LETTER FROM THE EDITOR

Once again, we have tried to present a broad array of work in technical analysis to you in this month’s issue.

Eric Leake uses economic news and interest rates to discuss the outlook for high-yield bonds. Scott Hathaway applies geometric techniques to the gold market. Larry Berman, CMT, CFA, CTA, and Keith Richards, CMT, offer general trading guidance that they first offered on MTA blogs. While Larry points out that Canadian investors need to watch global events, this is good advice for traders and investors in any country. There is an increasing degree of globalization in the markets and events in any country could set off a global crash. Keith highlights the role of the Federal Reserve, a force that no analyst can ignore anymore.

We wrap up with a very brief look at two bubbles – tulips and subprime mortgages share some similarities that could help us spot future bubbles. I would appreciate any feedback you have on bubbles or any comments you have on our newsletter. Email us at editor@mta.org.

Sincerely,

Michael Carr
Let’s face it, in a zero interest rate world, yield is hard to come by. Maybe that’s why investors have been stampeding into high yield bonds this year. We certainly aren’t complaining. The long side of our Long-Short High Yield Bond strategy Alternative Income has benefited. But there are emerging signs that it may be time to start reducing risk, and consider opportunities on the short side.

The Federal Reserve announced the latest round of Quantitative Easing (QE III) last week. The consensus view is that this latest round of $85 Billion per-month bond buying will send all liquid assets higher. Investors responded by pouring fresh capital into High Yield Bonds driving prices to new highs on the year. In a climate where the Fed is promising a zero interest rate policy from now until eternity it makes sense investors have become complacent about interest rate risk.

Comfort in Yield Spreads

HY bond investors often look to yield spreads (the difference in yield between HY Bonds and 10Year Treasuries) as a leading indicator of risk. Tight HY spreads to treasuries have traditionally been interpreted as a low risk market, while a widening spread is an indication of increasing risk. Bond investors have been taking comfort in today’s relatively narrow HY spread. The spread has continued to tighten over the last few quarters, and remains well above the levels seen near the 2007 peak of complacency.

Based on spread, [we appear to have] a perfect climate for HY bonds.

Maybe Not

The problem with risking capital based on the current HY spread is QE. These are not your father’s interest rates. Federal Bank intervention through Quantitative Easing has disrupted the natural flow of buyers and sellers, creating an artificial ceiling in 10 Year rates. A look at the absolute yield of HY bonds tells a different risk story.

With record flows into HY bonds, prices are at all time highs, yields are near record lows. In fact current yields are at levels seen only a few times since
the inception of the asset class in the 1980s, the same levels seen just before the credit crisis began in 2007.

**Storm Clouds Forming**

We see complacency. While many are taking comfort in the HY spread, real yields, record prices and record asset flows into HY bonds force us to ask the question: Are High Yield bond investors being compensated for their risk?

With a fresh round of Quantitative Easing underway, confidence is high that a correction simply can’t happen. Maybe that reason alone is why it can.

*Eric Leake is a Founding Partner and Chief Investment Officer to Anchor Capital where he has served as Chief Investment Officer and portfolio manager for Anchor’s separate accounts since 1996. Eric is a level II Chartered Market Technician, member of the Market Technicians Association (MTA), American Association of Professional Technical Analysts (AAPTA), National Association of Active Investment Managers (NAAIM), and former advisory board member to Rydex Financial Services, LLC. Eric attended Azusa Pacific University majoring in communication.*
GEOMETRY CORNER: GOLD, STARTING FROM NOTHING!
BY SCOTT HATHAWAY

There is no holy grail for analyzing a market. But if King Arthur (or maybe King Midas?) was trading gold for exactly the last 36 years ($6^2$), he probably would have wanted to see the third price chart...

This article does not feature geometric shapes or curves in the fashion of my previous articles. Instead I will combine two standard concepts. The first from general geometry; the second from the great mind of W.D. Gann:

1) **Evenly divide a circle** consisting of 360°, with the emphasis on a right angle (90°), it’s very important half of 45°, and even its quarter of 22.5°.

