of Investment Wisdom", joining such luminaries as John Bogle, Peter Lynch and George Soros as the chosen "guru" in their field. And, last but hardly least, he was one of the analysts featured in "The Heretics of Finance: Conversations with Leading Practitioners of Technical Analysis" by Andrew Lo and Jasmina Hasanhodzic that was published by Bloomberg Press.

For Walter, defining technical analysis is the most basic part of the entire investment decision-making process. In his words:
To me, technical analysis is the analysis of anticipated price moves of individual stocks - and of the stock market itself - based on their past price movements plus various underlying factors such as supply/demand and sentiment.

Technical analysis exists for one very simple reason: the shares of stock in a company are not the same as the company itself. Stocks go up and down because - and only because - someone buys or sells them; the reason they do so may or may not be related to what is going on at the company. Very often, for example, a transaction is made to adjust a portfolio position, because cash has just become available to invest or is suddenly needed elsewhere - or simply in response to market conditions. In similar fashion, the stock market is not the same as the economy as a whole.

It thus seems quite logical to me that any investor thinking about buying or selling shares in a company should, along with all other factors, consider the technical position of the shares themselves, as well as the technical condition of the stock market itself, before reaching a decision. Indeed, technical analysis should probably be considered the most basic and necessary part of the entire investment decision-making process.

Walter retired “retired” at the end of 2010. As he noted at the time, “not completely -- just from the necessity of having to say something every single day and every single week. The market is very much in my blood, and I therefore still publish commentaries when I have something to say.”

The essence of Walter’s work can be found in some comments those who worked with him have made over the years:

"His true gift is making the arcane world of technical analysis accessible and relevant to all investors. If Warren Buffett is the Oracle of Omaha, then Deemer is the Prophet of Port St. Lucie." -- Sandy Ward, Senior Editor, Barron’s

"I have had the great pleasure of working with and getting to know some of the greatest Technical Analysts throughout the past fifty years. Walt Deemer is widely recognized as one of the best." -- Paul Desmond, President, Lowry Research

"Every investor can learn something from Walter Deemer." -- David Fuller, Global Strategist, Fullermoney.com

"Technical analysis is the architecture of finance, part art, part engineering. Like Wright and Gropis, Deemer is unshakable in his quest for enduring quality forecasts built on a foundation of market history, a philosophy of contrary thinking and the strength of working with the largest of institutional money-makers. You want to carry him with you when you enter today’s market house." -- Dean LeBaron, chairman, virtualquest and founder of Batterymarch Financial Management.
Editor’s note: there are many examples of Walt Deemer’s real time market calls. The one below illustrates Walt’s market timing ability and offers a glimpse of his personality. The memo he wrote in February 1980 is followed by charts showing how well the stocks mentioned below performed.

INTEROFFICE MEMORANDUM

TO: Norton H. Reamer, Martin M. Hale, J. David Wimberly, and Michael C. Hewlett


GROWTH STOCKS

As you know, I think that the big growth stocks are very attractive technically, with most of them apparently in the final phases of major reversal patterns. I also think that when the long-delayed recession finally hits that their earnings gains during a period of generally declining profits will make them stand out like “beacons in the night.”

Two of the most obvious, at least to me, are McDonald's and Philip Morris, (which presently happen to be selling at 9 and 8 times trailing earnings, respectively) and I thought that it might be nice to mention them on the Wall Street Week program if the subject should come up. However, on checking with the Advisory Company, I was told I couldn't--they have sell programs underway presently in both stocks.

If this isn't a major buy signal for growth stocks, I don't know what is; the stocks are apparently being sold because of their disappointing price performance, but from a technical point of view, I think it's wrong to sell them now.

WRD

/ls
MCD monthly

+2,000% total return
6.7x more than DJIA

Feb 1980
Deemer memo

MO monthly

8.650% total return
28.8x more than DJIA

Feb 1980
Deemer memo
Technically Speaking

The Charles H. Dow Award highlights outstanding research in technical analysis. Winning papers have created successful trading systems, insights into theories of how markets function and have represented the richness and depth of technical analysis. This year’s Dow Award winner, Amber Hestla-Barnhart, demonstrates how to profitably apply an indicator that has been in the public domain since 2007. Larry Williams, the 2014 MTA Annual Award winner, explained the VIX Fix in 2007. This year, Amber explains she has created a complete trading strategy based on that indicator. Fixing the VIX includes test results of that strategy applied to stocks and put options.

The paper’s abstract summarizes the content:

Volatility is widely considered to be a category of technical indicators with a simple interpretation - no matter how it is measured volatility is widely believed to rise in a market downturn. This approach is applied to indicators such as the Average True Range (ATR), Bollinger Bands® BandWidth or the most widely followed volatility indicator, VIX, which is formally known as the CBOE Volatility Index®.

VIX is widely known as the “Fear Index” because it often increases when the stock market drops and the fear of further price declines increases. While this concept sounds useful, there are significant limitations to executing trading strategies based on VIX and these limitations actually make VIX virtually useless for the average investor.

Although it is not widely followed, there is a simple volatility indicator available in the public domain that can be used to implement trading strategies based on the concept of VIX. This indicator, the VIX Fix developed by Larry Williams, overcomes all of the limitations of VIX. This paper will explain that indicator and introduce a quantitative trading strategy to profit from rising fear. The main focus of the paper is on the test results.

Among the test results is a test using 15 years of data for the components of various indexes. The results are shown on the following page.
<table>
<thead>
<tr>
<th>WEEKLY DATA</th>
<th>Annual rate of return</th>
<th>% wins</th>
<th>Maximum drawdown</th>
<th>Percent of time invested</th>
</tr>
</thead>
<tbody>
<tr>
<td>VIX Fix Strategy on S&amp;P 500 components (large cap stocks)</td>
<td>15.5%</td>
<td>46.1%</td>
<td>28%</td>
<td>27%</td>
</tr>
<tr>
<td>VIX Fix Strategy on S&amp;P 400 components (mid cap stocks)</td>
<td>14.5%</td>
<td>45.7%</td>
<td>31%</td>
<td>31%</td>
</tr>
<tr>
<td>VIX Fix Strategy on Russell 2000 components (small cap stocks)</td>
<td>12.7%</td>
<td>42.9%</td>
<td>39.6%</td>
<td>43%</td>
</tr>
<tr>
<td>VIX Fix Strategy on NASDAQ 100 components (volatile stocks)</td>
<td>16.6%</td>
<td>45.6%</td>
<td>81%</td>
<td>34%</td>
</tr>
<tr>
<td>Buy &amp; Hold (S&amp;P 500 index)</td>
<td>4.6%</td>
<td>100%</td>
<td>55%</td>
<td>100%</td>
</tr>
</tbody>
</table>

A second part of the paper detailed a real-time test, showing the results of documented trade recommendations. As explained in *Fixing the VIX*:

To supplement the back testing presented in the previous section, in this section, the results of a real time test will be presented. This test is modeled on the test presented in *Stock Selection: A Test of Relative Stock Value Reported over 17 ½ Years*, the 2001 Dow Award winning paper presented by Charles D. Kirkpatrick II, CMT. As Kirkpatrick noted, “the best and most convincing test of any theory is to see if it works by itself using completely unknown data.” That is the type of test that was conducted with the VIX Fix.

Traders can also apply the VIX Fix to benefit from price moves in the options market. Options prices incorporate a number of factors with volatility being one of the important. If volatility is higher than average, traders selling options should be able to generate significant gains as volatility returns to a normal level and the options price declines.

