GLOBAL VOLATILITY SUMMIT 2013

November 2012 Newsletter

2013 Event Details

Date. February 25th, 2013

Details. A one day summit to educate investors on the universe of volatility funds and tail hedging managers.

Location. 82 Mercer, SoHo, New York City

Managers. The following managers will be speaking at the event.

Alphabet Partners
Blue Mountain Capital
Capstone Investment Advisors
Fortress Investment Group
Ionic Capital Management
JD Capital Management
Parallax Fund
PIMCO
Pine River Capital Management

Please continue to check the website for registration information and updates on the 2013 Global Volatility Summit www.globalvolatilitysummit.com

2012 Event Recap

Keynote speakers. General Stanley McChrystal gave an insightful presentation on volatility in the Middle East, and The Honorable Rahm Emanuel (Mayor of Chicago) was interviewed by Charlie Rose and discussed the current volatility seen in politics.

Attendees. The 2012 event was a huge success with over 360 attendees including 15 hedge funds in the volatility and tail hedging space, the world's largest pension funds, insurance companies, endowments and foundations.

Questions? Please contact info@globalvolatilitysummit.com

The Global Volatility Summit remains dedicated to educating investors and providing you with thoughtful and timely updates from leaders in the volatility space. Over the past few months, realized volatility has experienced some large deviations and we anticipate this trend could continue given the deleveraging of bank balance sheets. Realized volatility reached its lows in August and then bounced back in October further supporting the idea that the market is moving to a new regime. This could be a very different market than many of us have ever experienced and it is changing the way the market behaves.

The 2012 Global Volatility Summit focused on "years past", the theme for 2013 is "the year that could be". We hope to shed some light on investors' fears of situations that could escalate in the coming months and years which could potentially have significant impact on the financial markets.

Preparations for the 2013 Global Volatility Summit are in full swing and we have opened up registration for institutional investors on the website (www.globalvolatilitysummit.com). Please register early as space is limited!

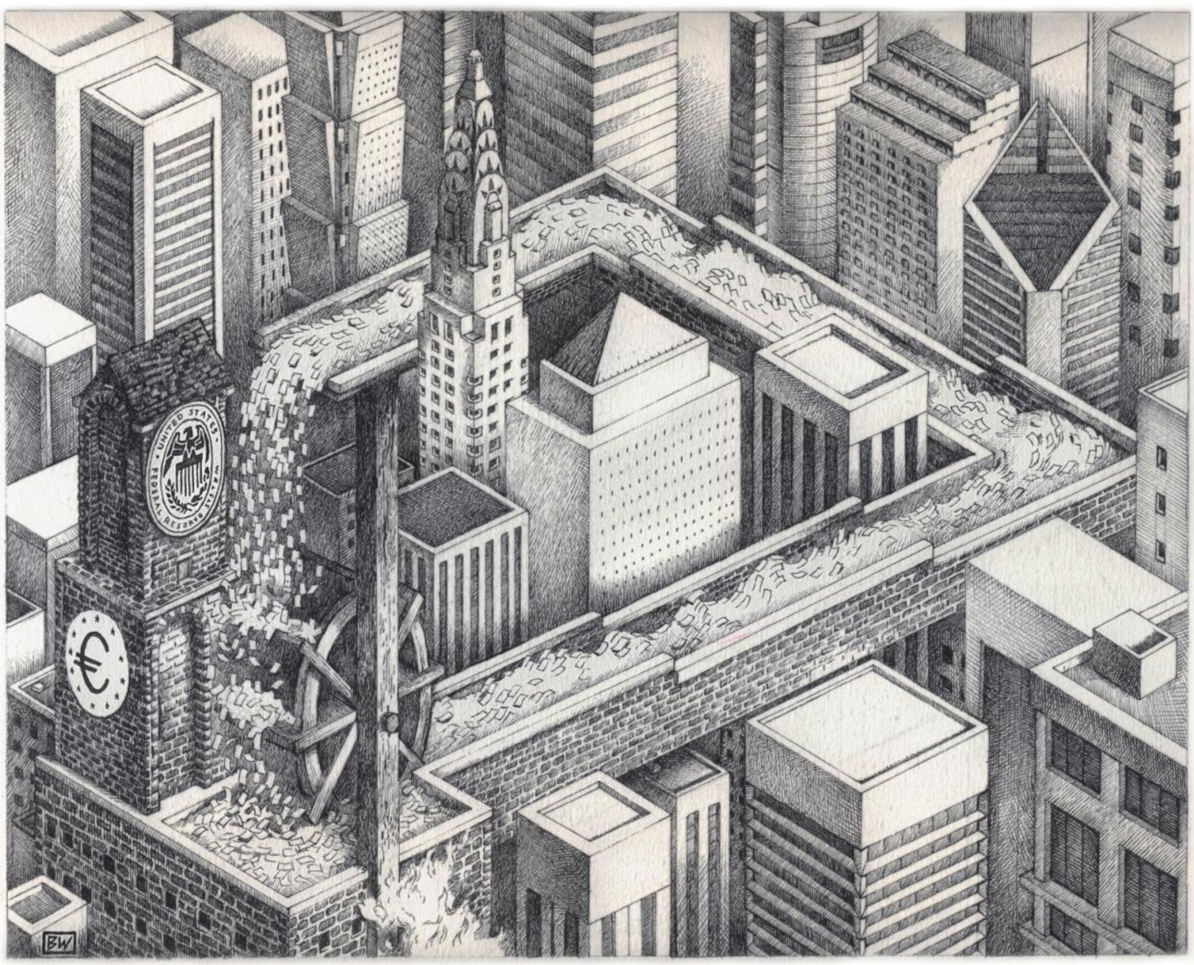
We asked *Christopher Cole, Founder of Artemis Capital Management LLC and Portfolio Manager of the Artemis Vega Fund LP,* **to share his paper entitled "Volatility of an Impossible Object" with the GVS community. We believe you will find this piece to provide an interesting viewpoint on uncertainty and perception in the volatility markets.**

