IN THIS ISSUE...

- **Why Can’t Most People Buy The All Time High?** by Thomas Vicia, CMT – Page 3

- **Bloomberg Brief Highlights: Williams Technical Strategy Outperforms In Trading FTSE Over Past Year** by Oliver Woolf, CAIA, CMT, FRM, MSTA – Page 14

- **Inflation Is Coming** by Greg Harmon, CMT - Page 17

- **Higher Probability Commodity Trading** by Carley Garner; Reviewed By Mike Carr, CMT - Page 19

- **A Long-Term Perspective On Bonds** by Ken Winans - Page 23

- **100 Years Of Market Structure Improvement** by Phil Mackintosh and Ka Wo Chen - Page 27

- **Trading U.S. Opening Gap In Asia Hours** by Gabriel Kan, Kei Gamo & Tom Kingsley - Page 44

- **Chart Of The Month** - Page 46
Profit presumes the existence of trend.

All market participants attempting to profit are trend followers.

It’s optional to hold these beliefs.

Introduction

Trend following makes sense and money. Yet most traders, investors, and portfolio managers cannot do it. People fail to implement many important components of trend following systems. One such component is the historical price breakout. Most avoid it. Many decry it. Successful trend followers buy it.

Why can’t most people buy the all-time high?

Hypothesis

The difficulty is emotional. People who are unwilling to fully experience uncomfortable feelings inhibit themselves from buying historical breakouts.

Explanation of Hypothesis

The historical breakout is one of trend following’s important entry signals. However, this event triggers very uncomfortable feelings by its very nature. Most persons avoid historical breakouts to sidestep having to experience untenable emotions. People do not like, or negatively judge, these feelings that arise. With this negative judgment present, people become unwilling to fully experience their uncomfortable feelings. This seems to agree with a common heuristic: Avoid doing things that feel bad (like fully experiencing uncomfortable feelings); do things that feel good instead.

One quick, effective, and common way to avoid experiencing uncomfortable feelings is to rationalize. Rationalizations are excuses and justifications to avoid experiencing untenable feelings. People make all sorts of excuses to avoid entering markets at historical breakouts. Indeed, they sound quite reasonable when compared to the loathsome option of fully feeling very uncomfortable emotions.
Most people are unaware of this dynamic. Ironically, they become aware when they fully experience their untenable emotions. Willingness may require the removal of negative judgment about uncomfortable feelings. Only then do people become willing to fully experience and reintegrate their original, uncomfortable feelings about historical breakouts. This process dissolves seemingly intransigent emotional difficulties or inhibitions associated with buying the all-time high.

Anecdotal Example

The following example offers a demonstration of this hypothesis. It describes the story of Jeff and a trade. Jeff’s experience is an anecdotal amalgam. It includes the author’s experience as a successful proprietary trader and portfolio manager since 1994 and his study of other peoples’ difficulties with historical breakouts.

Chart 1 – October 26

Jeff’s system highlights a stock due to very strong price action. He places it on his watch-list to keep a closer eye on it as a potential trade. Being on his watch-list, the stock is now in his trading universe. He marvels at the strength of DIGL as it surges from $10 to nearly $20 in just eight days. He notes its historical high at $23.75. “Wow! This stock really moves,” he thinks to himself. Yet, an uncomfortable feeling of apprehension begins to grow as he ponders buying the historical breakout. His somatic experiences of apprehension are mildly clenched teeth and a light pressure in his chest.

Almost immediately, Jeff does not quite like the way he feels about buying DIGL. He is uncomfortable and not at ease. “I’ll keep watching the stock. Moving so fast from $10 means it needs to take a rest before it goes much further.” Thinking about a needed consolidation makes Jeff feel a little better. His apprehension eases somewhat, but he still has some light levels of residual teeth clenching and chest pressure.
Despite Jeff’s need for the stock to pause to make him feel better, DIGL continues to rise. Jeff’s smoldering apprehension greatly intensifies as the stock consolidates only four days before surging to just under its historical high at $23.75. His notices his molars clench hard. His jaw hurts and feels tired. The pressure in his chest tightens like a constricting band. The stock hits its historical high. Jeff’s apprehension reaches the intensity where it tips over into fear. He feels scared to buy the stock, and he really dislikes this feeling. In lockstep, a flood of reasons to cancel his order enter his mind. He thinks, “This stock can fall so far and fast from this height. Where’s the pause to refresh? You’ll end up buying the top of the move if you enter now. Look, you missed the majority of the run from $10 already. It’s almost done. You know you can easily get whipsawed on this one without a consolidation. Did you really do enough research on this company?”

With this seemingly encouraging and supportive self-talk, Jeff does not follow his system and avoids buying DIGL. Immediately his jaw pressure decreases, and his constricting chest band loosens. His self-talk soothes him. Jeff doesn’t have a position, but he feels much better. Feeling better is good.

All of Jeff’s common rationalizations are excuses. They are a justification against buying the historical breakout and fully experiencing his concomitant uncomfortable feelings. More importantly and mostly overlooked, the act of rationalizing is a tool Jeff uses to generate enjoyable feelings. Like most people, he feels better when he rationalizes. Somatically, it gives Jeff a subtle, comfortable sensation of warmth and calm through his body. He
displaces and alleviates his untenable feelings of intense apprehension and fear with these enjoyable feelings. While Jeff feels much better, he second-guesses his trend following entry signal and lacks a position in a strong stock.

Jeff sees DIGL reverse direction sharply and close well under its historical high. His decision to cancel his order seems to be the right one. He thinks, “Ah! Finally, here comes the pullback! Nice call to avoid the whipsaw. I made the right move!” The market validates his rationalizations. Jeff feels great. He decides to stop watching the stock intraday and check on it after the close. He reasons that the reversal is large and comes after a big move already, which portends a likely, upcoming consolidation.

Jeff calls a good trading friend who, not surprisingly, has a similar difficulty buying historical breakouts. Greg also validates Jeff’s decision. He tells Jeff that his reasons make a lot of sense. “Look, you didn’t get whipsawed like everyone else. That’s the worst!” he says. Somatically, Jeff’s jaw feels relaxed, and his chest expands freely. He feels calm and warm from his rationalizations that turn out to be correct. This is by far the best Jeff feels since discovering the stock. He figures to buy shares of DIGL between $17 and $20 on the impending pullback. He splits the difference with a buy limit order at $18.50.

On a deep level Jeff gets what he wants. He makes an emotional trade. He avoids fully experiencing feelings he really dislikes. For that benefit, Jeff must skip buying a very strong stock at its historical breakout that may continue
a forceful up-trend. It is far more important to avoid his uncomfortable feelings than it is to follow his system and potentially profit. For now, Jeff feels great and waits for DIGL to trigger his order to catch the dip.

**Chart 3 – November 5th**

Despite all Jeff’s rationalizations, two days later the stock skyrockets higher by more than 50% in a day. It never comes close to his buy limit order at $18.50. Checking his watch-list after the close, Jeff stares at his screen in disbelief. Very strong somatic feelings of apprehension and fear immediately reappear. His jaw clamps shut to its tensest level thus far. His chest band constricts so tightly that he momentarily loses his breath. However, these feelings quickly dissolve and morph into a new one that suddenly appears. It is frustration.

Jeff’s frustration is a familiar emotion which has five somatic parts or forms. First, he feels a cool, numbing feeling shooting down through him. It feels like liquid dumped over his head which cascades down his body. Second, he shakes his head and clenches his fist. Third, his lips purse and tighten. Fourth, he mumbles to himself, “Another one got away. Trend following is just so hard. How was I supposed to buy that stock? Can I really do this?” Fifth, he feels a hole or pit in his stomach. Jeff feels very frustrated with himself as he watches the stock go ever higher without having a position.