From September 20, 2013 through September 26, 2014, real time trade recommendations were published in a weekly newsletter. Each week, three to five put option selling recommendations were provided to subscribers. The trades were based primarily on the VIX Fix indicator. If a stock chart showed that the VIX Fix had fallen below its 20-week MA in the previous week, a put option meeting a minimum income requirement was identified. To be recommended, the put sale needed to generate a return on investment of at least 3% of the required margin deposit. All of the options recommended expired in less than 90 days. Assuming profits are reinvested, this strategy could produce an annual return on investment of more than 10% a year if the win rate is high.

MARCH 2015
The results of the test indicate how the trades would have performed if each one was acted on and are summarized in Table 4.

<table>
<thead>
<tr>
<th></th>
<th>Recommendations made and closed</th>
<th>% wins</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>62</td>
<td>93.5%</td>
</tr>
<tr>
<td>2014</td>
<td>114</td>
<td>92.1%</td>
</tr>
<tr>
<td>Total</td>
<td>183</td>
<td>92.6%</td>
</tr>
</tbody>
</table>

Table 4: Real time test results.

The paper also busts a popular myth about selling put options.

Given the reality of the options market, the strategy relying on the VIX Fix performs significantly better than a random entry with 92.6% wins compared to an expected win rate of 5.5% that can be expected from randomly selling puts and allowing them to expire.

Many investors erroneously believe that selling puts is a high probability trading strategy with an expected win rate of 75% or more. This perception appears to be based on a study which found that three out of four options held to expiration, on average, expire worthless. That particular study reviewed options on various futures contracts for a three-year period (1997-1999) and found that 76.5% of options contracts held to expiration on the Chicago Mercantile Exchange (CME) expired worthless. This study is misleading because it does not include contracts closed prior to expiration. According to the widely quoted study, 6.3 million option contracts expired worthless in 1999. According to CME data, 115 million options contracts were traded that year. Most options contracts are closed prior to expiration and because there is a buyer and seller for each contract, half of those were closed with a gain and half of the options traders closed positions with a loss. Of all contracts traded, just 5.5% expired worthless that year.

*Fixing the VIX: An Indicator to Beat Fear* embodies excellence and creativity in the field of technical analysis.

Amber Hestla-Barnhart, the winner of the 2015 Charles H. Dow Award which recognizes outstanding research in technical analysis, is Chief Option Strategist at ProfitableTrading.com and editor of the weekly *Income Trader* and biweekly *Maximum Income* newsletters. She applies the ideas detailed in the Dow Award paper in these newsletters. Prior to assuming these responsibilities, Amber worked as a trader for a Registered Investment Adviser (RIA) with $200 million in assets under management and as an independent research analyst. Her work has been featured in *SFO, Technical Analysis of Stocks & Commodities,* and...
Traders Magazine (UK). She is also a frequent contributor to Technically Speaking, the MTA’s monthly newsletter. Prior to her career in finance, Amber was a member of the Wyoming Army National Guard, where she was assigned to the Counter Drug Support Program/Wyoming Division of Criminal Investigation (DCI) as a Criminal Intelligence Analyst. While in that position, Amber received the Governor’s commendation for her work targeting criminal activity associated with motorcycle gangs and she received the Director’s commendation for work on cold cases dating to the 1970s. In 2009, she left DCI to deploy in support of Operation Iraqi Freedom for which she received the Army Commendation Medal. Upon her return in 2010, she entered the investment industry.
THE REAL DEAL
BY DEAN LEBARON, CFA, WALTER DEEMER, AND MARK UNGEWITTER

Editor’s note: This is an example of the type of work Walt Deemer, this year’s MTA Annual Winner is known for. The work is innovative and long term. The original article can be found at Walt’s web site, www.walterdeemer.com.

“What is fascinating is the extent to which gold still holds reign over the financial system as the ultimate source of payment.”

- Alan Greenspan, Sept. 9, 2009

Introduction

In November 2008, we issued a research paper entitled “A Way Forward,” which examined historic booms and busts from a variety of perspectives, including an analysis of inflation-adjusted equity prices.¹ For this we utilized a classic inter-market study, the Dow/Gold ratio. We noted that equities in gold terms have essentially moved sideways over the centuries, with Dow and gold attaining near-parity every 40-50 years. We also noted a strong connection between Dow/Gold and P/E multiples. Chart 1 reproduces and updates our original study.

Which Inflation?

An early criticism of “A Way Forward” concerned our choice of gold as equity deflator. Why did we not use CPI, as our scholarly reviewer suggested? After careful consideration, we chose gold for the following reasons:

1. Gold has a longer history than CPI;
2. CPI methodology has changed over the years;
3. Dow/Gold has better mean reversion qualities than Dow/CPI; and
4. Gold provides a global yardstick independent of national CPI methodologies.

Chart 2 examines the relationship between Dow/Gold and Dow/CPI since the inception of CPI data in 1920. The two series are in broad agreement most of the time. Dow/Gold, however, exhibits better mean reversion qualities, especially in the post-Bretton-Woods era. We note that the two series diverged sharply from 2003-2007, and question
whether CPI understated monetary inflation during that period. We believe that, while both series are worth watching, the market-derived Dow/Gold ratio provides a better indication of valuation extremes.

![Chart 2](image)

**Global Dow/Gold**

New York, of course, is not the only city on earth. If we are on the right track, our logic should extend to other markets as well. Chart 3 presents global equity indices in gold terms. Here, we deflate the Chinese, German, Japanese and US markets by the price of gold in local currency. We then index to a base period of June 1980 (the prior real bottom).
By this measure, all markets topped in 1999, though New York and Hong Kong made new nominal highs in 2007. We note that Chinese, German and US markets were more overvalued in 1999 than was Japan in 1989, and that Japan is now the cheapest market relative to the 1980 bottom.

“Clever charts,” you say. But why should a golden denominator tell us anything at all? Isn’t gold a barbarous relic that was fully demonetized in 1971? Yes, but there remains an old controversy over nominalism; that is, whether money is what the state decrees or what the market dictates:

[A] critical point of monetary theory that has gone out of textbooks as of little modern relevance (mistakenly in my judgment) – [is] the difference between the Knapp state theory of money (that money is what the state declares it to be and designates as legal tender for debts public and private) and nominalism (that money is what the market uses to fulfill the purposes of money). States may propose, but markets dispose. ²

We suspect that gold retains partial functionality as money. While it is no longer an official medium of exchange, it may still act as a store of value, especially in times of financial mismanagement. To the savvy observer, it may also function as unit of account, revealing a historic range of equity valuation and helping to identify secular trend.

So, what if we’re wrong? Perhaps CPI is the more accurate measure of inflation. In this view, the rising slope of Dow in CPI terms is simply a measure of corporate progress. The apparent mean-reversion quality of equities in gold terms might only reflect gold’s propensity to overshoot as suggested by the old saying, “There’s no fever like gold fever.”

Whatever the case, whether gold retains monetary functionality or not, we find its long-wave behavior of considerable interest. In statistical work, one can never accept a hypothesis; one can only not reject it. The notion that Dow/Gold will revert to near-parity is no exception, especially in light of the limited number of historic observations. On the other hand, only a myopic observer would conclude that residual claims on corporate wealth are not subject to mean reversion, and that the price of gold is of no relevance to the issue of inflation.

The definition of inflation has also changed over time, as acknowledged by this interesting comment from a Federal Reserve Bank economist:

> For many years, the word “inflation” was not a statement about prices but a condition of paper money – a specific description of a monetary policy. Today, “inflation” is synonymous with a rise in prices, and its connection to money is often overlooked....What was once a word that described a monetary cause now describes a price outcome.³

Inflation, then, is a complex subject bridging cause and effect. It should not – in our opinion – be reduced to the simple notion of “generally rising prices,” a premise upon which many questionable arguments are built.

We like to think of the Dow/Gold ratio as an alternative lens on market history. By shifting our denominator from the increasingly elastic US dollar to a quasi-monetary unit in relatively fixed supply, we hope to learn more about the effect of monetary inflation on equity valuation.