Note: The following research paper is an excerpt from the Third Quarter 2012 Letter to Investors for the Artemis Vega Fund LP published on September 30, 2012.

Cheers,
Global Volatility Summit

ARTEMIS
CAPITAL MANAGEMENT

Volatility of an Impossible Object
Risk, Fear, and Safety in Games of Perception



Note: The following research paper is an excerpt from the Third Quarter 2012 Letter to Investors for the Artemis Vega Fund LP published on September 30, 2012.

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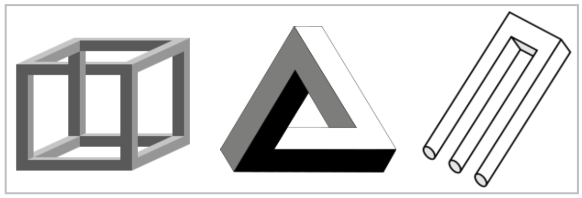
Volatility of an Impossible Object

Risk, Fear, and Safety in Games of Perception



The global financial markets walk on the razors edge of empiricism and what you see is not what you think, and what you think may very well be impossible anyway. The ***impossible object*** in art is an illustration that highlights the limitations of human perception and is an appropriate construct for our modern capitalist dystopia. Famous examples include Necker's Cube, Penrose Triangle, Devil's Tuning Fork, and the artwork of M.C. Escher. The formal definition is "an optical illusion consisting of a two-dimensional figure which is instantly and subconsciously interpreted as representing a projection of three-dimensional space even when it is not geometrically possible" [1]. The fundamental characteristic of the impossible object is uncertainty of perception. Is it feasible for a real waterfall to flow into itself; or for a triangle to complete itself in both directions? The figures are subject to multiple forms of interpretation challenging whether our naïve perception is relevant to understanding the truth. The impossible object is of vast importance to mathematics, art, philosophy and as I will argue... modern pricing of risk.

Modern financial markets are a game of impossible objects. In a world where global central banks manipulate the cost of risk the mechanics of price discovery have disengaged from reality resulting in paradoxical expressions of value that should not exist according to efficient market theory. Fear and safety are now interchangeable in a speculative and high stakes game of perception. The efficient frontier is now contorted to such a degree that traditional empirical views are no longer relevant.

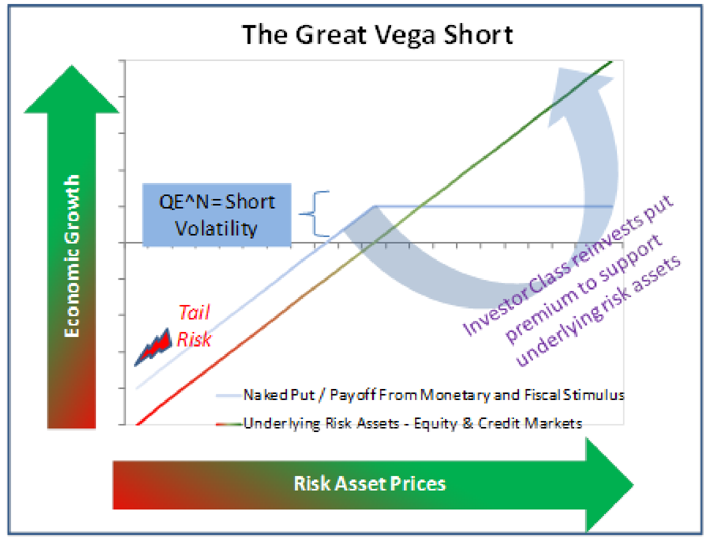
The volatility of an impossible object is your own changing perception.

Our cover illustration pays homage to M.C. Escher's 1961 masterpiece Waterfall and is intended to be an artistic abstraction of the self-reflexive mechanics of modern monetary theory. In a capitalist cityscape the aqueduct begins at the waterwheel of monetary expansion churning out a torrent of boundless fiat currency that streams through the dense metropolis. The river of money flows from the edge of the aqueduct into the waterfall of deflation and then over the waterwheel suspended in a never-ending cycle of monetary expansion and crisis. Beneath the city the fires of inflation burn threatening to one day consume the monetary mechanism. Is the reflexivity of flowing fiat currency the solution or the very source of the paradox? We don't know.