As he removes the stock from his watch-list and thus his trading universe, the feelings of frustration lessen a bit. As they decrease a bit more over the next day, an idea flashes in Jeff’s mind to do some research to create a new set of system parameters to help him buy these “crazy” historical breakouts. This makes Jeff feel much better as he gets to work. His uncomfortable feelings of frustration fade.

Jeff’s search for a new, different, or better set of trading system parameters is a typical response. Most people cannot handle the emotions that associate with executing simple parts of a robust trend following system—like buying historical breakouts.

Indeed, many people institutionalize their unwillingness to experience untenable emotions. They remove historical breakouts altogether as an entry trigger from their system. It is just so much easier to change or abandon a robust parameter than it is to work on oneself, especially when it comes to feelings people hate to experience.

**Indeed, the very robustness of some simple trend following signals derives from their very ability to elicit extremely untenable emotions.**

People are adamantly unwilling to follow them. They cannot handle the intense emotional discomfort to which these parameters give rise. Few people can embrace deeply untenable feelings as normal and ok. Few can choose to fully experience them.
Instead, people find themselves in perpetual pursuit of the next “best” (read: most emotionally comfortable) indicator, software product, or trading system for a solution. People search futilely outside themselves for the root emotional cause that lies within, which is their unwillingness to fully experience uncomfortable feelings. Few win in the financial markets, most lose.

Chart 4 – February 23rd

DIGL trends much higher while Jeff stays focused on trading system development. In his case parameter changes are just another form of rationalization that masks, complicates, and obfuscates. What is really going on?

Jeff feels really bad about jumping his trend following entry signal. Along with his somatic feelings of frustration, he has another arise: a nagging, negative thought of self-doubt about his ability to win in the market and be a trader. It questions his identity. Self-doubt feels terrible.

Jeff wants these feelings to stop, so he turns to system development to bail him out emotionally. It makes him feel great. He feels productive, goal-oriented, and hard working. Jeff uses the enjoyable feelings he creates by being productive, hitting goals, and working hard to dislodge and replace his nagging self-doubt and frustration.
And it’s an effect palliative. He feels much better. At the same time, he “proves” to himself that he really is a trader by diligently working on his system. Unfortunately, Jeff is no closer to being able to buy historical breakouts despite all his hard work and productivity. In fact, Jeff actually degrades the robustness of his trend following method by tinkering with it under the false pretense that his difficulty is only mathematical and not emotional.

Jeff is unwilling to embrace another especially critical feeling for trend followers. It is the feeling of missing a major move or regret. Jeff cannot stand to keep DIGL’s symbol on his watch-list as part of his trading universe. Along with fanning his self-doubt and frustration, DIGL’s presence gives him a headache and throbbing heartache. These are his untenable somatic feelings of regret. They feel awful.

Jeff squelches the growing intensity of these feelings immediately. Eliminate the source to stop the feelings. Jeff removes the symbol from his trading universe, and his somatic feelings of regret quickly ebb. He intends to have no clue about how high the stock may trend. DIGL’s up-move remains out of sight and out of mind. Knowing anything about it gives rise to regret, which gives rise to the feelings he does not want to experience. Unfortunately, Jeff is unaware of any further historical breakout buy signals his trend following system may generate. He carefully protects himself from experiencing regret.

The intensity of a people’s regret seems to run in direct proportion to how far a move extends from where they avoid entering. The bigger the move, the higher the intensity of regret and the more unwilling people become to experience it. With some trends, both regret and the unwillingness to experience it can become severe. With severe unwillingness to experience regret, people easily avoid participating in major trends. Jeff’s unwillingness to experience painful feelings of missing a major move makes it easy for him to miss DIGL’s major run.

Moreover, Jeff overlooks the positive intentions of his uncomfortable feelings. All feelings have an underlying positive purpose. Regret’s positive intention is to remind Jeff what it feels like to miss a big opportunity. It feels so intensely bad that he wants no part of it.

Yet, by being willing to fully experience it, his feelings of regret transform from enemy to ally. They become commanding motivation to stick to his simple, trend following system. Look what Jeff must feel if he fails to execute his system and let a big winning position get away. Suddenly it becomes much easier for him to stick to his rules. Regret supports only if he is willing to fully feel it.

Self-doubt about winning and being a trader has positive intentions. It keeps Jeff honest with himself. It injects a helpful dose of cold reality and personal responsibility if he becomes willing to fully experience it. Does he really want to win? Is he really a trader? Jumping his system signals is surely not the way to answer a confident “yes” to either of these questions.
Self-doubt raises tough and pointed questions. If he does not think he can win or be a trader, self-doubt leads him to another critical question: what stands in his way and inhibits him? It may lead him to look internally if he becomes willing to fully experience it. Conversely, it may lead him away from trading and towards other directions if his honest answer is “no.”

The positive intention of Jeff’s frustration is to motivate him to change his system jumping behavior at historical breakouts. Jeff’s system says to do one thing while he does another. If Jeff becomes willing to fully feel his frustration, it powers him to find answers to the hard-hitting questions created by his own self-doubt. His intense frustration gives him the emotional energy and persistence to do whatever it may take to transform his behavior.

Risk control is the positive intention of Jeff’s fear. Fear serves as a protective warning. It can emotionally support a trader to cut losses short and manage risk wisely. It is a good feeling to experience. Fear keeps people safe physically, emotionally, and financially. Being unwilling to feel frightened allows people to ride losing positions and experience huge losses.

What do they have to fear? Nothing! They are unwilling to experience it.

Note the last bar of Chart 4 below. It’s another historical breakout from a 34-day consolidation after the stock more than triples in price over three months. Jeff continues to work on his system. Unfortunately, he is oblivious to another all-time new high. His unwillingness to experience uncomfortable feelings keeps his inhibition towards buying historical breakouts active. It continues to sabotage his ability to follow trends.
DIGL doubles from $75 to $150 during a final, blow-off move that occurs in less than ten trading days. Jeff misses a gigantic run of over 500% in roughly four months. His unwillingness to experience his uncomfortable feelings is an expensive habit. In late March Jeff pulls up a chart of the stock. He becomes very frustrated about missing another big, winning trade. Regret and nagging self-doubt seep up.

Yet, something changes. Through an act of seeming grace, he does not push these feelings away. Through the pain, Jeff gains a little insight. It motivates him to turn inward for a solution. While Jeff remains unaware of the dynamic that inhibits him, he accepts some personal responsibility for his frustrating results. Jeff begins to think that trading system development may not be the answer. “Where do I go from here?” he mumbles.

A Note on the DIGL Chart

For trend followers, a majority of profits come from a minority of trades. Finding and riding strong, persistent trends are critical factors for success. Historical breakouts provide a fertile field to find stocks beginning strong and persistent up-trends. While DIGL’s rocket up-move occurs during the NASDAQ’s “once-in-a-few-generations” blow-off of 1999-2000, similar moves occurred before and after this period. For example, a very small sample of historical breakouts from 2003-2004 with large rallies of similar or greater magnitude include AVO, HRT, INCX, PHRM, SHLD, TASR, TZOO, TONS and WYNN.
While this was a very special period in stock market history, history seldom repeats but often rhymes. Blow off moves like DIGL and the above examples repeat an on-again, off again pattern in US equities. The run-up to the 1929 crash was another similar period.

Bottom Line: The same feelings still occur in people to all-time new high breakouts- whether the resulting uptrend is a blow off run or more “normal” trend higher.