**What’s Next?**

In March 2009, US equities approached secular cheapness. Price-to-peak-earnings reached a multiple of 8.9x versus prior lows of 7.4x in 1974 and 3.0x in 1932. The Dow/Gold ratio, however, remained well above historic lows. See chart 1.

While there is no rule that history must repeat, we expect it will continue to rhyme. In this regard, we observe the following:

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1. Secular bottoms are a process, not an event. In the past, price-to-peak-earnings multiples have tended to retest their initial lows over a period of five to ten years.

2. In the post-Bretton-Woods era, real versus nominal bottoms and tops have occurred several years apart. In dollar terms, for example, US equities bottomed in 1974. Their real low, in CPI or gold terms, came six years later, in 1980.

3. The most recent Dow/Gold top occurred in 1999, implying that we are now ten years into a structural decline. In the past, such declines have lasted thirteen or more years before a secular bull phase has emerged.

4. The rally from 2003-2007 was a nominal affair, not evidenced in gold or P/E terms. It was supported by an artificially low Fed funds rate that sustained and encouraged global imbalances.

All of this suggests that, at best, we will now experience a long basing period before a new secular bull market will emerge. Government “solutions” that rely upon devaluation are likely to foment new secular lows, at least in gold terms.

Conclusion

Milton Friedman famously taught that inflation is always and everywhere a monetary phenomenon. In other words, prices don’t inflate, money devalues.

Most investors rely on CPI to gauge monetary conditions. Yet CPI is only one measure of inflation. While consumer prices are undoubtedly influenced by monetary phenomenon, they are also influenced by real factors such as globalization and technology.

Gold, on the other hand, is essentially non-consumable. Aside from jewelry demand (which doubles as investment demand) and negligible industrial consumption, the price of gold in local currency is driven entirely by monetary phenomenon. Gold is a “dumb rock” that attains value from even dumber government policies.

The Dow/Gold ratio compares residual claims on corporate wealth to a quasi-monetary unit in relatively fixed supply. In the past, it has provided a useful guide to secular trend and valuation extremes. Gold is the only major world asset to have attained new secular highs in 2009. Its historic message is deserving of our attention.
About the authors: Dean LeBaron, CFA, is an author, contrarian thinker, and founder of Batterymarch Financial Management (www.deanlebaron.com/dlbio.html). Walter Deemer is a principal of DTR, Inc., an institutional investment advisory service; a former head of market analysis at Putnam Investments; and a founding member and past president of the Market Technicians Association (www.walterdeemer.com/bio.htm). Mark Ungewitter is a portfolio manager at Charter Trust Company. (www.chartertrust.com).

The authors would like to thank John Budden and Marilyn Pitchford. For further discussion and analysis please see “A Way Forward” at www.walterdeemer.com/forum.
In a world of slowing growth, currency debasement has become the economic weapon of choice.

In the last month alone, we have seen central banking easing measures announced in Romania, India, Switzerland, Egypt, Peru, Denmark, Turkey, Canada, the Eurozone (QE), Pakistan, Albania, Russia, Australia, and China.

More cuts are on the way, we are told, as there is seemingly no end in sight to the tit for tat moves of this global currency war. If we look around the world at the major central banks, with the exception of Brazil (who has been forced to hike because of high inflation), everyone is in easing mode.

Even Russia reversed course in January and cut rates by 2%, shocking everyone after their emergency rate hike in December. Despite year-over-year inflation of 15%, the Russian central bank was under intense pressure to lower rates from industry and commercial banks.
Zero-bound No More

As we have seen, 0% is no longer the lower bound when it comes to central bank actions. After reaching 0%, they have moved to quantitative easing (as was done in the U.S., Japan, and the UK) or the previously unthinkable: negative interest rates.

Last June, the ECB moved its deposit rate to -0.2%. After a few months, this was viewed as “not enough” to crash the Euro and the pressure started building for a full-scale quantitative easing program. The ECB delivered a few weeks ago with a €1.1 trillion plan. With rates already at all-time lows across the Eurozone, the intention of the asset purchase program was clear: debase the Euro.

In response to these actions, Switzerland has moved its target rate down to -0.75% and Denmark moved its benchmark deposit rate to -0.5%. The moves are not over, though, as Denmark is expected to cut its benchmark deposit rate to -1% this week.

Taking a page from the Mario Draghi playbook, Denmark’s Central Bank Governor Lars Rohde has pledged to do “whatever it takes” to keep the Danish krone from appreciating. This may include their own quantitative easing program to further push down yields, Rohde said in a recent interview.

If Everyone Debases, No One Debases

The absurdity of the global race to debase and believing it is a panacea for slowing global growth is clear. Currencies are all relative and if everyone debases, no one debases. Even if we assume that you can debase and benefit via improving exports, by definition someone else is hurt. Unless you believe that debasement lifts overall global growth, this is a mathematical fact.

Over the past year, as we have seen attacks and counterattacks across the globe, what has really occurred is a broad depreciation against the U.S. dollar. This is clear when looking at a chart of the Australian dollar, Yen, Euro, Canadian Dollar, and British Pound against the U.S. dollar.

When viewed against one another, the advantages are less clear. If we are to believe that these countries are debasing their currencies in order to boost exports and growth, then U.S. exports and growth must in turn suffer as a result. Someone has pay the price as there is no free lunch in currency war games.
Where there has been a free lunch thus far is in the stock market, as the prevailing narrative is that when Japan, Europe or anyone else debases it is bullish for all stocks. This is entirely sentiment driven, of course, and will continue as long as faith in central banking is intact.

**From Stability to Volatility**

On that point, faith in central bankers to solve the world’s economic problems has never been higher, but the effect on markets seems to be slowly changing. For years central bank actions have been a source of stability and calm, but they are increasingly becoming a source of volatility.

This volatility will likely continue as the currency wars intensify and markets become more and more dependent on the continuation of easy monetary policy.

**Ending the War and Saving Capitalism**

Is there any hope for an end to the currency wars? Perhaps. There is a now a growing consensus that the U.S. Federal Reserve will make a peace offering with a rate hike by the middle of this year. This will be the first increase in rates for the U.S. since 2006, over nine years ago.

There is much debate today over whether they will or should go through with such a hike given the ongoing easing in the rest of the world. The rising dollar is already putting pressure on U.S. company earnings and this could intensify if the Fed chooses to finally raise rates.
But the alternative, doing nothing, may be more harmful still as the unintended consequences of distorting market rates is becoming more and more obvious the longer the Fed stays at 0%. As Bill Gross said recently, the Fed needs to raise interest rates to “save capitalism” which depends on the “rational hope that an investor gets his or her money back with an attractive return.”

Will the Fed choose to “save capitalism” or continue with the command economic system that has been serving the short-term interests of financial assets to the detriment of the real economy? I would like to think that Janet Yellen and the other voting members will choose capitalism but they cannot serve two masters. They either need to abandon the Bernanke “wealth effect” theory or continue the status quo.

Charlie Bilello is the Director of Research at Pension Partners, LLC, an investment advisor that manages mutual funds and separate accounts. He is the co-author of two award-winning research papers in 2014 on Intermarket Analysis and investing. Mr. Bilello is responsible for strategy development, investment research and communicating the firm’s investment themes and portfolio positioning to clients. Prior to joining Pension Partners, he was the Managing Member of Momentum Global Advisors, an institutional investment research firm. Previously, Mr. Bilello held positions as an Equity and Hedge Fund Analyst at billion dollar alternative investment firms, giving him unique insights into portfolio construction and asset allocation.