Likewise how certain are we that the elevated two-dimensional prices of risk assets and low spot volatility have anything to do with fundamental three-dimensional reality? In this brave new world volatility is an important dimension of risk because it can measure investor trust in the market depiction of the future economy. The problem is that the abstraction of the market has become an economic reality unto itself. You can no longer play by the old rules since those rules no longer apply. I know what you are thinking. You didn't get your MBA to be an amateur philosopher - your job is to make cold-hard decisions about real money - not read Plato. You are out of luck. For the next decade this market is going to reward philosophers over students of business. Why? Because the modern investor must hold several contradictory ideas in his or her head at the same time and none of them really make any sense according to business school case studies. Welcome to the impossible market where…

Knowledge is not what you know but certainty in what you do not
Volatility is cheap and expensive at the same time
Fear is a better reason to buy than fundamentals
Risk-free assets are risky
Common sense says do not trust your common sense

The Great Vega Short in the Impossible Market



Global central banking is the architect of the modern impossible object. On September 13th the Federal Reserve touched off a speculative frenzy in risk announcing QE3 in the form of *unlimited $40 billion monthly purchases of MBS*, low-rates until "at-least mid 2015", and the continuation of Operation Twist in an effort to stimulate job growth. Across the pond the ECB also agreed to fund unlimited purchases of Euro-zone debt to tame the sell-off in Spanish debt. Massive injections of monetary stimulus by the world's two largest central banks have reignited another round of international currency wars motivating central bank action from Japan to Turkey. In the face of a faltering global economy nearly all asset classes rallied during the quarter including domestic stocks (**+5.75%** SPX), international equity (**+6.08%** EFA), high yield bonds (**+1.93%** JNK), gold (**+10.83%** GLD), oil (**+7.25%** USO), corporate bonds (**+3.49%** LQD), and USTs (**+0.49%** IEF) as volatility fell (**-7.9%** VIX). It is the Goldilocks bull market of fear. The data is just bad enough for monetary authorities to keep printing but not so bad as to usher in the next deflationary collapse. If the Fed follows through on its promise to buy MBS indefinitely they will own the ***entire market in a decade*** (2). In addition the Fed is already the world's largest holder of US treasury bonds and currently owns all but $650 billion of the bonds maturing from 10-30 years(3). To appreciate the cumulative effects of this stimulus consider a research report released by the Federal Reserve in 2011 that concluded since 1984 a staggering 80% of the premium earned from domestic equity was achieved in the periods leading up to FOMC announcements(4). How ironic.

As expressed in past letters, in the mind of this volatility trader the current paradigm of monetary stimulus may best be understood as the greatest leveraged volatility short in economic history *("The Great Vega Short" Artemis Q4 2010*). The monetary policy of asset purchases is analogous to continuously rolling "naked" put options on the global economy and reinvesting the premium to collateralize the system with the goal of short-term growth at the expense of long-term systemic risk. In the case of QE3 this policy action is quite *literally* a volatility short because the purchase of MBS is also a simultaneous sale of pre-payment optionality. The stimulus regime socializes "tail risk" to generate short-term prosperity.

Despite higher asset prices experimental monetary policy seems to be doing very little to support the middle and lower class. Following QE2 GDP growth actually slowed down from +2.4% to +1.6% and unemployment adjusted for discouraged workers went from 22.5% to 22.7% according to shadow government statistics (5). The middle and lower class do not own stocks and they cannot buy homes because they remain overleveraged. Raising bank profits has not helped the economy because credit cannot be extended to households that are in debt. For example less than 1% of all mortgages originated in the past 18 months went to borrowers with an impaired credit history, and 1 out of every 5 homes sold was purchased in an all cash deal by an investor rather than a live-in homeowner. Every $1 increase in equity prices raises consumer spending by just 3 to 5 cents so a 10% increase in stocks will add, at best, 45 basis points of GDP growth to the US economy (6). In addition by keeping interest rates artificially low the Fed is creating a large funding gap for pension systems and other programs leading up to what could be a demographic time bomb. It is very hard to justify the risk to reward payoff of this monetary experiment. The defense of quantitative easing rests largely on an assessment of what would have happened to the economy absent its support. Nonetheless we should fear the law of unintended consequences because it takes a very small shift in perception to result in uncontrollable socio-economic change. We may get higher asset prices today but at the expense of inflation, class warfare, social unrest or something even worse tomorrow.