**Fully Experiencing Our Feelings**

Jeff’s difficulty buying historical breakouts stems from his unwillingness to fully experience uncomfortable feelings. When it comes to an uncomfortable feeling or emotion, what does it mean to fully feel or fully experience it? How can someone learn to remove negative judgment about his feelings and learn to enjoy or at least accept them?

Fully experiencing uncomfortable, untenable, and strongly disliked feelings is a radical departure from the way people normally handle their emotions. People tend to have years of entrenched and engrained defense mechanisms protecting themselves from fully experiencing untenable emotions. These defense mechanisms are second nature. It is essentially impossible to overcome this alone.

In Jeff’s case, an effective method to overcome his untenable emotions for real change must flow through important gateways:

1. First, he fully experiences his feelings of dislike or negative judgment about his untenable feelings.
2. Second, he reframes his negative judgments to neutral or positive ones so the negativity stops getting in the way.
3. Third, he now can fully experience his untenable feelings inhibiting him from buying historical breakouts. He has access to dissolve them as issues.
4. Lastly, he reintegrates his untenable feelings to gain insight, find, and accept their positive intention. This dissolves his inhibition towards buying historical breakouts.

In Jeff’s case, his difficulty buying historical breakouts dissolves. Jeff’s apprehension, fear, frustration, self-doubt, and regret no longer hold the same power over him. He removes his negative judgment or dislike of them. Jeff becomes willing to fully experience his uncomfortable feelings. Next, he goes through another process to fully feel them. Finally, Jeff reintegrates them in a final step. He loses his inhibition and feels emotionally free to buy historical breakouts. Jeff experiences insight as an “aha.” He gains wisdom and clarity into how he inhibits himself, where he formerly had no idea.
He understands that his difficulty buying historical breakouts is emotional. He realizes that his system parameter search is another form of rationalization and means to escape his uncomfortable feelings.

He avoids using more quantitative analysis as a palliative and “workaround” to avoid those feelings. Thus, he avoids embedding his emotional issues algorithmically into the core of his system.

**Conclusion**

The historical price breakout offers an important entry point for trend followers. Yet the moment it occurs, most people find it too emotionally difficult to buy. They cannot handle the feelings that arise. Instead, people commonly use rationalization as a tool to avoid experiencing their feelings.

Rationalization is a by-product of the unwillingness to fully experience untenable emotions. Unwillingness to fully experience uncomfortable feelings inhibits people from buying historical breakouts.

Removing negative judgment about untenable emotions fosters the willingness to fully embrace and experience them. Fully experiencing and reintegrating uncomfortable feelings clears inhibition. This creates emotional freedom to buy historical breakouts.

Most people have an antagonistic relationship with feelings they dislike. They believe these emotions can only damage, disrupt or interfere with their trading. When they find success, people realize that their own unwillingness to fully experience uncomfortable feelings sabotages their trading.

Success appears when people learn to reframe untenable feelings as natural and helpful emotional allies – even while trading. Learn to celebrate and embrace your own uncomfortable feelings. It can improve your investing specifically and your life more generally.

**About the Author**

Thomas Vician CMT has a continuous track record managing money since 1994 - first as a proprietary portfolio manager then as a semi-systematic hedge fund manager. Since 2014, Tom designs and implements tactical, algorithmic and scalable ETF portfolio management solutions based on twin momentum factors to improve risk-adjusted returns. Tom is a Chartered Market Technician with the Market Technicians Association (MTA). He co-chairs the MTA’s Austin chapter. He holds a BA in Psychology from Claremont McKenna College.

For more information: www.ThomasVicianCMT.com
Editor’s note: This material was originally published in the October 13, 2016 issue of Bloomberg Brief: Technical Strategies. Below are extracts from that Brief.

In a previous edition of the Technicals Strategies Quarterly, a profitable strategy using a Z score on the implied volatility skew for the FTSE 100 was explained. The strategy assumes spikes in the skew represent extremes in sentiment, and hence mean reversion opportunities. The strategy goes long the FTSE when the Skew Z Score crosses below +2 standard deviation and short at -2 (positions liquidated at 0). Over the last three years the strategy would have generated a 214% return, with a winning ratio of 88% and a Sharpe ratio of 2.27, the back test shows.

On a pure price basis, a technical indicator that tends to perform well in such environments is the Williams %R, developed by Larry Williams. The image below, from the BTST scatter plot tab, shows the profitability of sample strategies over the past year (Y axis) versus the maximum drawdown of each (X axis).

Williams %R Bests 22 Trading Strategies in Returns and Drawdowns

Source: Bloomberg
Of the 23 strategies in the scatter plot, the Williams %R has the fifth-best drawdown at just over 16%, and the best profit at almost 45%.

The Williams %R oscillator identifies whether a security is trading at a relative high or low in relation to the highs and lows of a look back period based on selected periodicity. Its calculation is as follows:

\[ WLPR = -100 \times \frac{(N \text{ Period Highest High} - \text{Close})}{(N \text{ Period Highest High} - N \text{ Period Lowest Low})} \]

where:

- **Highest High** = The highest High over the specified N Period.
- **Lowest Low** = The lowest Low over the specified N Period.
- **N Period** = For daily, N=days; weekly, N=weeks, etc. The default is 14.

Its scale is from 0 to -100 with overbought normally at -80 (short entry) and oversold at -20 (long entry).

The strategy can be modified to add exit rules rather than being fully invested at all times. That results in the backtest results shown below:

Source: Bloomberg
Despite adding five years to the analysis, during which time the behavior of the index has varied considerably, the strategy has performed remarkably consistently. The profit has swollen to 125% and the winning ratio has increased from 75% to 77%. The maximum drawdown has declined to 13%. The average duration of trade is just six days.

Oliver Woolf is a technical analysis specialist at Bloomberg LP. He can be reached at owoolf@bloomberg.net
INFLATION IS COMING

BY GREG HARMON

Editor’s note: this was originally posted at Dragonfly Capital on October 18th, 2016.

Inflation is coming, and Janet Yellen is now getting scared. Makes for a great lead doesn’t it? The Fed appears to be on hold until after the election with pressure building to make a move by raising rates. So no wonder Janet looks scared. If inflation is rising then her committee might fall behind and need to move faster to get back in control. That is historically how it has worked though. Talk a big game of staying in front of inflation but lag the actual move and need to catch up.

Enough of the history lesson though. It does look like inflation may be building. I get my evidence from the chart below of the CRB Index. This used to be the Fed’s go to measure of inflation before the PCE thing was created. After 4 years of slowly falling inflation from 2011, the CRB Index dropped precipitously at the end of 2014 as Oil prices started to fall. It settled for a while in early 2015 before another run lower to the end of the year and a bottom in early 2016.

Since that bottom though the CRB Index is up 23%. The level is not so bothersome, but the trajectory is what matters. Currently the CRB Index is moving up off of a September low and at the neckline of an Inverse head and Shoulders pattern. A break of this neckline, by a move over 191, would trigger a target of 235 to the upside.
That is right at the top of the consolidation zone from 2015. Again this is not an alarming level for the CRB, but the direction is more important. Momentum is rising as well. The RSI at the top of the chart shows it in the bullish zone and rising short term. Time for the Fed to be in ready mode.