Mr. Bilello holds a J.D. and M.B.A. in Finance and Accounting from Fordham University and a B.A. in Economics from Binghamton University. He is a Chartered Market Technician (CMT) and a Member of the Market Technicians Association. Mr. Bilello also holds the Certified Public Accountant (CPA) certificate. You can follow Charlie on twitter [here](#).
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Editor’s note: This is an extract of a paper written by Dr. LeBaron in July 1994 and revised in March 1996. It is as though-provoking today as when it was first published. Dr. LeBaron examines the impact Fed intervention had on technical signals in the foreign exchange market. With the Fed now routinely intervening in various markets, the research is perhaps more timely than when it was originally completed. The full paper can be found at SSRN. Dr. LeBaron will be making a presentation about his most recent work at the upcoming MTA Symposium.

Abstract

There is reliable evidence that simple rules used by traders have some predictive value over the future movement of foreign exchange prices. This paper will review some of this evidence and discuss the economic magnitude of this predictability. The profitability of these trading rules will then be analyzed in connection with central bank activity using intervention data from the Federal Reserve. The objective is to find out to what extent foreign exchange predictability can be confined to periods of central bank activity in the foreign exchange market. The results indicate that after removing periods in which the Federal Reserve is active, exchange rate predictability is dramatically reduced.

Introduction

One of the biggest controversies between academic and applied finance is the usefulness of technical trading strategies. These rules, which intend to find patterns in past prices capable of giving some prediction of future price movements are sold as easy ways to make money, and scoffed at as charlatanism. Since the publication of Fama & Blume (1966) most academics have agreed that the usefulness of these ad hoc forecasting techniques was probably close to zero. However, evidence in foreign exchange markets has been much more favorable toward the usefulness of technical indicators.¹

¹ The earliest tests were in Dooley & Shafer (1983), and Sweeney (1986) which present results consistent with some trading rule predictability. More recent studies have included Taylor (1992), LeBaron (1991), and Levich & Thomas (1993). The latter two employed bootstrap techniques to further emphasize the magnitude of the forecastability. Other related evidence includes that of Taylor & Allen (1992) which shows that a large fraction of traders continue to use technical analysis, and Frankel & Froot (1987) which shows that short term forecasts often extrapolate recent price moves.
This technical rule predictability is strengthened by other foreign exchange puzzles such as the forward bias and deviations from uncovered interest parity.\(^2\)

This paper looks at a possible explanation for some of the predictability found in foreign exchange markets. Using intervention series available from the Federal Reserve, predictability will be compared during periods with and without intervention.\(^3\)\(^4\) The results of this paper are foreshadowed in the quotation from Dooley & Shafer (1983).

At worst, central bank intervention would introduce noticeable trends into the evolution of exchange rates and create opportunities for alert private market participants to profit from speculating against the central bank.

Studies of the profitability of intervention for central banks such as Taylor (1982) and Leahy (1989) are also related. However, the connection is probably not as strong as one might think initially. It depends critically on what positions the bank is taking as the foreign exchange price process moves through time. This will be discussed further in the conclusions. A related question is whether the central bank is operating to stabilize or destabilize exchange rate movements, which is indirectly related to the profitability of the central bank, or technical traders, and won’t be addressed here.\(^5\)

**Data Summary**

This study uses both weekly and daily foreign exchange series from NatWest Bank provided by DRI.

The series represent the London close for the German Mark (DM) and Japanese Yen (JY) extending from January 2nd, 1979 through, December 31st, 1992. The weekly series use the Wednesday close from this daily series. The interest rate series are 1 week euro-rates (London close) for each currency from the London Financial Times and NatWest Bank covering the same period. Summary statistics for the log first differences of the two daily foreign exchange series are given in table 1. This table displays features that are fairly well known for relatively high frequency foreign exchange series. They are close to uncorrelated, not very skewed, showing large kurtosis.

\(^2\) Hodrick (1987) and Engel (1995) provide surveys of the large literature in this area.

\(^3\) Silber (1994) performs a similar test, but in a cross sectional context. He shows that technical rules have value in markets where governments are present as major players.

\(^4\) For extensive surveys on the large literature on foreign exchange intervention see Edison (1993) and Almekinders (1995).

\(^5\) This debate, which goes back to Friedman (1953), is a delicate one and depends critically the types of speculative trading going on along with many other variables. The debate on this subject began with Baumol (1957), and continues through papers such as Szpiro (1994), where an intervening central bank can actually introduce chaos into a foreign exchange rate. Hart & Kreps (1986) provide a modern treatment displaying the full delicacy of the problem of stabilizing or destabilizing speculation.
The Federal Reserve intervention values were provided by the Federal Reserve Bank.

Trading Rule Evidence

This section repeats earlier statistical evidence on the forecasting properties of a simple technical trading rule. Many of these results are given in more detail in LeBaron (1991). Forecasts will be examined over 1 day and 1 week horizons. The rule used compares the current price to a moving average of past prices. Let $P_t$ be the $/$DM exchange rate at time $t$. Define $ma_t$ as

$$ma_t = \frac{1}{M} \sum_{i=0}^{M-1} P_{t-i}, \quad (1)$$

where $M$ is the length of the moving average. For the daily data $M = 150$ and for weekly $M = 30$.\(^6\)

Define a buy or sell signal $s_t$ as

$$s_t = \begin{cases} 
1 & \text{if } P_t \geq ma_t \\
-1 & \text{if } P_t < ma_t 
\end{cases} \quad (2)$$

This is an extremely trivial type of trading rule, but the strategy here is to look at the simplest versions of trading rules following common practices. This helps to reduce the impact of data snooping biases brought on by searching the entire space of trading rules for the best performers.

\(^6\)Trading rule profitability is not overly sensitive to the actual length of the moving average. See LeBaron (1991) for some evidence on this. Also, these moving average lengths are very commonly used by traders.
Table 3 examines these dynamic trading returns for both daily and weekly exchange rates. The t-statistics in the table test whether the mean returns are zero. It is clear from the table that the means from the dynamic strategies are statistically different from zero at any reasonable significance level. It also appears that adjusting for the interest differentials and changing from daily to weekly returns does not affect the results greatly. These t-tests may not be the proper way to test for significance because of the deviations from normality in the foreign exchange returns, so a second experiment is performed. A sample of bootstrapped random walk price series is generated using the log price differences of the original series. These differences are scrambled with replacement and a new price series is built. Then the returns from the dynamic strategies, implemented on these simulated random walk series, are compared to the original. The column labeled P-Value presents the fraction of simulations generating a dynamic return larger than the original. The column agrees with the t-tests in indicating the significance of these means. The column labeled Sharpe estimates the Sharpe ratio over a one year horizon. This is approximated as,

\[
\sqrt{\frac{N}{\sigma}} \frac{E(r)}{\sigma_r}
\]

where \(\sigma\) is the standard deviation over the short horizon. N is the number of short periods in a one year period. This approximation would be correct if the dynamic returns were independent over time. The values in table 3 show that, ignoring transactions costs, Sharpe ratios in the range of 0.6 – 0.9 are attained. This compares with Sharpe ratios of around 0.3 or 0.4 for buy and hold strategies on aggregate U.S. stock portfolios. Finally, the column labeled “Trade Fraction” shows the fraction of days on which an actual trade took place, or in other words the fraction of times the strategy had to switch currencies.

---

7 In the cases where interest rates are ignored this is a simple reconstruction of a random walk from the scrambled returns. In the interest rate cases, the returns less the interest rate differentials are scrambled, and rebuilt into a price series, adding the actual differentials back as the drift.