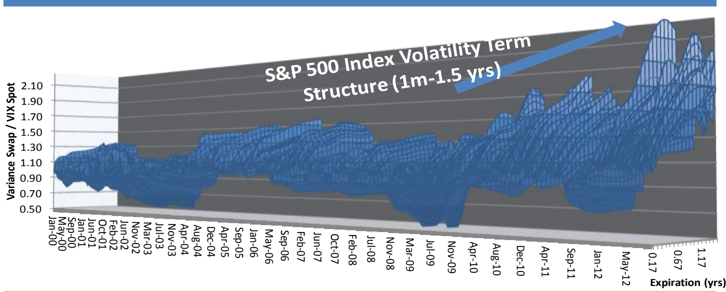
Right on the Button Square: The question the Fed and ECB must be prepared to answer is how "open" is "open-ended" stimulus? If need be are they willing to fully corner liquidity in UST bonds, MBS, and the bonds of the European periphery in an effort to maintain the façade of economic recovery? If you're going to talk-the-talk you had better be prepared to walk-the-walk. To this point I was shocked at the bravado of ECB Governing Council Member and Bank of Cyprus Governor Panicos Demetriades. When asked about the ECB's pledge of unlimited bond purchases he responded that the threat alone may mean no action is ever needed, ***"No one will speculate against the unlimited firepower of a central bank. A central bank has this wonderful ability that no other player in the market has when it says, 'I'm going to do whatever it takes,' and everyone believes that, in the end they may do nothing"*** (7). That is just asking for trouble. Demetriades seems lost in his ivory tower. His is the same dangerous logic that resulted in the September 16th, 1992 Black Wednesday devaluation of the pound after the

UK withdrew from the European Exchange Rate Mechanism. Words are cheap and a demonstration of strength is only meaningful if everyone knows you are NOT at the limit of your ability. Think of a clumsy fighter throwing desperate but strong punches as he teeters on the brink of a knock-out. To this effect the ECB governing council should watch more hockey and quoting former Detroit Red Wings enforcer and Stanley Cup Champion Darren McCarty, ***"The important thing is that when you fight you have to be willing to take a punch. You're going to have to, and it's not about how many you give but about how many you can take and who's the best about learning to take a punch properly"*** He adds, ***"as long as he doesn't get you on the button square, then you'll be alright."*** [8]

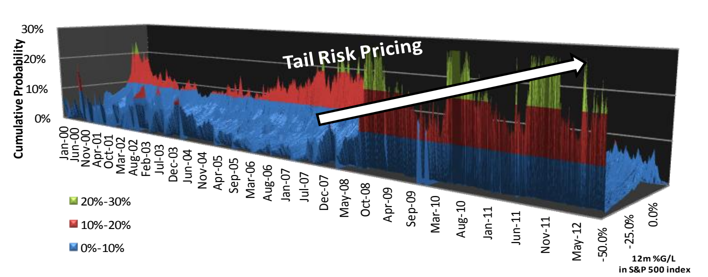
The reputation of being able to take a beating is more powerful than the threat of giving one. The ECB must realize that when bail-out enthusiasm wanes inevitably some anti-austerity political party or bond vigilantes will dare to punch the Euro right on the "button square". So despite all this bravado how many credible punches does the ECB have left to give before issues of Euro solvency come back into focus? Can the ECB walk-the-walk without the backing of true fiscal unity in Europe? Obviously Demetriades has never been in a proper fight and given fair comparison of wisdom and rhetoric perhaps Darren McCarty deserves a seat on the ECB Governing Council. Fortunately Bernanke is more modest than his counterparts in Europe and does not publicly challenge the "Gods of Risk" to a throw down. Bernanke states more humbly regarding the threat of accommodative policy, ***"Whether we have the credibility to persuade markets that we'll follow through is an empirical question… we will have created (by following through) a reserve of credibility that we can use in any subsequent episodes that occur".*** [9] His game theory comment does not convince me that monetary policy is the answer to full employment but at least he is not absurdly arrogant. Either way the fate of markets rests largely on the psychological fight between the credibility of global central banks to defend an optical illusion against the will of risk markets to test the fragile boundaries of human perception. We are now in the middle of a bull market in equities, commodities, bonds, and fear all at the same time. How can these conflicting visions of reality co-exist in the same multi-dimensional space? Welcome to the postmodern economy.

Games in the Impossible Market

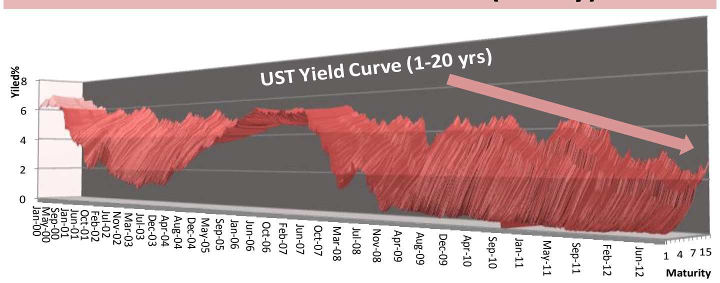
Bull Market in Volatility (Fear)



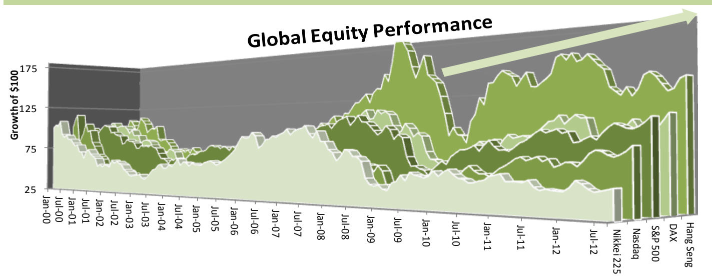
Bull Market in Tail Risk (Fear II)