2) Generating a fan of angles from $0$ (literally, from nothing!), directly underneath a major low.

The twist here is that the former provides fodder for the latter by generating ratios. But before that step, here is a diagram showing a circle that is cut into quarters: the ‘cardinal cross’, as in N, S, E & W. 45° and 22.5° are thrown into the mix, which are 1/8, and 1/16 of the circle, respectively:

Upon first glance at a long-term gold monthly chart, the two major lows of $101.50 in Aug ’76 and $253 in Aug ’99 (exactly 23 years apart) naturally pop out as very important support points. I will focus on the first low (also the lower), as its occurrence in time selects a crucial vantage point to peruse 36 years of price action: August 1976 at $0.

Initially when I did this analysis, I thought it was worth noting that the second low was almost exactly ‘90’ cents per month from this vantage point (near point D on the next chart). The rest came naturally:
Mathemagics’ Moment: Actually, the low of $253 is exactly $4.60 above the line: 23 years = 276 months x .90/M = $248.40. Interesting ‘coincidence’ that 4.60 is 23 doubled, and divided by 10, but more interesting is that 4.60 is exactly 1/5th of 23, which is the inverse of 5, the multiple of the other two angles.

Back to business: The ‘x5’ angle is $.90/M x 5, or $4.50/M (45°/10). The x5² angle is $.90/M x 25, or $22.5/M, matching 22.5°, and also is half of 45°. Also, you can think of moving 90° around a circle 5 times in a row, or 450° (4.50/M) which lands back on 90°! Going around 25 times (5²) winds up at 2,250° ($22.50/M). Going in circles yet? That’s what the $.90/M angle did, many times over.

Moving on, since the basis of geometric charting is 45°, or ‘1x1’ uniting price and time by perfectly cutting 90° in half, let’s focus on the $4.50/M line as a central them; the lower $.90/M (considered now as $4.50/M /5) counter-balancing the above $22.5/M angle (considered now as $4.50/M x5):

Now the overall market dynamic is a little easier to see from this central perspective, as the $4.50/M angle acts as regression, with wide swings between resistance and support. No wonder the market corrected a year ago (E). It ‘came home’: Perfect balance, I must say!

But what about the smaller reversals along the way: are they ‘harmonic’ with this as well? More importantly, can we identify the more recent support area of the low-mid $1500’s as harmonic with the all-time high, as well as other lows, meaning that the correction ‘should’ be over? (This is a good time to quickly review the circle division image!)

Behold, the Holy Grey!? 
How amazing and inspiring to see mass human decision-making follow such a simple but profound order: Combining natural fractions of 360 into dollars per month, from $0 underneath a major low.

Here is a close-up since the mid-90’s for a better inspection:

Procedural Note: At point G, I had to sneak in 3/7 and 4/7 of 360, which are $1.54/M and $2.06/M respectively (both rounded). Notice that the $1.80/M angle acts as regression for the correction from the high of ’06: Again, perfect balance.

The previous corrections of ’06 (G) and ’08 (H, I) are bound rather well by their respective S/R. The current correction seems to be following suit. Although, fractally speaking, this correction seems to be re-enacting the ’06 correction, by bottoming several times at support, as opposed to the ’08 corrections’ single jab. The final analysis shows:

*If this is a true correlation, then we can expect gold to break resistance permanently upon reaching it, shortly after a brief pullback to support (N2, not time sensitive), just like in late ’07 (N1).*

Where is it going? By continuing these angles procedurally, the following resistance lines are offered, listed as fifths:
Since the above angles are listed as their fifth relationships to $4.50/M, simply add 90 cents per month to arrive at their values: angle ‘1/5’ = $5.40/M, angle ‘2/5’ = $6.30/M etc... I also changed the $2.70/M angle name to ‘3/5’. This emphasizes the distance between the two major highs at D & E as ‘-2/5’ going down from the all-time high. Going up ‘+2/5’ from this high gives the above 2/5 angle.

I put a red cross target on this 2/5 angle at $2,840, which is a target resistance area from two independent (non-collinear) S/R structures. This gives the month of March 2014 on the angle. Viewed casually, the whole large uptrend from ‘99 seems to be a parabolic swoop right to it.