Gregory W. Harmon, CMT, CFA, is the author of *Trading Options: Using Technical Analysis to Design Winning Trades* and founder and president of Dragonfly Capital Management, where he provides expert technical analysis and trading ideas using stocks and options. This happens through two businesses: Dragonfly Capital Managed Accounts, an asset management firm investing for clients in separate accounts, and Dragonfly Capital Views, a premium trading and subscription newsletter. He is also an adjunct Professor at Case Weatherhead School of Management, teaching Risk Management within Portfolio Management. Greg has more than 25 years of trading experience at BNP Paribas, State Street and JPMorgan. More information is available at [www.Dragonflycap.com](http://www.Dragonflycap.com).
The book begins with a provocative point:

*With unlimited money, it would be hard to lose trading commodities.*

Carley explains, “Knowing the nature of commodity boom and bust cycles, a trader with immense pain tolerance, financial capital, patience, and discipline to accept massive drawdowns in exchange for nearly certain trading success might “never” lose money trading commodities.”

This is a bold statement but it is true and it is unique to commodity trading. It does not apply to any other investment. Stock markets provide investors with ample opportunities to find long-term losers as do corporate or municipal bond markets. In extreme cases, sovereign debt has been wiped out and currency traders have also been bankrupted by government decisions. Commodities are unique in that they exhibit a boom and bust cycle that has repeated for thousands of years and allowed traders to benefit. While it is true that with unlimited trading capital and patience it would be hard to lose trading commodities, many, if not most, traders lose money.

To paraphrase Tolstoy, “all successful long-term traders are alike; each losing trader finds their way to losses in their own way.” Despite the existence of millions of losers, the keys to success in trading are fairly well known. Traders need to avoid excessive margin and trade with a disciplined strategy. Losing traders violate these basic principles in hundreds, if not thousands, of ways. Education about every aspect of trading would help more traders succeed. This book offers a way to help traders avoid failure.

Trading can be simple or complex. At one extreme is the individual who looks at a chart and makes all decisions based solely on the price action. While this approach can work, it is unlikely to. At a minimum, traders will also need to make decisions about how to allocate capital. Ideally, the chart-based trader would also consider whether or not they could improve their results by understanding the different type of orders that can be entered or by using strategies to minimize the costs of rollover trades that are required in some futures trades. In fact, there are dozens of factors to consider to potentially maximize gains and many of these topics are covered in *Higher Probability Commodity Trading*.
Its breadth is one of the most appealing features of this book. Any conceivable topic of interest to a futures trader is covered, providing a review to seasoned market professionals and an introduction to the minimum knowledge needed to the novice. While the book’s intended audience is futures traders, the comprehensive approach provides an outline of the body of knowledge required for any type of trader.

Technical analysis is briefly covered as is fundamental analysis. Seasonality is explained and examples are provided.

**Figure 24:** Gold is unique in that it has industrial value as well as perceived economic and aesthetic value. Accordingly, it regularly finds support from demand for the yellow metal during the Indian wedding season.

**GOLD TRADING TIPS**

- The highest gold prices are generally seen in the latter part of the year, but the buying comes early in preparation of the actual need of the gold jewelry. The most reliable seasonal trade is one that involves being bullish in gold in the early to mid-summer. Some traders are willing to begin establishing bullish positions in March, because gold often sees a large break in prices on the heels of a conclusion to the Valentine’s Day demand. Early buyers must be willing to be patient and assume the risk of a drawdown before prices firm up for good. The bulls shouldn’t overstay their welcome, however, considering gold buying often dries up in September to October.

- Another popular trade among commodity traders is to get bearish gold in February in anticipation of the common March break. I consider the timing of this move to be less reliable than the aforementioned summer bullish pattern because the pattern has shifted from February into March over the years. Nevertheless, being aware of this tendency might aid traders in timing, or at least help prevent painful trading mishaps.
The combination of visual analysis with a clear “trading plan” helps explain the purpose of seasonal analysis and is clearly applicable to any technique. Good analysis is simply distilling complex facts into a few, actionable sentences. Carley’s illustrations of data from the Commitment of Traders report demonstrate that objective.

![Graph showing small speculators as a “fade” signal](image)

In this case, a picture with a few key insights is the entire analysis. This is a useful format for traders and analysts tasked with preparing detailed reports. It’s often forgotten that charts provide almost all of the information needed and the analyst’s job is simply to interpret the information and summarize a course of action. Throughout *Higher Probability Commodity Trading*, readers will find examples of good analysis.

Readers will also find simple explanations of complex topics. As an example, there is the definition of algorithmic trading systems, or “algos,” as “an automated futures trading system is a defined set of technical rules and parameters that ultimately determine entry and exit points for a given contract. In the event that all of the stipulated technical events occur, a buy or sell signal is created and a trade is automatically executed without human intervention. Simply, it is trading on autopilot.”
This is followed by the observation that “The media generally portrays the algorithmic trading community as being flush in profits at the expense of the average retail trader. I’m not convinced this is the case; for every good trading system out there, there are more bad ones.”

The same idea applies to trading books but in that area, some argue the bad ones dramatically outnumber the good. Higher Probability Commodity Trading is among the rare good trading books that will benefit readers of any knowledge level.

Carley Garner is an experienced futures and options broker with DeCarley Trading, a division of Zaner Group, in Las Vegas, Nevada. She is also the author of Higher Probability Commodity Trading; A Trader’s First Book on Commodities (two editions); Currency Trading in the Forex and Futures Markets; and Commodity Options. She also publishes two e-newsletters, The DeCarley Perspective and The Financial Futures Report. Carley graduated magna cum laude from the University of Nevada Las Vegas, with dual bachelor’s degrees in finance and accounting. She has been working in the options and futures industry since 2004. To learn more, please visit www.DeCarleyTrading.com.
A LONG-TERM PERSPECTIVE ON BONDS

BY KEN WINANS

Editor’s note: this information is extracted from the second edition of Investment Atlas: Financial Maps to Investment Success. For additional information on market history, please visit KenWinans.com.

Below are charts showing the price and interest yields of U.S. corporate bonds and the total return (annual price change and interest earned combined) adjusted for inflation since 1862.

Unlike common stocks, where most profits are made through increases in the value of the shares, the price of bonds oscillates around the maturity value (or par value) of $1,000 per bond, thus showing only a small change in bond values over the past 153 years.

The real profit power of bonds comes through the regular interest paid to the investor by the company that issued the bond. This has averaged 6.3% since 1862 for a total interest return of 961%.

Traditional corporate bonds have been steady performers where returns have doubled 13 times since 1862 and have generally performed well against inflation.
Corporate income investments can be divided into bonds of high-quality companies, bonds in companies of lower standing, and preferred stocks (a type of stock that pays a high level of income to its investors and usually doesn’t have a maturity date).

As can be seen in the next set of charts, while the levels of yield are different, the three types of corporate income investments look nearly identical. In fact, all had record low yields in April 1946 and record high yields in late 1981.

Americans have had a long love affair with international investing. Though stocks in foreign companies usually get most of the attention in the media, the bonds of foreign governments and international corporations have proven to be an especially good investment during times of declines in the value of the U.S. dollar.

In the chart on this page, you will notice that in the post-World War II era, there has been a continuous bull market in foreign corporate bonds when returns are adjusted in U.S. dollars.

“Since the United States has taken the position of a creditor nation, it is becoming a great marketplace for foreign bonds.” Investment Fundamentals, Babson—1930
Foreign Bonds Total Return—Since 1923

13.306% Increase

BOND FACTS and OBSERVATIONS

U.S. CORPORATE BONDS SINCE 1900

Positives

- Corporate bonds have produced a 71.9% cumulative gain (a 6.2% average annual return).
- $1 invested in housing in December of 1899 is worth $811 today ($24 after inflation).
- They have doubled in value 9 times (every 13 years on average).
- The best annual return was 39% in 1982.
- 96% of the total return was interest income.
- The average yield is 6% and is significantly higher than Treasury and municipal bond yields.