8 See Hodrick (1987), or LeBaron (1991) for some further references and examples of Sharpe ratios on aggregate portfolios. Also, see Sharpe (1994) for a summary of related work. For connections between Sharpe ratios to variance bounds tests and more information on conditional Sharpe ratios for other portfolios, see Bekaert & Hodrick (1992).
In summary, this section demonstrated significant forecastability from a simple moving average trading rule for two foreign exchange series. The results are unquestionably large statistically. Since they generate large Sharpe ratios, and their infrequent trading minimizes the impact of transactions costs, these returns appear to be economically significant as well.\textsuperscript{9}

<table>
<thead>
<tr>
<th>Series</th>
<th>N</th>
<th>Mean</th>
<th>Std.</th>
<th>t-ratio</th>
<th>Sharpe</th>
<th>Trade Fraction</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>DM Daily: No Interest</td>
<td>3394</td>
<td>0.031</td>
<td>0.73</td>
<td>2.14</td>
<td>0.666</td>
<td>0.027</td>
<td>0.014</td>
</tr>
<tr>
<td>DM Daily: Interest</td>
<td>3394</td>
<td>0.033</td>
<td>0.73</td>
<td>2.62</td>
<td>0.718</td>
<td>0.027</td>
<td>0.004</td>
</tr>
<tr>
<td>DM Weekly: No Interest</td>
<td>694</td>
<td>0.149</td>
<td>1.61</td>
<td>2.44</td>
<td>0.667</td>
<td>0.065</td>
<td>0.004</td>
</tr>
<tr>
<td>DM Weekly: Interest</td>
<td>694</td>
<td>0.161</td>
<td>1.61</td>
<td>2.62</td>
<td>0.717</td>
<td>0.065</td>
<td>0.002</td>
</tr>
<tr>
<td>JY Daily: No Interest</td>
<td>3394</td>
<td>0.036</td>
<td>0.66</td>
<td>3.19</td>
<td>0.872</td>
<td>0.017</td>
<td>0.002</td>
</tr>
<tr>
<td>JY Daily: Interest</td>
<td>3394</td>
<td>0.034</td>
<td>0.66</td>
<td>3.50</td>
<td>0.958</td>
<td>0.017</td>
<td>0.000</td>
</tr>
<tr>
<td>JY Weekly: No Interest</td>
<td>694</td>
<td>0.167</td>
<td>1.46</td>
<td>3.02</td>
<td>0.826</td>
<td>0.019</td>
<td>0.004</td>
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<tr>
<td>JY Weekly: Interest</td>
<td>694</td>
<td>0.185</td>
<td>1.47</td>
<td>3.32</td>
<td>0.909</td>
<td>0.019</td>
<td>0.000</td>
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</table>

Tests for significance of 1 period trading rule returns. N is the number observations in the sample, and mean is their mean value. t-ratio is a t-test for the mean 1 period return. Sharpe is the estimated 1 year Sharpe ratio. Trade Fraction is the fraction of days on which a trade takes place. P-value is the fraction of 500 simulated random walks generating a return as large as that in the actual data.

In summary, this section demonstrated significant forecastability from a simple moving average trading rule for two foreign exchange series. The results are unquestionably large statistically. Since they generate large Sharpe ratios, and their infrequent trading minimizes the impact of transactions costs, these returns appear to be economically significant as well.\textsuperscript{9}

**Removing Intervention Periods**

This section looks at one possible explanation for the previously demonstrated puzzle in foreign exchange series, central bank intervention. Some of the previous tests are repeated with the foreign exchange intervention periods removed.

Direct evidence on the impact of intervention is presented in table 5 where the experiments from table 3 are repeated with intervention days removed. Returns to the dynamic trading strategy from t to t + 1 are examined conditional on the intervention series being zero on t + 1. For weekly series an intervention period is defined as a week in which intervention occurred on at least 1 day. The results suggest a dramatic change when intervention periods are removed. For the DM series all of the t-statistics are not significantly different from zero, and the Sharpe ratios are close to 0.1. For the JY the results are not as dramatic, but mean returns have gone into the range of only being marginally significant for two of the series, and showing simulated p-values of 0.146 and 0.198 for the other two.

These results are strong in suggesting that something different is going on when the Federal Reserve is active in terms of foreign exchange predictability.

\textsuperscript{9} The judgment of economic significance would require more detailed testing of a specific model.
Table 5: Trading Rule Statistical Tests: No Intervention

<table>
<thead>
<tr>
<th>Series</th>
<th>N</th>
<th>Mean</th>
<th>Std.</th>
<th>t-ratio</th>
<th>Sharpe</th>
<th>Trade Fraction</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>DM Daily: No Interest</td>
<td>2992</td>
<td>0.006</td>
<td>0.706</td>
<td>0.502</td>
<td>0.146</td>
<td>0.027</td>
<td>0.178</td>
</tr>
<tr>
<td>DM Daily: Interest</td>
<td>2992</td>
<td>0.008</td>
<td>0.707</td>
<td>0.625</td>
<td>0.185</td>
<td>0.027</td>
<td>0.202</td>
</tr>
<tr>
<td>DM Weekly: No Interest</td>
<td>519</td>
<td>0.027</td>
<td>1.604</td>
<td>0.385</td>
<td>0.122</td>
<td>0.073</td>
<td>0.344</td>
</tr>
<tr>
<td>DM Weekly: Interest</td>
<td>519</td>
<td>0.035</td>
<td>1.606</td>
<td>0.498</td>
<td>0.158</td>
<td>0.073</td>
<td>0.218</td>
</tr>
<tr>
<td>JY Daily: No Interest</td>
<td>3205</td>
<td>0.0135</td>
<td>0.626</td>
<td>1.220</td>
<td>0.344</td>
<td>0.017</td>
<td>0.146</td>
</tr>
<tr>
<td>JY Daily: Interest</td>
<td>3205</td>
<td>0.017</td>
<td>0.627</td>
<td>1.543</td>
<td>0.434</td>
<td>0.017</td>
<td>0.080</td>
</tr>
<tr>
<td>JY Weekly: No Interest</td>
<td>696</td>
<td>0.062</td>
<td>1.368</td>
<td>1.112</td>
<td>0.326</td>
<td>0.054</td>
<td>0.198</td>
</tr>
<tr>
<td>JY Weekly: Interest</td>
<td>696</td>
<td>0.080</td>
<td>1.374</td>
<td>1.441</td>
<td>0.422</td>
<td>0.054</td>
<td>0.106</td>
</tr>
</tbody>
</table>

Tests for significance of 1 period trading rule returns with intervention periods removed, $h_{+1} = 0$
N is the number observations in the sample, and mean is their mean value. t-ratio is a t-test for the mean 1 period return. Sharpe is the estimated 1 year Sharpe ratio. Trade Fraction is the fraction of days on which a trade takes place. P-value is the fraction of 500 simulated random walks generating a return as large as that in the actual data.

The results in this section can be summarized graphically in figure 3. This picture clearly shows dramatic reduction in Sharpe ratios for the trading rules for each of the series. While conclusions about causality cannot be made, these results are very suggestive that Federal Reserve activity has something to do with the observed predictability. The next section explores the possibility that there is a common driving processes causing the correlation between technical predictability and intervention.

![Figure 3: Annual Sharpe Ratios: Interest Rate adjusted series](image)
Conclusions

The fact that simple trading rules produce unusually large profits in foreign exchange series presents a serious challenge to the efficient market hypothesis. Further, the magnitude of these returns and their resiliency to the adjustment for transactions costs, makes it difficult to imagine a representative agent rational expectations model capable of explaining these results. However, foreign exchange markets differ from most other major asset markets in that there are several major players whose objectives may differ greatly from those of maximizing economic agents. The results in this paper show that this predictability puzzle is greatly reduced, if not eliminated, when days in which the Federal Reserve was actively intervening are eliminated.

Before quickly concluding a causal relationship between intervention and trading rule profitability there is a serious simultaneity problem that needs to be addressed. Interventions and profits may be driven by the same common factor and therefore the apparent causal relation might be spurious. This hidden factor can never be completely eliminated as a potential cause, but this paper explored several possible ways in which it might appear. The results of these experiments make it look unlikely that a common factor will be easy to find.