So there is gold in all its glory: 360° divisions converted into price per time, and an important point from 1976. Perfect together!

Wait, I almost forgot our friendly number 5, as in x5, x5² and 5ths being used throughout. The following is an updated pentagon from my first article with some interesting internal harmonic 5 action:

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Scott Hathaway has been developing new charting methods for several years, including an alternative geometric environment 'Relative Charting', unusual applications of square numbers and prime numbers for time and price, as well as several fan systems. His website hathawayanalysis.com features some of his work. Scott is currently a CMT candidate.

Interested in advertising in Technically Speaking? Contact Tyler Wood at tyler@mta.org for more details!
MTA BLOGS

Editor’s note: We are again reposting two short blog posts that have previously been posted under the blog section of MyMTA. These blogs offered varied insights into global markets. Access to this content is another valuable benefit of MTA membership.

Canadian Investors Need To Watch Global Events
by Larry M. Berman, CMT, CTA, CFA

When the ECB stated that it would not likely pursue any more aggressive unconventional easing measure at this point, it deflated some of the hope of the QE crowd and hurt the gold sector. Spanish bond yields dropped about 15bps when the ECB cut rates, but have since risen to 7.00% following Mario Draghi’s speech. It had a negative impact on the euro versus the dollar, which in turn hurt lots of commodity prices.

So a speech by the head of the ECB had more to do with what the TSX did yesterday than anything made in Canada. This is just like what may happen today with the US employment report, despite what the Canadian report says, which is released at the same time. Those investing in Canada need to be watching the world outside of Canada, with very few exceptions. We expect a positive employment report and that should lift the markets a bit higher into next week, but odds are increasing that the earnings period will contain more negative than positive surprises.

Larry M. Berman, CMT, CTA, CFA, is a Co-Founder of ETF Capital Management, and brings nearly twenty years of industry experience to the role of Chief Investment Officer. Larry is past President of the Canadian Society of Technical Analysts (CSTA), past Vice-Chairman (Americas) of the International Federation of Technical Analysts (IFTA), and is currently the past President of the Market Technicians Association (MTA).

Do you feel lucky?
by Keith Richards, CMT

The Fed meeting on August 31, 2012 was much ado about nothing. The same message was relayed as at the last meeting: If the economy fails to improve, the Fed will ease further (QE3). The recent rally is based on an assumption that the Fed will stimulate very shortly. Note on this week’s SPX chart, however, that the market is a bit leery of the certainty of that outcome. It has been weakening right on schedule—per my prior blogs. I suspect a few investors have joined me in taking a few profits lately. It’s also interesting to note that “smart money” commercial hedger positions in equity index futures, excluding the S&P 500 were recently nearing their largest net short position in 8 years, according to sentimentrader.com.

Perhaps the Fed will introduce QE3 this month, but (as mentioned in my last blog) the Fed has historically NOT stimulated until later in the fall since the economic slowdown began (typical action by the Fed has occurred in October/November). Thus, I feel that to be fully invested at this time is a bit of a gamble. Yes, the Fed could break their historic pattern and introduce...
QE3 shortly. If you are fully invested under that scenario, your gamble will pay off. My upside target for the S&P under these conditions might be 1500, as mentioned in prior blogs. However- if they don’t stimulate in September and hold off for a couple of months, it may be a short termed unpleasant experience for fully invested market players – my downside target is for 1300 – 1360 under a Fed-disappointment selloff.

Personally, I am not a gambler – I trade when the odds are more predictable or in my favor. I’ve taken a more defensive stance lately by raising over 30% cash in my equity models, and limiting the majority of my equities to low-beta positions. The worst-case scenario for my cautious stance is a Fed-induced rally where I underperform the markets a bit. I will still make money on my current positions, but I’ll certainly miss out on some of the fun. I can live with that underperformance. If the market performs poorly, as I suspect it might if the Fed follows its traditional pattern, then I have some cash on hand to buy cheap stocks when the time is right. The question most investors should be asking themselves right now is: “How lucky do I feel?”