Negatives

- Corporate bonds have posted negative years 21% of the time.
- Multi-year bear markets occur 3%.
- The average loss in a negative year was 3.3%.
- The worst annual return was -14% in 1931.

10-Year U.S. Treasury Bonds Since 1900

- The highest yield was 15.8% in 1981.
- The lowest yield was 1.4% in 2012.
- The average yield was 4.6%.
- T-bond yields average 1.1% higher than 3-month T-bills.

Municipal Bonds Since 1900

- The highest yield was 13% in 1981.
- The lowest yield was 1.6% in 1945.
- The average yield was 4.5%.
- The tax-adjusted municipal bond yields are comparable to corporate bond yields.

“Recent peak yields were far above the highest prime long-term rates reported in the United States since 1800, in England since 1700, or in Holland since 1600.”

A History of Interest Rates, Homer—2005

“Students of the bond market are constantly in danger of falling into the mental habit of thinking that the ‘bond market’ represents a single unified thing, which behaves in the same way throughout all its parts. A time like the present illustrates the highly composite nature of the bond market, and the variations in the responses of its different sections to the influences which affect it.”

The Magazine of Wall Street—September 29, 1923
Kenneth Grant Winans, CMT, is an investment management entrepreneur, an author, an avid collector and an active philanthropist. Ken has pioneered the development of several investment indexes and technical indicators and, in 2007, he wrote and published the first book on preferred stocks since the 1930’s, “Preferred – Wall Street’s Best-Kept Income Secrets”. Nineteen months later, he wrote and published his 2nd book “Investment Atlas - Financial Maps to Investment Success”. This investment history book reviews 200 years of events and how stocks, bonds and real estate reacted. A true entrepreneur, Ken left a promising career with Merrill Lynch and started Winans International in 1992 with only 7 clients. He envisioned an advisory practice different from other investment firms. Ken was founding President of the San Francisco Chapter of The Market Technician Association. He is also a senior member of the Chartered Financial Analyst (CFA) Institute and has served on several committees for the San Francisco Chapter. He holds a Masters in Finance from the University of San Francisco and a BA in Business Economics from the University of San Diego.
100 YEARS OF MARKET STRUCTURE IMPROVEMENT

BY PHIL MACKINTOSH AND KA WO CHEN

Editor’s note: this was originally published by KCG at KCG.com. KCG offers services designed to address trading needs across asset classes, product types and time zones. The firm is one of the world’s largest independent market makers.

Crib Sheet:

The US Equity market is the most liquid and arguably the cheapest in the world for long-term investors. It is also a market where ETFs and hedge funds thrive. No single event got us here – it’s been a process of constant refinement and learning. Three consistent factors have contributed:

1. Innovation
2. Competition
3. Regulation

Since the invention of the telegraph in 1832, technology has had a disruptive influence on market structure. Often, regulators have had to step in to require incumbents to adopt technology, spend on productivity enhancements and break down exclusive access.

Now nearly all trading is done electronically, which has changed how trading is done as well as who can do it. Those who have thrived are the ones who have adapted: improved their processes, reduced their costs and improved their access to relevant information. New electronic markets mean venues and asset classes are better connected now than at any time in the past – and trade mispricing evaporates in nanoseconds, not minutes.
Exhibit 1: We estimate volumes accelerated consistently after WWII.

What’s the point of markets?

Efficient capital allocation

One of the core purposes of markets is to efficiently allocate capital and resources.

Primary markets help bring investors and corporates together, and help ensure that assets are sold for the highest price possible where (supposedly) they will add the most value. To achieve that, equity markets have evolved with a number of specialized participants with very different objectives. At a basic level:

- Corporates need to issue stock
- Investors want to buy stock
- Exchanges provide a listing venue

These participants are typically focused on collecting high quality and consistent information. This information is used to make valuation assessments more reliable.

Liquidity Provision

Secondary markets are critical to allow investors to reallocate funds to new opportunities. This makes trading a key function of markets.
But trading is not “free.” There are operational (explicit) costs and impact costs, which eat into the returns of investors.

Trading works well when more participants are involved, as different views bring participants to each side of a trade. Trading works even better for participants who can trade much more cheaply than the average investor – as they are then able to take on trades that long-term investors couldn’t afford to make.

That makes additional participants important:

- Exchanges or ECNs provide a venue for posting bids and offers, or issuing RFQs
- Brokers are important to help match buyers to sellers while retaining anonymity
- Hedge funds and traders, with higher turnover strategies, are important to provide medium-term stock trades which are more likely to facilitate large rebalances done by investors
- Arbitrageurs are important to ensure short-term relationships between stocks and indexes don’t break down, which also transfers liquidity between securities
- Specialists and market makers are important to facilitate trading when natural sellers (or buyers) cannot be found

These participants are typically transaction based. They benefit from investments they make in delivering productivity and economies of scale.

**The earliest innovation**

1792: A centralized market: lower latency, consistent rules

On May 17, 1792 twenty-four brokers signed the Buttonwood Agreement. Ironically, this agreement set a floor commission rate charged to clients and bound the signers to give preference to the other signers in securities sales. The agreement also established a centralized market, with consistent listing and trading rules, which made it much easier for information to be transferred and buyers and sellers to be matched. Over time, restrictions on manipulative trading were adopted as well as formal organs of governance.
1832: Electrification of messages impacts market share

The invention of the electric telegraph improved the speed and sharing of information. This in turn helped consolidate markets, and New York rose to dominance over Philadelphia after weathering some market panics better.

1872: Specialists bring intermediation and liquidity

Large buyers and sellers don’t always align – which, if a buyer (or seller) has urgency, creates volatility and, at the extreme, crashes. This is why a key requirement of the market is to also provide liquidity. The introduction of specialists, allowing intermediaries to facilitate large trades, was designed to smooth volatility and reduce the impact of large trades – theoretically a win-win for the investor and the intermediary.

1884: First index created

In 1884, Charles Dow composed his first stock average, which contained nine railroads and two industrial companies that appeared in the Customer's Afternoon Letter, a daily two-page financial news bulletin, which was the precursor to The Wall Street Journal. This later became the Dow Jones Industrials average, in 1896. Because calculations were done

There has always been fragmentation

Although the NYSE centralized trading on a curb, it wasn’t the first. That honor belongs to Philadelphia Stock Exchange which was founded in 1790.

Because there was no electronic communications, there were ultimately multiple cities with exchanges, including the Boston Stock Exchange (1834), Cincinnati Stock Exchange (1885), Pacific Stock Exchange (1882) and the American Stock Exchange (1865).

How to price specialists’ obligations?

To ensure some investors didn’t take advantage of the capital specialists provided to the market as whole, specialists had access to trading data and special queue priority.

At the time this was seen as a “fair” way to compensate specialists for their commitment and risk. However the inclusion of specialists in the market did little to stem market-wide panic, including the Panic of 1896, 1901, 1907 and 1910–1911.

Ultimately these advantages would later be seen as an unfair to other traders willing to commit capital more cheaply. Following the automation and decimalization of the market around 2001, specialist contribution to liquidity reduced significantly.
manually, the index was computed as a simple sum of the prices of the included stocks (divided by a divisor to account for corporate events). The Dow remains a price weighted index today.

1924: Early mutual fund creates an ‘institutional’ investor

The first open-ended mutual fund in the US opened in 1924. This was critical to the democratization of share ownership for the masses. Open-ended funds allowed for small investors to pool assets in a way that afforded professional portfolio management. Over time, it led to a multi-trillion-dollar industry, which in turn saw funds so large that trades took days to execute. This ultimately created a new type of liquidity need in the market.