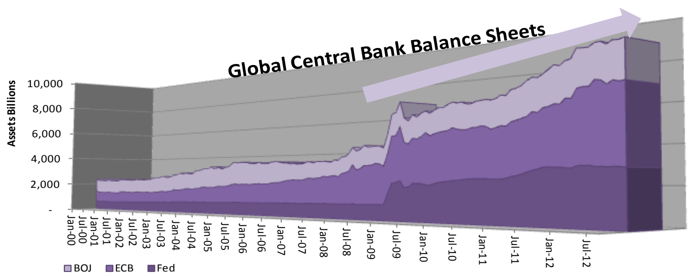
Bull-Market in UST Bonds (Safety)



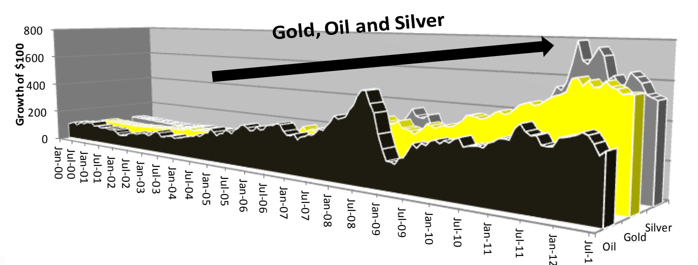
Bull Market in Global Equity (Risk)



Bull Market in Monetary Expansion (??)



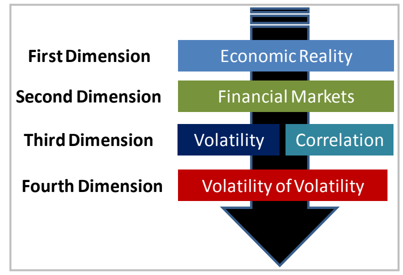
Bull Market in Commodities (Inflation)



The Postmodern Economy

"The simulacrum is never what hides the truth
it is the truth that hides that fact that there is none.
The simulacrum is true "
Ecclesiastes

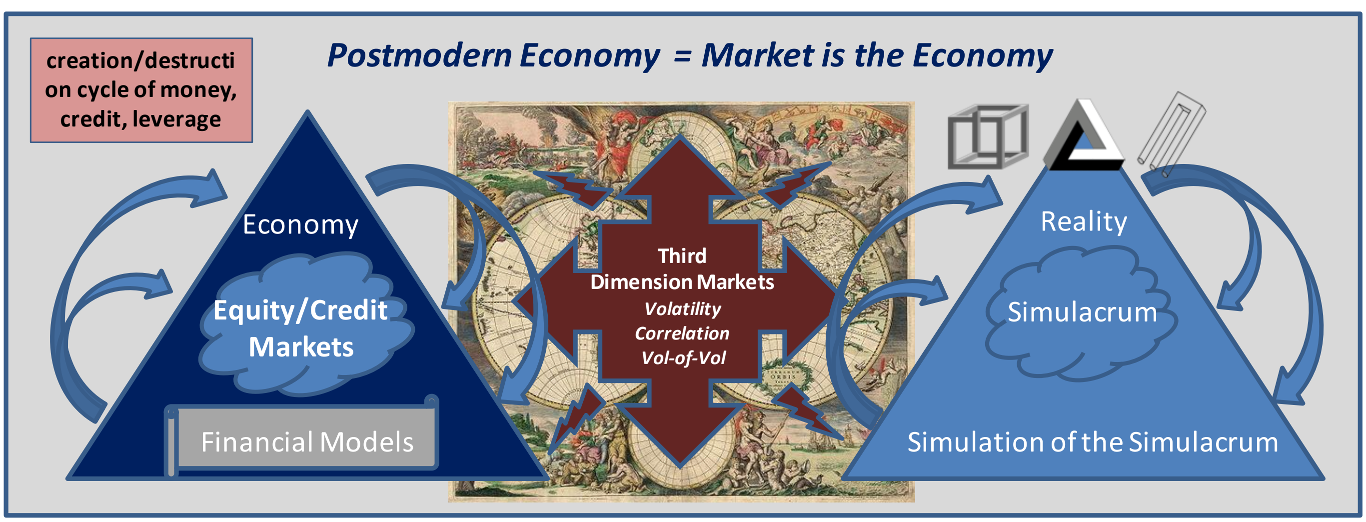
The perfectly efficient market is by nature random. When the market has too much influence over the economic reality it was designed to mimic, the flow of information becomes increasingly less efficient with powerful consequences. Information becomes trapped in a self-reflexive cycle whereby the market is a mirror unto itself. Lack of randomness ironically leads to chaos. I believe this is what George Soros refers to as "reflexivity". The impossible object is a visual example of reflexivity.



Deeper dimension markets like volatility, correlation, and volatility-of-volatility are important because they measure our confidence in the financial representation of economic reality. If financial markets are the mirror reflecting a vision of our economy third dimension markets measure the distortion in the reflection. If you are familiar with Plato's Allegory of the Cave volatility is best understood as our collective trust in the shadows on the wall. In the 1985 work "Simulacra and Simulation" French philosopher Jean Baudrillard recalls the Borges fable about the cartographers of a great Empire who drew a map of its territories so detailed it was as vast as the Empire itself. According to Baudrillard as the actual Empire collapses the inhabitants begin to live their lives within the abstraction believing the map to be real (his work inspired the classic film "The Matrix" and the book is prominently displayed in one scene). The map is accepted as truth and people ignorantly live within a mechanism of their own design and the reality of the Empire is forgotten [(10)]. This fable is a fitting allegory for our modern financial markets.