Keith Richards, CMT, is a Portfolio Manager in his current practice, ValueTrend Wealth Management, where he manages over $100 million and runs a discretionary investment service for high net worth clients. His articles appear regularly in Investors Digest, The Moneyletter, The Globe and Mail, and The Toronto Star newspapers. His newest book, Sideways: Using the Power of Technical Analysis to Profit in Uncertain Times was released in 2011.

Discover a whole new world of possibilities at www.mav7.com/mta
INTERVIEW WITH LOUIS B LLANES, CMT, CFA
BY AMBER HESTLA-BARNHART

How would you describe your job?

I am a Managing Principal and shareholder of Centric Investment Group, an investment advisory firm based in Denver Colorado. My primary role in the firm is to lead the investment management function for our portfolio strategies. In that process, I lead the investment committee and decide the tactical changes to our strategies.

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

I have always been fascinated with economics. Before I was in college I ran into a book at my grandfather’s house entitled “Microeconomics”. It had a bunch of graphs and theories that blew me away. I started to read it and immediately was hooked. I was curious about why prices moved higher or lower and why certain people became wealthy and others struggled. I changed my major initially to economics at college but then switched to finance. All of this led me to specialize in a global-macro type approach.

Because economics was my first love, I immediately became interested in a global-macro strategies and studied investors such as George Soros and Jim Rogers. Technical analysis quickly became an interest because I began to understand that the fundamentals did not fully explain tradable market moves and that technical inputs can lead fundamentals before you fully understand them.

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

In our investment portfolios we invest in stocks, bonds, commodities, and currencies. We invest long or short, globally. In developing our strategies, we develop a macro-fundamental thesis. My personal framework incorporates economic analysis that is influenced by the profound works of Friederich Hayek, John Maynard Keynes, and Milton Friedman. Because I am also trained as a Chartered Financial Analyst (CFA), I also consider bottom-up fundamental valuation factors with equities in our portfolios.

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

This is a competitive industry that is demanding and can be very rewarding - only get into this business if you truly have passion. I recommend that you find the areas that you love. Keep in mind there are many different ways to make money in the markets. Consider Warren Buffet and George Soros as examples. They both have drastically different approaches, but have generated great returns. Study and find the style the matches your temperament and forget what everybody else is telling you. After you decide, stay focused and disciplined to always improve in your field. Listen to your gut and find what resonates in your own mind. Do your own homework. Popular opinions around you can often be wrong.

Can you share any longer term market opinions?
Long-term market forecasts are always subject to change, but it seems that developed countries such as the United States, Europe and Japan, will continue to struggle with the overhang of overleverage and too much government interference in the economy. The imbalances that have build will affect interest rates over the longer term. My guess is that after the central banks and fiscal authorities run out of bullets the bill from our past misdeeds will come due. This huge liability could lead to higher interest rates, inflation, and structural unemployment. We could see higher commodities prices, real estate, and rallies in certain equities that benefit from creative destruction and innovation. I suspect that China will go into a recession and many people will say they are no longer leading, but I think they will rebound to new heights, despite their problems with corruption. A solid technical approach should help identify opportunities as they come, whether I am right or wrong in this broad prediction.

Louis B Llanes, CMT, CFA, EMBA, has over 18 years of experience in finance and investment management. He is a Managing Principal of Centric Investment Group Corporation, an investment management firm located in the Denver Tech Center. Louis leads the investment function for the firm, managing portfolios with a “global macro” approach. Louis holds the Chartered Financial Analyst (CFA) and Chartered Market Technician (CMT) designations. He has an MBA from the University of Denver and a B.S. in Finance from the University of Colorado in Denver. Louis has authored writings in The Handbook of Risk published by John Wiley, and has written white-papers about investment management issues for practitioners. Louis has held chair positions on the board for the Colorado chapter of the Institute for Chartered Financial Analyst and Market Technician’s Association Denver Chapter and can be reached at Louis.llanes@centricig.com.