The policy recommendations are not as clear cut as they might seem. If the Federal Reserve is transferring money to traders, it may be worthwhile in that it has other variables in its objective function such as overall price stability. Stopping a potential trade war may far outweigh a few losses in the foreign exchange market. It is also interesting that other studies such as Leahy (1989) find that the Federal Reserve is making money on its foreign exchange intervention operations. This fact, while an interesting contrast to the results here, is not exactly a contradiction since the magnitudes of interventions or total bank positions have not been analyzed here.

Understanding the causes and structure of this apparent predictability in foreign exchange markets is important both from the standpoint of understanding the forces that drive exchange rate movements, but also for implementing appropriate policies. These results are still far from implicating the Federal Reserve in this puzzle but they make those

<table>
<thead>
<tr>
<th>Series</th>
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<th>t-ratio</th>
<th>Sharpe</th>
<th>T Fraction</th>
</tr>
</thead>
<tbody>
<tr>
<td>DM Daily: No Interest</td>
<td>862</td>
<td>-0.007</td>
<td>0.585</td>
<td>-0.319</td>
<td>-0.173</td>
<td>0.039</td>
</tr>
<tr>
<td>DM Daily: Interest</td>
<td>862</td>
<td>0.001</td>
<td>0.586</td>
<td>0.025</td>
<td>0.013</td>
<td>0.039</td>
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<tr>
<td>JY Daily: No Interest</td>
<td>862</td>
<td>0.010</td>
<td>0.524</td>
<td>0.493</td>
<td>0.268</td>
<td>0.019</td>
</tr>
<tr>
<td>JY Daily: Interest</td>
<td>862</td>
<td>0.018</td>
<td>0.625</td>
<td>0.842</td>
<td>0.457</td>
<td>0.019</td>
</tr>
</tbody>
</table>

Trading rule tests during low intervention period.
biases are toward efficient markets a little more comfortable, while revealing a troubling lack of robustness for technical signal predictability.

References


Blake LeBaron has a Ph.D. in Economics from the University of Chicago. He is the Abram L. and Thelma Sachar Chair of International Economics at the International Business School, Brandeis University. He is a Research Associate at the National Bureau of Economic Research, and was a Sloan Fellow. LeBaron also served as director of the Economics Program at The Santa Fe Institute in 1993.

LeBaron's research has concentrated on the issue of nonlinear behavior of financial and macroeconomic time series. He has been influential both in the statistical detection of nonlinearities and in describing their qualitative behavior in many series. LeBaron's current interests are in understanding the quantitative dynamics of interacting systems of adaptive agents and how these systems replicate observed real world phenomenon. Also, LeBaron is interested in understanding some of the observed behavioral characteristics of traders in financial markets. This behavior includes strategies such as technical analysis and portfolio optimization, along with policy questions such as foreign exchange intervention. In general, he seeks to find out the empirical implications of learning and adaptation as applied to finance and macroeconomics.
Editor’s note: this article is intended to answer the question of what type of process produces an Award winning paper.

Before I start, I need to say I am humbled by the Charles H. Dow Award. I believe this Award demonstrates the unlimited opportunities in technical analysis for anyone willing to seriously study the subject. The keys to success are widely available - hundreds and probably thousands of brilliant technicians have shared their work over the years and anyone can benefit from their wisdom. Not every article or book will be useful but everyone should be able to find a few ideas they can build on in the literature. Without the ideas others have so freely shared, I would not be able to work in the field I have grown to love. It is because of the generous tradition of publishing indicators and strategies that I have been able to make progress in understanding the markets.

My work is based on combining ideas that other people had long before me. The VIX Fix, the subject of my paper, is an indicator that Larry Williams created. I learned the idea of analyzing an indicator rather than price to develop timing signals from studying the work of John Bollinger. I realize many other analysts have applied their analysis to indicators but it was from reading John’s work that I understood how to apply that concept. This paper combines the lessons I learned from those two market analysts and many others.

I was reviewing the real-time performance of my work in September when I saw the call for Dow Award papers in Technically Speaking.

I decided to research the Dow Award and found myself rereading Buff Dormeier's comments in the July issue of Technically Speaking:

"Consider entering this year’s Charles H. Dow Award competition.

I remember being nearly forced to write my dissertation paper for the CMT program. I like the exploration of new research, I even enjoy writing but I hated the idea of writing a research paper. I would have certainly opted out had it been an option at the time. But it was not.

However, writing a research paper did something which few of us willfully desire - it challenged me. But this challenge is what I needed to grow professionally. Thanks to the hard work and writings of others in the field, I understood and could apply technical analysis effectively. However, the research forced me to think outside the proverbial box and come up with my own theories. In order to prove the merits of my ideas, these theories
needed to be critically evaluated using the scientific method and proved through the empirical evidence. Through this experience, I not only grew in knowledge and understanding, but in the confidence in my own thoroughly tested research. From this exercise, I grew as a technician stretching the concepts and applications of my ideas. I was honored to receive the 2007 Charles H. Dow Award.

As believers in technical analysis, we understand that most practical, reasonable, and profitable ideas cannot work if not explored and later employed. If you don’t start exploring you most certainly won’t arrive. You have nothing to gain by your absence, a world to grasp by your participation.

Reading Buff’s remarks inspired me to challenge myself and I decided to start the writing process.

The next step in my research was to review the previous Dow Award winners. Based on my study of winners from the past, I concluded that Dow Award winning papers are readable. I noticed that they didn’t included formulas with Greek letters, dozens of footnotes, or academic jargon. Previous Dow Award winning papers simply explained an idea and when the idea was fully explained the paper ended. When I noticed that, I realized that I could win an award winning paper by simply writing about what I do.

Another common factor I identified is that almost all the papers presented ideas that can be understood by anyone with a moderate understanding of technical analysis. This observation led to the structure of my paper. My goal was to fully detail how I use the VIX Fix and provide detailed testing so that a knowledgeable technical analyst could understand what I believe is the value of the indicator. After doing that, I wanted to describe how I applied the VIX Fix in real time and to document the results of my performance. With this process, I knew I would increase my understanding of the indicator and I would have more confidence in applying it.

I started the process in October, working on the paper for about two hours every night after I put my son to bed. A few weeks into the process, I felt like the paper could be competitive. I did not expect to win but I did believe it was shaping up to be something that could be published in the *Journal of Technical Analysis*. This gave me a new source of motivation. I realized that writing a paper would be a part of the legacy I passed on to my son. Maddox is only four and he can’t read yet but I decided that one day he will read my paper. This project then took on a new meaning as a way to share my work with my child and hopefully one day, his children.

This additional motivation was needed because for the first time in my life, I was working without a safety net. Seven years ago, I was preparing to deploy with my National Guard unit to Iraq. I worked in intelligence and at that time I met Mike Carr who had retired from the military. He told me that the thought process for military intelligence and analyzing the markets was similar. All you had to do was collect a massive amount of data, figure out what’s important and ignore
the rest. When I got back from deployment, I was ready to listen. Mike replaced the safety net of my colleagues in the military. No matter what challenges I faced, Mike was there to teach me and help me to reach the next level of success.

When I decided to write the Dow paper, I made the decision to surprise Mike. I wanted to show him he had taught me how to “collect a massive amount of data, figure out what’s important and ignore the rest.” Writing the paper meant for the first time in my adult life I had no one to turn to when questions came up. If you decide to write a paper, I would urge you to find a mentor to bounce ideas off of, as it makes writing less difficult.

With this paper, I feel like I proved Isaac Newton was right when he said "If I have seen further than others, it is by standing upon the shoulders of giants." I was given the chance to become a technical analyst by Mike Carr who gave me the knowledge and confidence I needed to become a technician. I was inspired to write the paper by the words of another giant in technical analysis, Buff Dormeier. As I wrote *Fixing the VIX*, I documented how I had climbed upon the shoulders of Larry Williams and John Bollinger to develop my techniques.