1933: Regulatory reaction

Not surprisingly, the result was a raft of new regulations – with comprehensive industry coverage – that remain mostly in force today, covering everything from IPOs to how exchanges work, to how investment funds protect client assets:

- 1933 Securities Act, covered IPOs. It required prospectuses with financial disclosures. It also included rule 144, which discloses onmarket sales by insiders.
- 1933 Banking Act, otherwise known as Glass-Steagall, separated banking and securities firms. It also created the FDIC deposit insurance as well as rules on speculative use of bank credit.
- 1934 Securities Exchange Act, created the SEC to regulate exchanges and secondary trading. Also included anti-fraud rules.
- 1938 Maloney Act Amendments founded FINRA (then NASD) to supervise members subject to SEC oversight.
- **1940 Investment Company Act**, included rules to safeguard investor money from asset managers, including restricting leverage. Modern ETFs still need exemption from parts of the 1940 act, although it specifically excludes hedge funds.

- **1940 Investment Advisers Act**, was formed to regulate advisors. Does not mandate qualifications for becoming an advisor, but imposes fiduciary obligations and requires registration.

1960s: Inside information isn’t fair

By the 1960s, as turnover picked up, consensus changed on the value and rewards paid to specialists. In fact, even the SEC found that floor traders were using their informational advantages to fade orders or even to trade on.
The beginnings of electronic trading...

Electronic trading lowered the barriers to entry for alternative trading systems – leading rapidly to even more fragmentation – as investors unhappy with the restrictive status-quo designed better ways to trade.

1969: The world’s first ECN

Electronic trading was born in 1969 when Instinet, the first electronic communication network (ECN), connected institutional investors and promised disintermediation, anonymity and after-hours trading. In time, the traditional role of exchange as a trade handler would be blurred.

1971: The beginnings of an electronic stock market

The year 1971 saw game changers in two fields: the opening of Nasdaq and the invention of the microprocessor. Nasdaq was the first electronic stock market in the world. At first, no actual trading took place between buyers and sellers. Instead,
the NASDAQ showed market wide quotes, which made the inside spreads easier to see for investors, effectively lowering spreads for informed investors.

**Regulators spur innovation & connection**

1970s: Exchanges are a little slow to adapt...

Electronic tools made it far easier to share data more equally. But investors who were not paying for direct market access were often still not aware if they were getting the inside (or best) quote. Regulators stepped in to adapt their rules to use computers to keep new markets linked and better disseminate trade and quote data to the masses.

1975: Regulations bring consolidation + competition

As the number of markets grew, the SEC was tasked to facilitate the establishment of a National Market System (NMS). Importantly, the Consolidated Tape System (CTS) was introduced to provide last sale information in a consistent way, despite the fact that trading was now happening on multiple different venues. In the National Market System, there was also to be competition, and the competition was to be fair. And for there to be price competition, NYSE’s fixed rate commission, a 183-year-old tradition, was finally abolished.

1976: NYSE launches DOT

NYSE went electronic by launching the Designated Order Turnaround system, and small orders would bypass floor brokers and go straight to specialists to be matched. A specialist, however, still had to manually approve each trade, which also gave them time to fade a stale quote.

1978: Exchanges connect enabling consolidated quotes

In 1978, the Intermarket Trading System (ITS) connected competing exchanges (not including NASDAQ, which was considered a quotation system for OTC traders), and orders could be routed from one exchange to another for better execution prices. In the same year, the Consolidated Quotation System (CQS) began disseminating all quotes from exchanges, to be joined by NASDAQ a year later.

**Computers start to take over**

1979: Machines are allowed to trade on their own

Only in 1979 did it become lawful for members of exchanges to trade their listed securities without being physically present, and that had great implications for OTC markets.
1980s: Investment & execution automated

Enabled by more readily available technology, program trading, where computer programs helped decide when to trade securities, rose in popularity in the 1980s.

1982-4: Nasdaq adapts differently for retail and institutions

In 1982 NASDAQ, the missing piece of a truly connected market, joined the ITS, and the computer linkage connecting exchanges and OTC markets was pitting securities markets against each other. In 1984, Nasdaq’s Small-Order Execution System (SOES) went live to, fittingly, execute small orders. It was designed to improve trading for small (retail) orders, not large institutional orders.

1986: The world’s first dark pool

Instinet launched the first dark pool in 1986.

1986: Redundancy becomes important

As it became clear that the health of the financial markets relied on hardware and software just as much as it did on people, Nasdaq in 1986 opened a fully redundant backup system.

1987: Crash and market makers ignore obligations

Black Monday occurred on October 19, 1987. With a backdrop of increasing military tension between the US and Iran, the Dow Jones Industrial Average (DJIA) dropped by 508 points (22.61%) in a single day. Some blamed selling by program traders, most notably the computerized selling of portfolio insurance hedges. Once again, market makers avoided obligations – on the floor (it was reported that traders wouldn’t pick up the phone) and on the Nasdaq. Retail investors were also hurt, many small orders were not responded to during the crash. Ultimately to ensure liquidity, participation became mandatory and beginning in 1988, SOES executed orders automatically.

1988: Circuit Breakers to counter systemic risks

After Black Monday, regulators developed new rules, known as circuit breakers, allowing exchanges to halt trading temporarily in instances of exceptionally large price declines in some indexes.

The late 90’s rise of electronic trading
In hindsight, the period from 1995-2005 can be seen as contributing to a dramatic fall in trading costs. This is mostly due to automation.

1992: FIX protocol automates parent-order routing

The FIX Protocol was designed by Salomon Brothers and Fidelity in 1992 to standardize electronic communications in equity trading, so machines in different firms could understand the same instructions.

1993: First EMS empowers the buy-side

In 1993, Instinet launched Instinet OMS, an early example of execution management systems (which automate sending of orders and settlement instructions). The traditional role of broker as an order handler had been blurred; soon that role would become obsolete.

1995: First ECNs improve institutional spreads and speed

In March 1994, a study by two economists, William Christie and Paul Schultz, noted that NASDAQ bid–ask spreads were larger than was statistically likely. Around that time a number of ECNs became active – including Island (now owned by Nasdaq), Archipelago (now the NYSE Arca) and EDGE (now owned by BATS). ECN’s attracted liquidity inside the market makers spreads, primarily via a system or rebates to liquidity providers. These later spurred the maker-taker models of today.

Late 90’s: Early online trading for retail

In 1994, the first brokerage firm (now TD Ameritrade) offered online trading via its "WealthWEB". However this really proliferated after 2001, with the development of dedicated online trading portals. Over time, many of the retail platforms decided to route orders to market maker firms to have their orders filled – circumventing the need for retail traders to understand the complexities of modern market structure.

2001: First algorithmic trading for the buy-side

Before buy-side algorithms were available, broker-dealers still had to work the orders. The delivery of algorithmic trading to the buy-side via their EMS’s helped automate trade execution process too.

Regulators spur competition
Although NYSE adopted the DOT back in 1976, and the ‘87 crash was blamed (partly) on program traders\(^1\), computers really didn’t start to impact the market until auto-execution was implemented in the 1990s. This was critical to the development of buy-side EMSs and client-facing algorithms — which, combined with FIX protocol, changed the way trading worked.

1997: Order handling rules – an early NBBO

Order Handling Rules required that market makers’ best quotes be made public. To this end, if the best quote was on a private ECN, that ECN was allowed to communicate to the public system the best quotes they received, and market participants could access those prices through Nasdaq. Order Handling Rules had an immediate impact on official spreads which narrowed dramatically.