These questions and answers have been compiled by Amber Hestla-Barnhart, an independent market researcher. If you’d like to participate in a future interview, please contact her at amzhondacbr@yahoo.com.
MTA EDUCATIONAL FOUNDATION TO HOST ITS ANNUAL FALL FUNDRAISER

The MTAEF will host the fourth annual fundraising event on Thursday, November 1, 2012, from 5:30 - 9:00 pm at the Newman Library at Baruch College. The forum focus is “Outlook for Post-Election Markets” and will assess current trends and views for 2013.

This year’s event brings together top hedge fund and derivative investment experts, including Peter Borish, with over three decades experience in the financial futures and derivatives markets; Alex Greyserman, Chairman of the Systematic Investment Committee at hedge fund provider ISAM; Phil Roth, CMT, Adjunct Professor at Fordham and former chief market technician for various asset classes at Miller Tabak, Morgan Stanley and others; and Jack Schwager, futures trader and hedge fund portfolio manager.

The event will kick-off with a networking cocktail reception and the technical session will be moderated by Stephanie Ruhle, anchor for Bloomberg Television and co-host of its “Market Makers” program. The discussion will provide attendees with a timely assessment of what to expect in the financial markets in a post-election environment.

For more details on the event including registration information, please visit http://go.mta.org/603.

More information on the MTAEF’s mission is available at www.mtaef.org.
Investment Courses For Professionals

A sample of a growing list of fundamental and technical courses is shown below. The courses are associated with global destinations and dates, both for open and private client formats. They are produced by various knowledge vendors throughout the world. Details can be provided by contacting NYIF.COM, or John Palicka (palicka@pipeline.com).

**Taught by John Palicka CFA CMT**

**FUSION ANALYSIS**-
This is a professional approach that blends fundamental, technical, behavioral and quant strategies.

**EQUITY PORTFOLIO MANAGER**-
Serious managers will utilize this course to analyze leading Wall Street valuation models and investment strategies for equities using fundamental, behavioral/technical and quant approaches, and then study how these are modified by the best performing equity portfolio managers to produce risk-adjusted excess returns.

**INVESTMENT FUND SELECTION**-
This is a must attend course for all professionals involved in the selection and management of third-party investment managers.

**TECHNICAL ANALYSIS CMT 1**-
A must attend course for investment professionals wishing to gain the CMT Level I professional qualification in Technical Analysis from the Market Technicians Association (MTA).

**INTRODUCTION TO STEALTH TRADING USING FUSION, ALGORITHMS, AND DERIVATIVES FOR PROFESSIONALS**-

Today, portfolio managers increasingly must use stealth trading in order to disguise their intentions and thus benefit from best execution.

**ADVANCED CAPITAL MARKETS ANALYSIS**
Spot, forwards, futures, swaps, options, and statistical issues are discussed in dynamic capital market strategies.

**STRATEGIC GOLD INVESTING**
Gold has been one of the very few assets to have created wealth in the past several years. Gold offers investment opportunities for investors, traders, and financial engineers.

**GLOBAL SMALL CAP INVESTING**
Global small cap stocks offer investors the ability to participate in the world’s future big winners.

**PORTABLE WEALTH INVESTING**
Portable Wealth (PW) management offers investment opportunities for wealthy investors and their advisors. PW can generate attractive risk-adjusted excess returns to traditional and alternative investments.

Instructor John Palicka CFA CMT is a top-ranked portfolio manager of Global Emerging Growth Capital (WWW.GLGEGC.COM) with over 30 years experience of managing $ billions. He has doubled client money, on average, every 4 1/2 years since 1980*. His high course ratings from major investment firms reflect clear interpretations and practical applications of complex topics; knowledge applied to examples and cases found in the current worldwide and GCC marketplace; his experience with specific situations actually encountered in his career and consulting contracts that parallel the learning topics. John has an MBA from Columbia University and also teaches these courses for leading training institutions, including The New York Institute of Finance (WWW.NYIF.COM).

* Past performance is no guarantee of future results.
TULIPS, SUBPRIME MORTGAGES, AND TECHNICAL ANALYSIS OF BUBBLES
BY MIKE CARR, CMT

One of the basic precepts of technical analysis is that history repeats itself. Technicians make it a general practice to learn from history and bubbles are among the most interesting chapters of market history. Looking beyond just the price chart, there is a great deal to be learned from any bubble.

