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MAY 19, 2010

Black Swans DNA II: the Short Circuit Cracked the Golden Egg in 2003

In 2010, All the Kings Horses and All the Kings Men can put the market structure back together again but I think it will need regulators and Congress to change their strategic thinking about regulatory reform. The recent proposals from the SEC to install circuit breakers to fix the "Flash Crashes" cannot fix market wiring that is just not up to code.

Regulation NMS and Trading Algorithms Not Fat Fingers Are The Cause:

In my view, fat fingers, hackers and other media phantasms can not crash markets provided that market structure is properly regulated and efficient. Under the Semi-Strong form of the EMH (Efficient Markets Hypothesis) the market price of equities theoretically reflects the value of equity shares until new information changes valuation. If the EMH were true, in the absence of a cataclysmic geo-political event such as 9/11/2001, a "Flash Crash" is impossible. In my view, a "Flash Crash" is by definition a failure of market structure no matter whom is labeled as the scapegoat. I think, if the market structure has integrity, then traders working buy orders will execute larger portions of working orders at the depressed prices (as returns increase) thus limiting the severity of the down draft. After all, the economic law of supply and demand dictates greater demand and less supply as price declines. The trader's law of buy (or cover) low - sell (or short) higher also works when random walks create a disconnection between value and price. Under the EMH, the equities markets given their size should be efficient markets and free of anomalies, the Flash Crash proves that is not the case. I think regulations and market structure created by regulations have undermined market efficiency. In-efficient markets have long reaching implications for business and government finance and therefore economic growth and the global standard of living.

In 2003, the SEC proposed a new series of market reforms designed to counter market fragmentation created by the liberalization of SEC rules governing the ECNs (Electronic Trading Networks now also called Alternate Display Facilities or Alternate Trading Venues). The perceived problem in 2003 was ECN trades and was posted independent of primary exchanges resulting in locked National Market System (NMS) quotes. The NMS display is the government's aggregated market quotes across markets and traders look to the NMS for pricing information and to define best execution (as mandated by other government regulations) as the NMS qoute represents the best quoted price that exceeds just 100 shares. Clearly technology created the need for change but I argued as far back as 2004 the SEC's cure (Reg, NMS) was akin to putting a band aid on a hemophiliac. I also argued that NMS could reduce market breadth and depth thus creating the conditions for a catastrophic market crash.

The SEC allows ECNs to charge primary exchange participants and market makers for taking liquidity from ECNs. The SEC also allows ECNs to offer rebates to institutional clients. Moreover, SEC regulations prohibit markets, brokerage firms and investment banks from offering the same rebates to institutions while human traders are prohibited from charging ECNs for the very same liquidity. For example, when Goldman Sachs bids $4.10 for CitiBank on the NYSE, Goldman Sachs is not allowed to charge another NYSE member such as Morgan Stanley for accessing the quote (Goldman can only charge its own client). However, Goldman's ECN, REDI, can charge Morgan Stanley as well its client. Owing to the favored nation status of ECN's, Goldman diverts its order flow to its proprietary ECN and away from the primary listing venue to avoid fees and generate more revenue per trade ticket. In our view, ECNs became increasingly parasitic as they have siphoned liquidity from the primary markets. As more liquidity was diverted to electronic venues the market share on the largest equity exchanges such as the NASDAQ and the NYSE shrank. In 1998 the NYSE traded over 80% of the equities it listed today it trades about 30%. The terms economists use for the above mentioned process is called disintermediation or disruption. Owing to disruption, the un-aggregated liquidity facing each exchange declined and exotic electronic trading systems were developed in response to manage order flow and aggregate liquidity across ECNs and exchanges under this new paradigm. These systems are known as algorithmic trading systems and black box trading models.

Owing to the decline in market share on the primary listing venues markets became fragmented -which is a red flag signaling that market structure was in decline. For example, in 2003, Microsoft could have been bid $23.10 on NASDAQ while it traded at $23.09 on the REDI ECN. To solve the fragmentation problem the SEC could have; supported the integrity of quotes in primary markets, the SEC could have eliminated the regulatory subsidies that benefited ECNs and created fragmentation but instead the SEC chose to create regulation NMS. Regulation NMS allows markets to trade around each other provided they attempt to trade the posted bids and offers (or sweep). In 2003, I lobbied against regulation NMS and I predicted NMS when combined with sophisticated electronic trading algorithms created the conditions for what is now called a the Flash Crash or the Black Swan event that resulted in the 900 point decline in the Dow Jones Industrial Average in just five minutes. On the next page is my Exhibit II of my NMS white paper that was sent to both Parties in Congress, The SEC and The White House.