I am honored to have won the Dow Award. I actually don't know the right words to describe the feeling of winning. But I do know that Buff was right - "From this exercise, I grew as a technician stretching the concepts and applications of my ideas."

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The United States stock market is in the sixth year of a bull market which began on March 9, 2009. Because the average bull market lasts around four years, some fear the stock market may soon be facing a downward correction. By our count, there have been 25 bear markets in the United States since 1792 and 28 bear markets in the United Kingdom since 1692.

When did the bear first raise its head? GFD’s analytical software shows that the first bear market began in 1692 when a four-year stock market decline began in England. If we take the price of East India Company stock from March 1692 until November 1696, and the price of Bank of England stock from August 1694 until October 1696, the market fell almost 72% in the four years between March 1692 and 1696. The first bear market was also one of the worst.

The Bear Beats the Bull during the Nine Years War

What was the cause of the world’s first bear market? The most likely source was the setbacks the British army and the Dutch suffered at the hands of French troops during the Nine Year’s War (1688-1697), as well as the ongoing controversy over who was the true King of England. War and political crises have been the undoing of more than one bull market.

The groundwork for the Nine Year’s War was laid a decade before in the 1670s. Louis XIV, the “Sun King”, emerged from the Franco-Dutch War in 1678 as the most powerful king in Europe. Louis XIV, of “L’etat c’est moi” fame, was not content with his gains from the Franco-Dutch War and wanted to extend his influence, increasing his territory, power and control over Europe.

Louis XIV’s revocation of the Edict of Nantes in 1685 contributed to the deterioration in his military and political dominance outside of France. When Louis XIV’s troops crossed the Rhine in September 1688, his opponents put together an alliance to stand up to the French King. Queen Mary of England, the Anglo-Dutch Stadtholder King William III, the Holy Roman Emperor Leopold I, King Charles II of Spain, Victor Amadeus II of Savoy and major and minor princes of the Holy Roman Empire formed an alliance to stop Louis XIV.
Most of the fighting occurred near France’s borders, mainly in the Spanish Netherlands and in the Rhineland. Although there was a fear of a French invasion of England at the beginning of the war, this never occurred, in part because of victories at the Battles of Barfleur and La Hogue between May 29 and June 4 in 1692. Nevertheless, Anglo-Dutch forces were defeated at the Battle of Steenkerque on August 3, 1692, and the Dutch and English suffered defeats at the Battle of Lagos off Portugal on June 27, 1693 (N.S.) and at the Battle of Landen near Neerwinden on July 19, 1693 (N.S.). These defeats were soon reflected in the price of shares on the British and Dutch stock markets.

The expense of the war led to financial exhaustion of the participating countries. To help King William III fight these wars, the Bank of England was established on July 27, 1694 to provide funds to the English crown. In exchange for the establishment of the Bank of England, the king received a loan that never had to be repaid. After Queen Mary died on December 28, 1694, King William III became the sole ruler of England.

When Savoy defected from the Alliance, the Allies and France were eager to negotiate a settlement. The war came to an end with the Treaty of Ryswick, signed on September 20, 1697, in which Louis XIV retained Alsace, gave up Lorraine and recognized William III as the sole ruler of England, Scotland and Ireland.

**The Bear Begets a Bubble**

During the war, the price of East India Company stock fell from 158 on March 30, 1692 to 38 on November 6, 1696 while Bank of England stock fell from a par of 100 in August 1694 to 60 on October 16, 1696. From there, both stocks began to rise in value as the Nine Year’s War drew to a conclusion.

![Graph showing the price fluctuations of East India Company and Bank of England stocks during the Nine Year’s War.](Image)
Peace prevailed in Europe until 1701 when the War of the Spanish Succession was fought over who had the right to succeed Charles II as the King of Spain. The war ended with the Peace of Utrecht in 1713 which recognized Philip V as the King of Spain; however, the war further impoverished France, Great Britain, the Netherlands and other participants.

Because of the burden of the war debts and a poorly performing economy, John Law was able to convince the French government to use his plan to convert war debts into stock in the Compagnie des Indes and to inflate the French economy by issuing paper money. England followed in France’s footsteps in 1720 and converted government debt into shares of South Sea Stock.

Out of the ashes of the world’s first bear market and the debts that were piled up from the British and French wars, the foundations were laid for the world’s first stock market bubble in the Compagnie des Indes in France and South Sea stock in England. That, alas, is another story.

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 Economical Data that extends from the 1200s to present—beyond what traditional data vendors provide. For nearly 20 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.
A trend continuation formation typically consists of an up or down move, a pause in that direction, and then the resumption of that move in the original direction. The flag pole is the cumulative range of the original move. The consolidation of the flag typically consists of a parallelogram-shaped area which implies a piece of material fitted on a pole. Once the consolidation breaks and the price trend resumes in the original direction, simply extrapolate the full length of the flag pole from the breakout point to obtain the measured target of the trend continuation formation. Figure 1 shows the diagram of a bullish flag.

The uptrend of Daimler, AG (DAIGn.DE) in Figure 2 displays not one, but several bullish flags, highlighting demand for the famed German auto maker. The first flag (blue) formed in the first half of November 2014 and its target unfurled into early December 2014. The pole of the second bullish flag (blue) occurred between mid-November and early December, and the consolidation lasted through the first half of January 2015. Its measured target was reached in mid-January. Of note, this flag can have a second flag pole (yellow). This was formed by the up move between mid-October and early December 2014. The last (blue) flag – the smallest of the lot – appeared in January. This small flag also has a larger flag (yellow) overlaid. Notice that the Daimler stock failed to reach the measured targets of flags 3 and 5 by a small margin. This minor failure highlights that targets remain, well, just targets.
A bearish flag typically consists of a decline, then a pause of this decline, and finally the resumption of that decline. Figure 3 shows the diagram of a bearish flag.

Figure 3. Diagram of a bearish flag.

Figure 4 shows a major bear flag formed in the exceptional down trend seen in crude oil futures (CLc1). The flag pole formed between June and August, the flag area in August and September (shaded area), and the target was reached in November 2014 (shaded area). Notice more granular bearish flags established within the two shaded areas.

Figure 4. Bear flag formed in the exceptional down trend seen in crude oil (CLc1).
TYPES OF FLAGS

In a flag formation, the consolidation area typically moves against the trend. So, if the original move is declining, then the flag part should rise. It’s less usual for that area to be flat. It’s even more unusual for the consolidation area to angle in the same direction with original move. Such a pattern suggests that the prevalent direction is very strong.

In Figure 5 I marked 7 bearish flags on the downtrend of the yield of the German bund. Out of all these flags, 2, 3, 5, 6 and 7 are standard flags; 1 is very bearish, and 4 is a flat bearish flag.

FLAGS VS TREND REVERSAL FORMATIONS

There is a strong relationship between trend reversal formations and flags. It’s common that the end of trend reversals, such as head and shoulders and double tops or bottoms, generate flags.

In Figure 6, GE (GE) displays a head-and-shoulders pattern (left) and a double top formation (right). Both reversal formations exited via flags (yellow).
FLAGS VS INFO LINE

Info Line 1, which provides the statistics for time and gains of various moves, is a very simple to use trend tool. In Figure 7 I measured the duration and gains of the euro downtrend between July 1, 2014 and October 2, 2014. The downtrend lasted 68 days and logged a decline of 8.77%, or $0.1201. Euro then bounced through October 15, forming a bearish flag, before resuming its downtrend. To quickly gauge the target of the trend continuation pattern, I simply pressed the Ctrl key and clicked and dragged the Info line to the start of the second leg of the downtrend. This method yielded a target of 1.1477.