The early seventeenth century was an important period in the development of technical analysis. If CNBC had been covering the markets about 400 years ago, their attention would have been focused on the relatively small country of Holland where the biggest story in market history up to that time was unfolding. Tulips had gone from being just a beautiful flower prized by collectors to the most actively traded commodity of its time. While it often took years to fully cultivate the actual flower, it might take only weeks to make millionaires out of traders who had started with nothing. In many cases, the fortune existed only on paper. Physical wealth awaited the next blooming season, but as the traders knew it was only a matter of time and nothing could go wrong in the that time. Traders know that many things can go wrong and destroy profits before the trade is completed. Tulip traders were among the first to learn that lesson.

The story of the tulip bubble is well known to historians and market analysts. Ever since, almost any rapid price rise has been and still is compared to tulip mania by at least one market commentator. But tulip mania was actually one of the few true bubbles in history that impacted society. It involved far more than just a sharp price rise and an equally sharp price drop – it included the creation of new trading products and led to significant changes for the society that created and tolerated the trading.

Traders have been inventing new trading vehicles ever since the first traders agreed on a price. At the heart of the trade is something tangible. For example, trading stocks involves buying or selling a position that represents ownership of a company while bonds are a claim against the assets of a company. Many derivatives are now settled in cash, the ultimate tangible measure of value. But there is obviously no requirement for a trade to be based on a financial asset. Tulip bulbs could be traded with as much excitement as shares of Facebook if everyone agreed that tulips were valuable and in the 1630s a market for tulips developed that was in many ways similar to the market for subprime mortgages that would develop in the twenty-first century.
A Very Brief History of Tulipomania

The story of the tulip bubble is well known with many references pointing to *Memoirs of Extraordinary Popular Delusions and the Madness of Crowds* by Charles Mackay (originally published in 1848). This book is no longer protected under copyright laws and is readily available online at the Project Gutenberg web site, [http://go.mta.org/604](http://go.mta.org/604).

A more detailed accounting of the tulip market can be found in *Tulipomania: The Story of the Most Coveted Flower and the Extraordinary Passions It Aroused* by Mike Dash (1999). Dash’s book includes more references to contemporary sources than Mackay’s and Dash points out that some of the anecdotes cited by Mackay may not be accurate. Both sources agree on the general outline of the story and all students of the markets should be familiar with the basic outline of the tulip craze.

In summary, it starts with a commodity that has an intrinsic value to at least some people. The market for this commodity becomes more complex with new trading vehicles which have values derived from the original commodity. These derivatives developed to increase the supply for trading and accommodate the demand for traders, even if the fundamental supply and demand of the underlying commodity remains unchanged). Prices seem to become disconnected from reality until traders create new metrics that can be used to value the commodity and these new valuation techniques help substantiate ever-higher prices. The higher prices draw in more traders who create ways to leverage their positions. Rapid market changes lead to irrational exuberance and the new trading products are eventually exposed as overvalued contracts for nothing more than the wind – windhandel was the phrase the Dutch came up with to describe this. The resulting crash that comes when the overvaluation is recognized devastates many traders but makes fortunes for a few who foresaw the inevitable drop in prices.

That previous paragraph summarizes tulipomania in the 1630s, internet stocks in the 1990s and CMOs in the 2000s. The chart of tulip bulb prices shows the familiar pattern of a bubble with a meteoric rise and an equally quick drop in prices. Technical analysts may find it interesting to look beyond price and note the other characteristics of the tulip craze and other bubbles that have occurred in the past 400 years.

- Bubbles develop in a commodity that has an intrinsic value to at least some people. Tulips were prized by wealthy collectors for their gardens Historians note that the flower was first seen in Holland in the 1570s although tulips had been grown for hundreds of years in other parts of the world. Prices were at first reasonable and based on the desirability of the flower. Bulbs generally cost only a few guilders (less than two guilders as the nearby tulip price chart shows). Guilders consisted of 20 stuivers and as a point of
comparison, Dash writes that a tankard of beer cost about half a stuiver and an average days pay was about 8 stuivers for the lowest paid jobs while middle class meant a daily wage of about 18 stuivers.