1997: Tick size reduction – to Teenies

The Order Handling Rules had another implication — ECNs and Nasdaq had to ponder over tick sizes. ECNs had finer increments (typically $1/64) than Nasdaq, so rounding was needed for display. In 1997, the tick size on Nasdaq reduced from $1/8 to $1/16, and NYSE followed suit.

1999: Reg ATS sets different rules for dark pool vs exchange

Rules for ATSSs were still inconsistent, and they were regulated as broker-dealers despite functioning as securities markets. In an effort to bring ATSSs into the national market system, Regulation ATS in 1999 prescribed that ECNs could choose to be regulated either as a market or a broker-dealer. But it also required adequate investment as well as setting reporting requirements. Dark pools and ECNs both fall under the definition of ATS. The differentiator is the lack of quote visibility on a dark pool. Consequently there can still be better prices off exchange, but you need to ping the venue to find them.

2001: Tick sizes go metric

\(^1\) In the 1980s Program Trading represented the automation of stop orders, which would generate a ticket for the floor traders to execute. Today, program trading represents the working of baskets. Modern program trading benefits from the development of electronic routing and execution in modern markets — allowing computers to work thousands of stocks, and their child orders, at the same time.
In 2001, tick size reduction continued and fractional pricing gave way to decimal pricing, making the two-century-old Spanish system obsolete. In the next four years, even before Reg NMS protected NBBO, spreads collapsed 90%, arguably the most significant reduction in trading costs to date. This flowed back to investors not just with smaller spreads for their stock trades, but much more efficient index and ETF arbitrage - making hedging and cash equitization much cheaper. Importantly, this era represents a confluence of changes that enabled new participants, with higher turnover strategies, to thrive:

- Decimalization reduced costs for high turnover strategies like index and statistical arbitrage.
- Computers allowed for more, and more complex, trades to be calculated – faster.
- Electronification of the markets allowed computers to interact with the markets directly. Reducing operational costs and risk of partial fills and legged trades from computerized trading models.

**Reg NMS: A solution to fragmentation and a source of new problems**

2005: Investors still not getting best-ex

The emergence of new venues after Reg ATS together with a fundamentally more free-market and competitive system had increased fragmentation. Despite ITS, where a market-wide best bid and offer could be found electronically, it was obvious that some customers still weren't always getting the best prices available. Reg NMS fixed all that by prescribing “best ex” to be the NBBO – regardless of other factors like fixed and variable exchange charges. This is in sharp contrast to the approach taken in Europe where critics say “too much judgment” is required.

2007: Forcing a continuously interlinked market

Regulation NMS was adopted in 2005, but not enforced until 2007 – giving participants time to adapt their systems to the wide-ranging changes it introduced. It took the idea of a consolidated NBBO further. Rather than creating a mechanism for the participants to see the quotes in the market – and hoping they’d do the right thing – it mandated that trades must occur at the best bid or offer. This put the responsibility for best-ex on the broker (and the exchange). In turn this meant that all participants needed to connect to each other electronically. Exchanges even have to route trades away to competitors if they offer a better market. This effectively automated away venue arbitrage.

**Reg NMS created new issues**
Reg NMS automated away many of the issues of the 90s, and created a truly integrated electronic market with equal access. But it unintentionally created new issues:

- **Latency Arbitrage:** Reg NMS automated away venue arbitrage. But it didn’t eliminate latency arbitrage – where traders who invested more in trading than exchanges did, could still grab mis-pricings across venues.
- **New exchange subsidies:** By guaranteeing price protection for any exchange showing an order at the NBBO, requiring that all participants take data feeds, and guaranteeing a share of SIP data revenues to all exchanges, the SEC made it much easier to launch a successful new venue.
- **Maker-taker became critical for all exchanges to maintain market share.** Without subsidizing market makers, the chance that a venue would show protected bids and offers was reduced.
- **Order type complexity:** Decimalization reduced spreads to barely economic levels for market makers. The introduction of take fees made trading across the spread unintentionally, uncommercial. This led to increasingly complex new order types designed for rebate capture.
- **Fragmentation:** Combined, these supported even more fragmentation, at the exchange level and also in dark pools (to avoid paying expensive taker fees)
- **Subsidizing liquidity provision encourages fade:** Maker-taker strategies and fragmentation combine to encourage overposting by market makers – which requires careful inventory management to avoid adverse selection. Although this means the depth of book is relatively unchanged despite decimalization, it makes book fade much more likely for slow routed orders.
- **Broker conflicts:** As most long term investors still pay all-in commissions, brokers must absorb whatever take fees accrue on client orders. Given the difference in inverted vs take fees is often a material percentage of execution only commission rates, routing incentives are misaligned. There is a lack of transparency into what the true tradeoff is between premium and low-cost routing, as well as how much low-cost routing has contributed to lower commissions.

**A series of new crises**

**2007: Quant meltdown & computer feedback loops**

In what may have been a sign that the market was frothy, August 9, 2007 saw what came to be known as the Quant Meltdown. Although the market was down a mere 380 points, the feature was the underperformance of quant funds. According to studies, initial losses triggered risk reduction, which created more trading, resulting in a vicious cycle for quant funds. Consensus seemed to be that the growth of quant funds – investment strategies powered by computers – had created consistent and therefor crowded trades. But it also reflected yet another way that computers could quickly react to new information and create a negative feedback loop that increased systemic risks.
2008: Credit crisis and great recession

In 2007, a series of credit related events unfolded and by 2008, powered by the collapse of an inflated property market, the US sank into a full-fledged recession. It seemed clear once again that loose lending and leverage had contributed to another dangerous asset bubble. Equities sank almost 57% from their highs, volatility climbed to levels not seen since the Depression. Some of the oldest securities and insurance firms in the US went broke and many others needed substantial government intervention to keep them solvent.

2010: Flash Crash

Just as the equity market seemed to be recovering, the US stock market plunged 9% in the space of less than 15 minutes on no new news. Many billion-dollar companies traded at stub quote (1-cent) prices and a majority of ETFs disconnected from their net-assetvalue. Now dubbed the Flash Crash, the blame fell squarely on computerized trading. An automated futures trade was thought to have started the crash, and HFT were later blamed for perpetuating it. There were a number of other contributing factors – the sheer volume of trading caused technical problems with the NYSE Arca and the consolidated quote system – that under Reg NMS was critical to ensure trading and compliant prices. The date in question was not without its own macro issues. The European sovereign crisis was unfolding, and ultimately dragged the market down even more than the low on May 6, 2010.

A series of renewed regulatory reactions

2008– now: Regulatory reaction in the aftermath of the economic panic, a number of rules were changed or introduced — all to address market volatility.

- Short selling of some stocks was temporarily banned as a regulatory coping mechanism. Seen by some as undue market intervention, the ban was the then SEC chairman’s biggest regret of his term.
- 2010: Stock circuit-breaker program introduced, and then enhanced across indexes
- 2011: Uptick rule re-implemented
- 2012: limit up and limit down price bands Perhaps most significant, Dodd-Frank was introduced in 2010 to ensure that banks are not too big to fail, and when they do fail, it is not because of proprietary trading.
2014: Reg SCI to reduce systemic risks

Many of the new crises had elements specific to the adoption of computers for trading. Specifically, because computers can process very fast, but not think for themselves (yet) there is a new systemic risk from the rapid formation of feedback loops.