FLAGS VS FIBONACCI RATIOS

Flags have clear measured objectives, but these objectives may be difficult to wait for. Fibonacci ratios, both retracement and extension levels, can be beneficial for generating more granular targets.

As Figure 8 shows, the US dollar/Canadian dollar (CAD=) started an uptrend in early July. I formed a peak in early November and then corrected lower through late November (flag). CAD= then broke above its initial top of the uptrend in the 1.1460 area and resumed its uptrend for target 1.2200. Naturally, the second leg of the uptrend was anything but smooth. Notice how the 38.2%, 23.6%, and 14.6% Fibonacci retracement levels impacted the up move. Moreover, notice that the 123.6% Fibonacci extension eventually capped the uptrend.
BENEFITS OF FLAGS

Flags are common and profitable trend continuation formations. They confirm trends and also provide measured targets. Info Line and Fibonacci ratios are helpful in gauging the duration and profitability of trends. Good luck!

Cornelius Luca, Global Chief Technical Analyst and product manager for Eikon Charting. Cornelius has been a technical analysis aficionado and an FX trader for over 20 years. He is a speaker at various events including classes at the New York University (NYU) and the New York Institute of Finance (NYIF). Cornelius has authored many articles and four books on technical analysis and FX: Trading in the Global Currencies Markets (3rd edition, Prentice Hall); Technical Analysis Applications (McGraw Hill); Technical Analysis in the Global Currency Markets (Prentice Hall); and Introduction to Technical Analysis (Euromoney Institute).
How would you describe your job?

My ultimate goal is to provide people with actionable investment ideas... ideas they can easily implement as part of a comprehensive wealth-building plan.

That process begins with research. Not research into individual companies or stocks, rather data-driven research into fundamentally-sound and statistically-robust investment strategies. I’ve seen that most self-directed investors are forced to choose between passive index (“buy-and-hope”) and discretionary stock-picking. Those approaches are far from optimal, so I aim to show investors a number of rock-solid alternatives that fall somewhere in the middle.

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

I wouldn’t say that I specialize in particular markets. I’ve traded foreign currencies, commodities, bonds, stocks and stock options. Yes, there are nuances and “personalities” unique to each. But generally speaking, specific market nuances don’t typically give investors unique opportunities to build wealth. Only robust strategies can provide those opportunities. Here’s what I mean by that...

Whether you’re looking at Apple’s stock or the USD/JPY, your ultimate goal is the same: invest to earn a satisfactorily high risk-adjusted return.

If you’re employing a “value” strategy, or perhaps a “mean-reversion” strategy... that means “buying low and selling high” (regardless if it’s Apple’s stock or the USD/JPY). If you’re employing a momentum strategy... that means “buying high and selling higher” (again, whether it’s Apple’s stock or the USD/JPY). If you’re looking to capture yield... you can buy dividend-paying stocks, you can buy bonds, or you can put on “carry” trades (i.e. buy a high-yielding currency, while selling a low-yielding currency). These are all strategies proven to work. And by and large they work across the gamut of markets and asset classes.

Simply put: I view markets as mere instruments for investment and trading... it’s the strategies that matter most.

Do you look at any fundamental or economic inputs to develop your opinions?
I can’t say outright, “No, I don’t.” But fundamental and economic inputs are not my primary considerations… at least not in the traditional sense. Everything I do involves building data-driven models that can be implemented in a non-discretionary, or “systematic,” way. Most of these models rely on market prices as the sole or primary input. Although I do have models that use valuation and accounting metrics as well.

Admittedly, I can’t say that “price is always right,” as many technicians believe. Market inefficiencies and investor behavior create displacement of “price” and “value” all the time. But at the end of the day, price alone determines your profit and loss statement. And so, I think, investors who focus their efforts on estimations of value, at the expense of price, do so at their own peril.

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

Dive in! Don’t worry so much about where you start. You aren’t likely to “finish” anywhere close to where you begin. I say this because our field – finance, markets, investment – is vast and complex. That’s a good thing, because there are plenty of niches up for grabs. But it can also be daunting, because novices don’t know where to start.

I’m a firm believer that your go-to strategy MUST be congruent with your personal temperament, risk tolerance and wealth-building goals. You don’t typically find the perfect match on your “first date.” And becoming wed to an investment strategy that isn’t a good fit – for your unique circumstances – is a recipe for disaster.

I think this advice applies equally well to individual investors and professionals alike. Investment professionals need to “find themselves,” so to speak, before they can help someone else find their way to a solid investment plan.

Also, never stop learning. Markets evolve over time… so as Charles Darwin taught us, adaptability is the key to survival.

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

I love reading research that turns investors’ deeply-entrenched beliefs on their head.

For instance, we’ve been conditioned to believe that “volatility” is the same thing as “risk.” But it’s not.

Ben Hunt of Salient Partners wrote a white paper showing how portfolios can benefit from the addition of a high-volatility return stream more so than from a low-volatility return stream, when that stream is non-correlated to the existing portfolio. His research pokes a gaping hole in the argument for adding bonds, as a “diversifier,” to a long-equity portfolio, as in a “60/40 portfolio.”
Similarly, Scot Billington of Covenant Capital Management has written on his research, which shows that Standard Deviation of returns is a poor predictor of future price ranges and, therefore, an insufficient proxy of “risk.”

By and large, most people don’t question the investing maxims they hear... they just accept them as fact.

I’ve found that data-driven empirical research often tells a completely different story... and it’s usually a story that investors need to hear, assuming our ultimate aim is to manage risk and grow wealth.

**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)?**

Anything and everything within the “big data” realm. I don’t know exactly what that means, or more so what will emerge as the next promising investment strategy. But it will come from the quantitative analysis of big data.

We’ve already seen the leading edge of this movement, in high-frequency trading. Machine learning is another aspect of this phenomenon. The idea that computers – with very little guidance, programming or intervention by humans – can read huge amounts of data and isolate, like needles in a haystack, only the predictive elements of that data (while discarding the “noise”)... that’s mind-blowing. Although the technology is relatively new and certainly subject to the “test of time” it shows promise.

Adam O'Dell is the Chief Investment Strategist at Dent Research, a private investment research firm, where he specializes in the research, design and implementation of non-discretionary investment strategies and portfolio management models. Adam's daily market commentaries draw from his diverse financial services experience, including prior roles in wealth management, proprietary trading and quantitative research. A life-long student of the markets, Adam has earned a Masters of Business Administration (MBA) degree and the Chartered Market Technician (CMT) designation.

*If you would be willing to share your experience with the readers of Technically Speaking, please contact Amber at hestlaresearch@gmail.com.*
In the February 26 issue of *Bloomberg Brief: Technical Strategies*, Alex Cole, a technical analysis specialist in the analytics department at Bloomberg LP in New York, showed how the Trend Chameleon study could be used to identify the direction of the primary trend in the market.

As he explained, “The Trend Chameleon study is based on four criteria:

1) The MACD and its signal line relative to zero.
2) The spread between the moving average of open prices and moving average of close prices.
3) Price momentum, measured by an increase in price between the beginning and end of the specified time span.
4) Price relative to a simple moving average.

The price chart is colored bright green when all four criteria are positive and bright red when all are negative. Pink, yellow and dark green correspond to one, two, and three criteria being positive. The time horizon for moving average and momentum periods can be customized. In these charts, a 50-period moving average is used for the second criteria to measure the open to close spread. Twenty-five periods are used to measure momentum for the third criteria. A 50-period simple moving average is used to measure price in the fourth criteria.”

A weekly chart of the NASDAQ Composite index is shown below. Alex’s conclusion is straightforward, “the index is in a long-term uptrend channel and maintains the brightest green while it sets higher highs and higher lows.”
Applying a multi-timeframe analysis, Alex also shows the daily chart of the NASDAQ Composite which confirms the uptrend with a recent break out from consolidation to new highs.