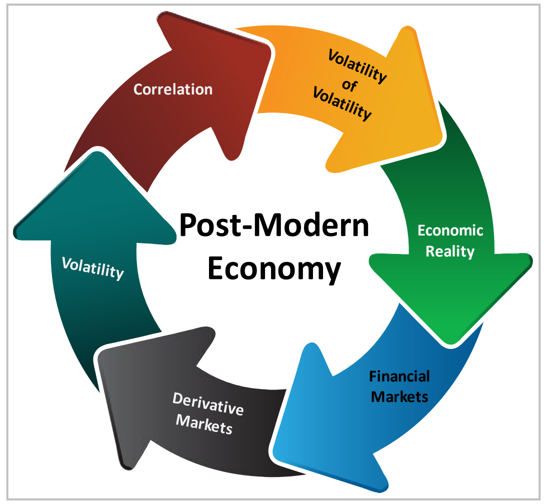
The market is no longer an expression of the economy… it is the economy

In the postmodern economy market expectations are more important to fundamental growth than the reality of supply and demand the market was designed to mimic. Our fiscal well being is now prisoner to financial and monetary engineering of our own design. Central banking strategy does not hide this fact with the goal of creating the optional illusion of economic prosperity through artificially higher asset prices to stimulate the real economy. In doing so they are exposing us all to hyper-reality or what Baudrillard called "the desert of real". In Fed speak this is what Bernanke calls the "wealth effect" and during his September 13th press conference he explained the concept: ***"if people feel that their financial situation is better because their 401k looks better or for whatever reason… they are more willing to go out and spend, and that's going to provide demand that firms need in order to be willing to hire and to invest."*** [(11)] In the postmodern financial system markets are a self-fulfilling projection unto themselves while trending toward inevitable disequilibrium. While it may be natural to conclude that the real economy is slave to the shadow banking system this is not a correct interpretation of the Baudrillard philosophy. The higher concept is that our economy ***is*** the shadow banking system… the Empire is gone and we are living ignorantly within the abstraction. The Fed must support the shadow banking oligarchy because without it the abstraction would fail.

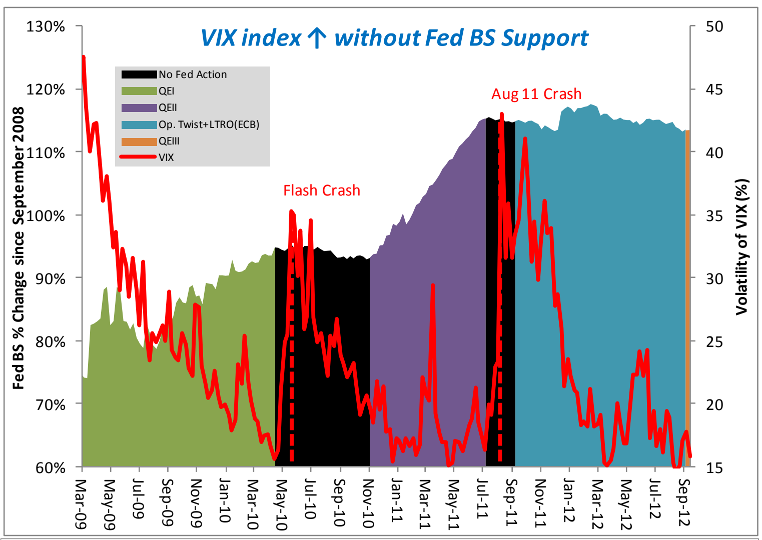


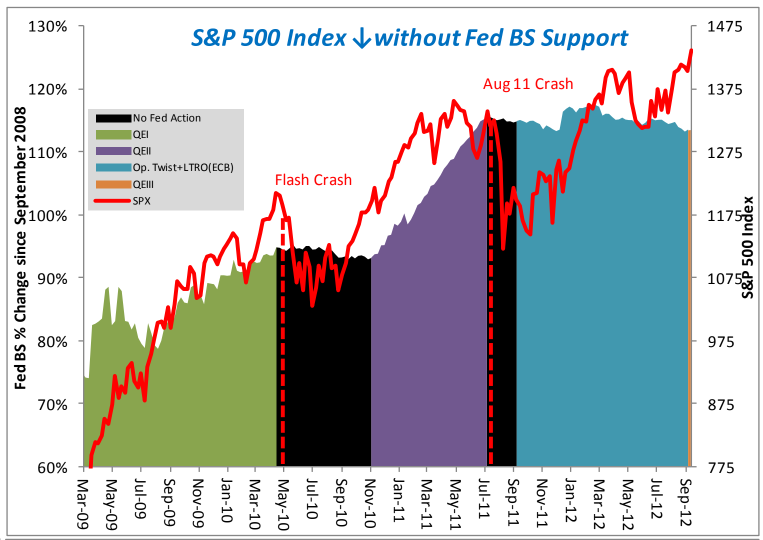
Third & Fourth Dimension Markets & Global Central Banking