To place these values in context with today’s prices, a beer required about 30 minutes of work for the lowest paid workers, assuming an eight-hour workday which may be low for that era. *The Economist* recently published a chart showing the amount of labor required around the world to purchase a beer, [http://go.mta.org/605](http://go.mta.org/605). The worldwide average is about 20 minutes so prices may have been higher in Holland in the 1600s than we see today.

- The second characteristic shared by markets bubbles is that the market becomes more complex with new trading vehicles being created with values that are derived from the original commodity. Tulips began trading among florists and gardeners as physical flowers and bulbs. At some point in 1635, according to Dash, that
changed and tulips began trading as promissory notes. Tangible bulbs were replaced with pieces of paper that described the appearance of the flower, where it was physically planted at that time, and the date it should be ready to be dug up so that the buyer could take physical possession of his flower.

- These derivatives developed to increase the supply for trading and accommodate the demand for traders, even though the fundamental supply and demand of the underlying commodity remained largely unchanged. Tulips did become more popular among the Dutch during this time but it would have remained a collector’s and gardener’s market without this development. The promissory notes were needed solely so that traders could become actively involved in the market. This development changed tulip trading into a speculative venture for many.

- Irrational exuberance eventually pushes prices beyond any sense of reason. At their height, single bulbs sold for more than 5,000 guilders – in other words, a tulip bulb at this price would have been worth more than 5,555 days pay for a middle class worker or 34 years worth of wages for a minimum wage employee.

- Prices seem to become disconnected from reality until traders create new metrics that can be used to value the commodity and these new valuation techniques help substantiate ever-higher prices.

Tulips were originally priced by the bulb. So that traders could identify their bulbs, the weight of the bulb was added to the promissory note. Weights were quoted in azen (aces), an amount equal to about one-twentieth of a gram or 0.0017 ounces. Eventually bulbs were subdivided and traders could buy shares of an individual bulb.

- Higher prices draw in more traders who create ways to leverage their positions. As prices rose, some people saw their neighbors and coworkers grow rich. This motivated them to enter the market. Some found the money by borrowing against their few possessions.

- A crash devastates many traders but makes fortunes for a few who foresaw the inevitable drop in prices. Prices collapsed suddenly in early February 1637 when without warning, there was no bid for tulips in many parts of the country. Panic followed and traders turned to the government for a way to solve the problems created by newer speculators refusing to pay older speculators for bulbs that were often in the ground. Trading had been fast and furious and tulips were frequently sold by a buyer before they were paid for in the trade settlement process. In some cases, it wasn’t even clear who had title to the flowers. To solve the problems, by decree, the government decided that buyers could settle any debts for 3.5% of their value. Many contracts were settled at this price, many were completely defaulted on and some contracts ended up in court.

Some traders and markets learned lessons from this episode but bubbles have proven to be a durable economic reality. According to Dash, bubbles based on flowers have been seen in other countries since then. Most recently, spider lily bulbs spawned a bubble in China with prices for the most desired flowers rising in price from 100 yuan in 1981 to more than
200,000 yuan in 1985 shortly before the market crashed. Dash calculates that peak prices were equivalent to 300 times the typical annual earnings of a college graduate significantly greater than the tulips which went for only 15 years worth of a middle class income.

**Subprime Mortgages: Modern-Day Tulips**

Bubbles seemed to exist everywhere in 2008, but that conclusion is of course possible only in hindsight. Subprime mortgages are used in this example because the actions in that market in many ways resemble the highlights of the tulip market. There are a number of indexes in that market and only one chart of a subprime index is shown here. The collapse in price is the characteristic most commonly associated with all bubbles and the rapid drop of about 50% can easily be seen in this chart. The market for subprime mortgages and tulips share a number of other characteristics:

- Subprime mortgages grew out of the existing market for mortgages, a valuable and important financial asset. Without mortgages, the housing market would be much different than what we know it to be. There was a time when borrowers made sizable down payments and then made monthly payments on their mortgages. There was value to the home owner who built up equity in their home and there was a value to the lender who received income from the mortgage. The problem was that mortgages built wealth slowly for home owners and lenders and both seemed to want their profits to grow quickly.
- The market responded by creating new mortgages and made them available to more borrowers. Pesky down payments were eliminated in some cases and there were even loans where those monthly payments were dramatically changed. With “Option ARM” subprime mortgages, borrowers could vary their monthly payment (the option to pay principal only, interest only, or a fully amortized amount in some cases) and the interest rate would vary with market rates. With this loan, consumers unable to understand the complexity of real estate or bond markets were offered the chance to become speculators in both markets.
- These complex markets served traders and lenders more than they helped borrowers. Real estate became a tradable commodity in some markets. Rather than buying a home to live in or rent for income, flippers bought homes solely to make quick profits. This was a significant change in an illiquid market like real estate and home ownership became more widespread than ever before.
- Irrational exuberance pushed home prices to unimaginable heights. Homes were now valued under the “greater fool” theory. Flippers wanted to buy quickly so they could sell quickly and make profits. Real estate professionals seemed to assure buyers that home prices...
could only go up in the future and double digit annual gains were seen in some markets for several years. None of this would have been possible without the easy credit terms that expanded home ownership and provided the capital needed for speculation.

- Not wanting to miss out on the profits available from flipping homes, individual speculators entered the market. Watching neighbors sell homes for what seemed like exorbitant profits and seeing late-night television infomercials that explained how everyone could become a millionaire with no money down real estate purchases, many rational people chased after wealth with large loans that were quickly sold and resold by the mortgage companies. The mortgages were repackaged and new securities were created to securitize loans. Ratings agencies analyzed the new securities and pronounced them safe enough for widows and orphans. The new way of looking at prices for mortgage-backed securities was created by the ratings agencies and understood by few people not directly involved in the market.

- The subsequent crash of the subprime mortgage bubble led to a global recession and what many economists believe was the worst economic crisis since the Great Depression.

- Great profits were available to traders that recognized the historic pattern of a bubble that was unfolding. In *The Greatest Trade Ever* (2009), Gregory Zuckerman details how hedge fund manager John Paulson went from being a great trader to becoming a legendary trader. According to reports, by 2005 Paulson started betting against the subprime mortgage market. He set his funds up to profit from a decline in the market using credit default swaps (CDSs), a trading instrument that few people truly understand and even fewer people trade. Paulson is reported to have made a $15 billion profit in 2007 and another $5 billion the next year.

In profiting from this crash, Paulson recognized the bubble while it was still rising and developed a strategy to profit from its end. He was early, as was George Soros when he famously busted the Bank of England and captured a $1 billion profit in a day. But the course of a bubble is unpredictable and selling early seems to be necessary to profit from the collapse. Of course being early has led many traders to destruction, and there have been times when rapid price increases were not bubbles which destroyed short sellers. Bubbles offer great rewards to traders, and they also present larger than average risks no matter which side of the trade is taken.

The characteristics that defined tulips and subprime mortgages are found in all bubbles. As one example, analysts following internet stocks redefined the price-to-earnings (P/E) ratio to mean price-to eyeballs because the believed that somehow web sites would convert page views to profits and traditional valuation tools could not capture the potential of the new business models.

Junk bonds represent a potentially understudied bubble of the 1980s with new securities that could trade on the basis of their “yield to reset” which was a new way to state interest rates in a more attractive way based on the assumption that cash flow would always increase at companies that borrowed in the junk bond market. Interest rates would simply be reset to a higher level if market rates rose and the company would be able to cover
the higher debt servicing costs because their cash flow would have risen as the business grew. These bonds envisioned a win for the bond holders and a win for the issuer, but the reality was different.

There are countless additional examples of markets that exhibited at least some of the characteristics of a bubble.

Traditional definitions of bubbles focus on the price action. Bubbles always include a rapid price increase, irrational valuation, and a crash. Less noticed is that bubbles also include new market structures and new methods of analysis. Market structure is itself an indicator that can be applied by technical analysts on the hunt for the next bubble.