- The quant meltdown was attributed to the rapid growth of quant funds, and the similarity of their data driven approaches and risk tools, which led to a concentration of factors across funds, and created a feedback loop as initial selling caused performance to degrade and model risk to spike.
- The failed FB IPO was caused by too much message traffic, and the inability of the matching engine at Nasdaq to process orders and cancellations fast enough.
- The flash crash was thought to be compounded by
  - a selling feedback loop caused by electronic market makers trying to exit long positions as the market cycled down
  - buyers exited the market as their models broke down under the extreme event
  - Exchange servers being bogged down by the sudden spike in message traffic
- In 2013, a software error in Nasdaq’s Securities Information Processor (SIP, part of the Consolidated Tape System) occurred and trading was halted. A year later, Nasdaq won the bid to keep running its SIP, with promises to speed it up and maintain a live, full-speed backup system, because without reliable technology, there would be no trading to even speak of.

Computers changed trading significantly

Of all the changes made in the last 100 years, the past 20 years has probably seen the fastest, and most dramatic, changes in trading. Trading has been revolutionized:

- Desktop EMS’s mean the buy side can control executions themselves.
- Computerized settlement systems mean it’s faster and cheaper to settle multiple trades
- Reduced trade sizes can minimize the signaling cost of every order sent to market

Studies show lower latency adds to social utility

With multi-million dollar investments in trading infrastructure, just to gain microseconds on a trade, it’s easy to claim that it’s an economic waste. But is that true?

After all, the faster markets react, the faster mis-pricings correct. For example, a slower data feed between Chicago and NY would mean more futures trades at incorrect prices. And given long term investors often have the large one-way flow that causes prices to move – it’s more likely slow (or expensive) markets will be richer for longer – which is bad for long term investors.

Robert Jensen studied fish prices in Kerala, India before and after the introduction of mobile phones along the coast. The ability to access and convey information led to a dramatic convergence of fish prices between different markets.

- Fishermen’s incomes rose
- Consumers gained too, as the fish went to the markets where it was most highly valued
- There was also less wastage

Other studies of mobiles and agriculture prove that where producers can act on the improved price information, the new technology improves economic efficiency.

Source: FT
The impact of this can be seen in Exhibit 6 below. Average trade size has fallen 90%. To compensate, the frequency of trading has risen. However, trading frequency has increased far more, resulting in volumes today being around 10x higher than 20 years ago.

![Exhibit 6: Computers have no problems working smaller orders more often, to leave a smaller footprint in the market. Over the past 20 years, the average trade size has fallen 90%. The number of orders, however, has increased close to 100x. As a result, the total shares trading are around 10x higher.](source_image)

**Progress stalled state since 2007**

Interestingly, after a credit-crisis-induced spike, markets have returned to 2007 levels of average trade size, trade frequency and volume (Exhibit 6). In addition, value traded is flat (Exhibit 2).

It could be that the most revolutionary change was spurred by the rapid automation of trading around the late 90s – as EMSs, Reg ATS and decimalization combined to democratize trading.

Frictions may now be so low, that squeezing more returns out of the market for investors to keep might become much more difficult.

**Investors have more responsibilities**

In the early 1900s, the regulations reinforced a clear demarcation of the roles of intermediaries. Fund managers handed off trades to Brokers, who left the actual execution to specialists on the floor. Thanks to the advent of EMSs, electronic trading and algorithms (or online trading for retail investors), most investors now send orders directly to the market themselves.
This led to a dramatic increase in the level of responsibility, and required sophistication, of traders – just as the markets have become faster and more complex.

**Everyone is a high-frequency trader**

Whether you’re still calling in orders by phone or sending them from your desktop direct to a router, it’s likely that we are all trading electronically now.

The speed of light is constant, so the playing field is more level than you might think – especially with everyone using computers to trade, but:

- Being slow has always exposed investors to adverse selection.
- The selection of algo (or algo provider) is ever more important.
- Smart algorithms should outperform dumb algorithms.
- Fast routers with good queue priority should get better fills than slower routers.
- Using order types and limit orders to reduce your signaling is important.
- Even VWAP algorithms can take advantage of direct market feeds and forecast pricing.

On a positive note, computers are also very good at capturing data – so it’s also easy to measure if what you’re doing is better or worse than before. We find our market makers are always experimenting – with routing and flow and venues – to see what works best. That’s good advice for all of us.
TECHNICALLY SPEAKING
NOVEMBER 2016

TRADING U.S. OPENING GAP IN ASIA HOURS

BY GABRIEL KAN, KEI GAMO & TOM KINGSLEY

Editor’s note: this originally appeared at Bloomberg Tradebook on Sept. 22, 2016. A brief extract is reposted here. For the full post, please click here.

The risk of holding a U.S. equity position overnight, measured by the difference between previous day’s closing price and market opening price, has increased by more than seven times in the last four years from 2.3bp in 2012 to 17.5bp in 2016 H1. The overnight gap risk is trending towards the 2008 financial crisis level at 28.1bp.

For a strategic trader, the gap risk in the U.S. equity market represents opportunity to profit from the information revealed in Asia. The signal from Asia appears to be even stronger if the intraday move is larger. If Nikkei-225 index changes by more than 1% from open to close, its correlation to the S&P 500 index increases to 56%, compared to only a 25% increase if its intraday change is smaller than 1%. On the other hand, the ability to unload the risk during Asia hours becomes critical for a risk-averse trader. When important corporate or government events are going to happen, risk-averse traders could
protect themselves from the price swing by off-loading their positions early. When the two types of traders meet, a potential matching of orders happens.

As an independent equity crossing platform, Bloomberg Tradebook’s IWUD allows traders to show their interest of matching U.S. equity during Asia hours. Quantity and price are negotiable between buyers and sellers. From the U.S. equity matches in 2016 H1, 96% of them were completed at the previous closing price. On average, IWUD matches offset 90bp of gap risk, measured by the matching price vs. the next day opening price, which represents 15 times the average bid-ask spread of the underlying stocks at 6bp. This illustrates the value of an off-hours off-exchange crossing network.
The Charles H. Dow Award is presented annually for outstanding research in technical analysis. As the 2014 winners, Michael Gayed, CFA, and Charles Bilello, J.D., CPA, CMT, demonstrated, research can be put to practical use. They have used the analysis presented in their paper to manage mutual funds and separately managed accounts and have now created an index to track the results of their analysis.

In their 2014 Charles H. Dow Award winning paper "An Intermarket Approach to Beta Rotation," they outlined an indicator that switches in and out of the S&P 500 based on the recent price action of the utilities index. The chart below demonstrates that this idea could be used to time the market and also demonstrates Gayed and Bilello’s idea continues to work in the current market environment.
Are you CMT Ready?

Optuma—the official chart sponsor of the CMT program—is launching online CMT Prep courses for all three levels of the exam.

You’ve invested too much into obtaining your designation to let this opportunity pass you by. Learn from experts who live and breathe Technical Analysis every day.

Each Optuma CMT Prep course is made up of four interactive webinars that review the content, discuss areas where candidates can get tripped up in the exam, and answer questions about the material and its application.

These interactive courses will be presented by our two resident CMTs as live webinars, with recordings available until the exams.

Presenters

Mathew Verdouw, CMT, CFTe

For over 20 years, Mathew has been building the Technical Analysis software that is Optuma. Programming the models has given Mathew intimate knowledge on the theories of Technical Analysis. Working with CMTs all over the world has provided the practical implementation of how they’re used. Mathew completed his CMT designation in 2013.

Carson Dahlberg, CMT

Starting as an advisor for Morgan Stanley, then a trader at Wachovia, Carson discovered the effectiveness of Technical Analysis in managing opportunities, risk and emotions. Carson has previously taught CMT Prep courses. He serves on the MTA board, and is Chief Market Strategist for Optuma. Carson completed his CMT designation in 2008.

Enrollments open September 1
Email CMTPrep@Optuma.com to be notified.