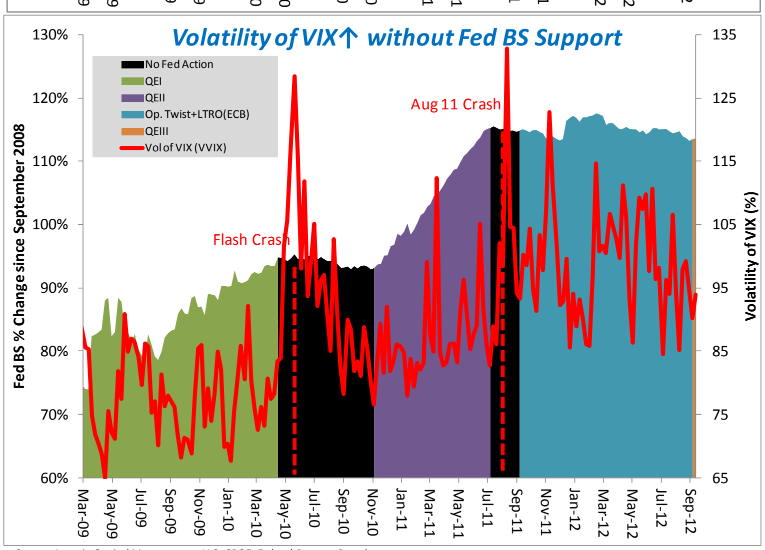
The price discovery mechanism of markets is held together by fragile psychology that is increasingly dependent on money creation to sustain itself rather than economic growth. When systems become abstractions upon themselves they contain less and less information, are less random, and hence more susceptible to extremes in either direction. This is a source of tremendous opportunity and shocking systemic risk.

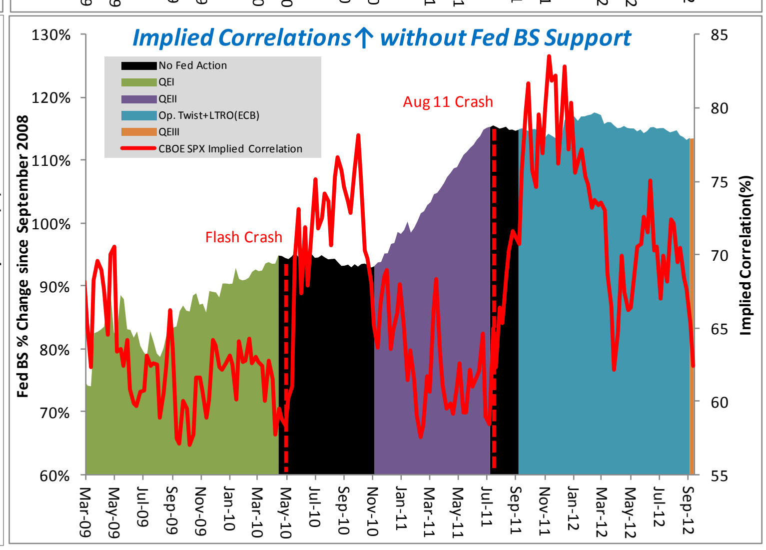


If this sounds esoteric look no further than to how volatility markets are dependent on the expansion of the Fed balance sheet for stability. Third and fourth dimension markets (like volatility and vol-of-vol) become increasingly unstable the minute global central banks (Fed and ECB) cease to provide monetary stimulus. As seen below the reflexive cycle described herein is not as much an obscure philosophy as it is a cold hard mathematical reality. Is the economy anything more than shadows on the wall of a cave? The fact that tail risk and volatility-of-volatility markets are historically expensive only shows that investors have never been more certain of their own uncertainty.









Source: Artemis Capital Management LLC, CBOE, Federal Reserve Board

Knowledge is not what you know but certainty in what you do not

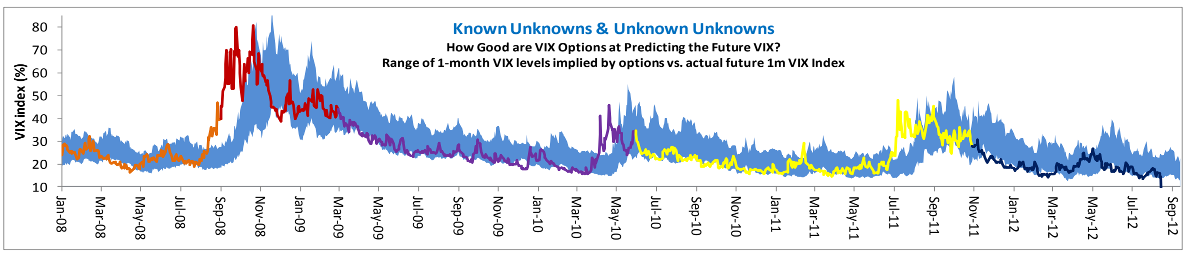
> ***"There are known knowns; there are things we know that we know. There are known unknowns; that is to say there are things that, we now know we don't know. But there are also unknown unknowns – there are things we do not know, we don't know."***
>
> ***Donald Rumsfeld, United States Secretary of Defense***

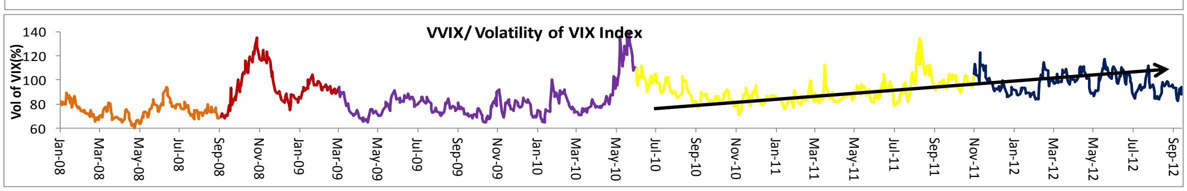
Modern volatility markets put a price on "unknown unknowns" and rarely has that price been higher. Volatility-of-volatility ("VOV" or "Vol-of-Vol") is a fourth dimension derivative that measures our confidence in the market as an accurate representation of the economy.

How certain are you that an M.C. Escher landscape could actually exist? That unsettling feeling you get when you look at the waterfall flow into itself… that is your own perceptual volatility-of-volatility.

It should not be a surprise that episodes of elevated vol-of-vol are associated with lower equity returns. For the S&P 500 index periods of high realized volatility-of-the-VIX underperform periods of low VOV by 13% annually (95th percentile compared to lowest 5th). A recent research paper by Baltyssen, Van Bekkum and Van Der Gruent found that individual stocks exhibiting high implied vol-of-vol underperform low vol-of-vol stocks by 10% a year [12].

Uncertainty is now very expensive. Vol-of-Vol premiums are rich in today's market despite a low-spot VIX. The chart below shows the predicted range of future VIX for a one-month variance swap constructed using VIX options. The VOV swap routinely anticipates the VIX rising from the teens into the mid-20s to low-30s. As you can see the VIX options have never been less accurate in their prediction with 40% of the observations falling underneath the range predicted by the VOV swap since November 2011. As of today 3-month VIX options are predicting a future range on the VIX between 16 and 30 with the VIX at 15.73.

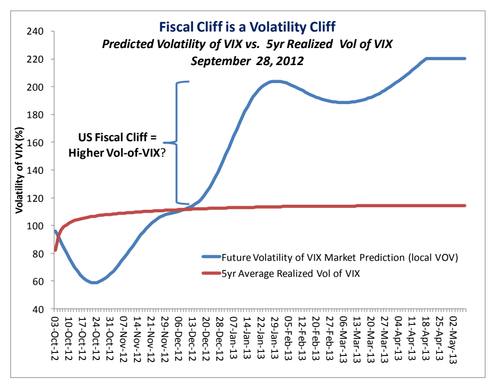




How Good are VIX options Predicting the Future VIX?
VIX Future Log-Contract Prediction Success/Failure %

Volatility Regime	Within Prediction Bound	Greater than Upper Bound	Less than Lower Bound
Total (2007 to Mar 2012)	71%	10%	18%
Bull Market (2006 to July 2007)	77%	23%	0%
Credit Crisis Onset (Aug 2007 to Aug 2008)	78%	8%	14%
Market Crash (Sep 2008 to Feb 2009)	63%	29%	8%
Recovery to Flash Crash (Mar 2009 to May 2010)	71%	7%	22%
Post-Flash Crash Steepening (May 2010 to Oct 2011)	74%	9%	17%
LTRO Steepening (Nov 2011 to Sep 2012)	59%	1%	40%

VOV curves provide a glimpse into the psychology of fear by making predictions about when the VIX is likely to explode or drop. Local VOV curves extracted from VIX-based derivatives anticipate a more violent VIX heading into the January 2013 US fiscal cliff showdown (compare the blue line expected VOV to the red line representing actual VOV since 2007). Volatility markets are only telling us what we already know - if the Congress doesn't act in time a list of things will occur that will be difficult for market's to digest. The Bush tax cuts will expire. The temporary payroll tax cut will end. Unemployment benefits will be severely curtailed. There will be more than $100 billion in automatic cuts to the Pentagon and domestic agencies. All on Jan. 1, 2013… so take a wild guess where predicted future volatility-of-volatility is highest?



We don't know whether the US fiscal cliff will result in recession. We don't know what a collapse of the Euro would do to the global economy. We don't know whether China will experience a hard landing or whether Israel will start war with Iran… These are "known unknowns". The probability of each shock event is already priced into markets meaning their occurrence may still undermine returns but not as much as if they came out of the blue. What are the "unknown unknowns"? Ask a psychic… I have no idea (that is the point) but if someone put a gun to my head and forced me to guess I would answer vol-of-vol itself. The more traders use 'uncertainty' as a market timing indicator the more unstable and cross-correlated markets will become. If you extend that concept to high frequency market microstructure and take it to the logical extreme you may see the problem. ***Today everyone is afraid of the next 2008 but I am afraid of the next 1987 (in equity or bonds).***