February 26, 2004

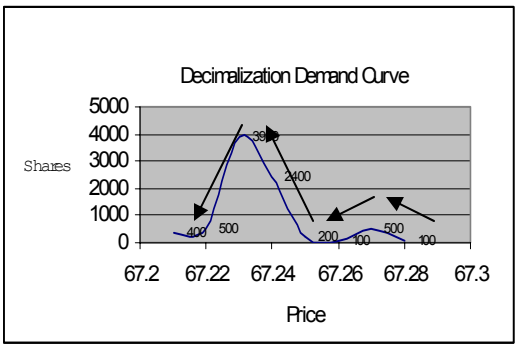
Exhibit II of White paper addressed to SEC Chairman - Bill Donaldson

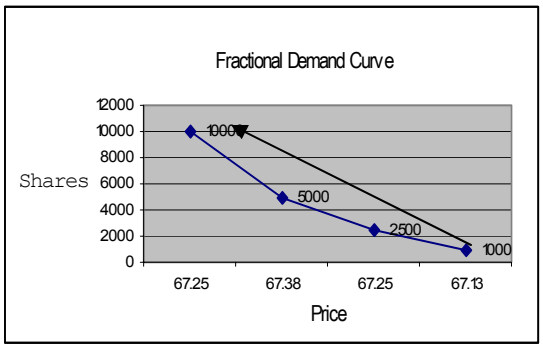
Bring Back the Breath

Since the introduction of tick reform breath, the amount of shares available on the best Bid or Offer size of the market, has declined for stocks not represented in the major market indexes such as; S&P 100 or the NASDAQ 100. The decline in breath was expected when tick increments were reduced from 1/4 share to 1/16 fractional increments because it was expected that overall breadth across all price quotes would be greater and it was believed that the reduction in trading costs outweighed the loss of liquidity. What wasn't expected was the decline in tradable orders. The reduction of price increments allowed speculators to post prices ahead of larger institutional orders, in essence competing against the posted order for liquidity. The institutional response (that started when stocks traded in 1/16's and was exacerbated by decimalization) was to pull their orders from the floor of the exchanges and from NASDAQ Market Maker desks. Today when an institution wants to buy 50,000 shares of stock they are just as likely to enter five hundred 100 share orders on an ECN as to enter a single 50,000 share order with a Specialist or Market Maker. This type of trading is enabled by reserve books and average price trading programs. The result is that liquidity for stocks is found in electronic cues and governed by algorithms and is often not available to trade freely with the other side.

As a result of reduced liquidity, liquidity providers like NASDAQ Market Makers or NYSE Specialist are less likely to provide capital to trade and institutions are less likely to provide liquidity to the primary market as they buy and sell positions. These trading practices have resulting in fragmented markets as traders execute their orders based on technology and rebates and not price and liquidity.

Stock markets just like any other markets have a supply and demand curve. In a stock market the demand curve is represented by market buy orders and bids. Most economists believe that as prices increase demand declines, provided that all other economic variables remain constant. Since the reductions in the minimum trading increment demand, as represented by the NASDAQ bid side market montage has changed. Clearly decimalization has changed trading behavior and these changes have created unintended consequences.





In the charts above bid size increases then declines dramatically under decimalization. Typically under decimalization few orders are reflected at any point on the montage and barely any orders are reflected out side the first ten price levels (ten cents). By comparison under the old fractional system typically more size was reflected in the montage at lower price levels and overall more stock was bid for across the total price horizon.

Recently, trading in Corinthian Colleges Inc. (ticker symbol COCO) has created a lot of controversy on Wall Street. On December 5, 2003 a trader inadvertently placed a large sell order on Bloomberg's 'Trade Book' ECN and flooded the market in COCO with sell orders and hit all the bids posted at that time. COCO stock traded from $57.45 to as low as $38.97 in twelve minutes. While many on Wall Street are reviewing NASDAQ's and ARCA's actions regarding their regulatory responses to the trading activity perhaps the more interesting question is: How could just one trader pressure a stock down almost twenty points? That is a market structure issue; not a regulatory issue! Cleary if there was more breath in the market for COCO, then even a two million share order should not have been able to pressure the stock down twenty points. The COCO event is more than an anomaly; the event highlights a fundamental weakness in market structure that creates smaller but serious price gaps everyday due to poor market structure.

The Flash Crash was the COCO anomaly I warned about applied to virtually every stock on the NYSE and NASDAQ on May 5, 2010

INVESTMENT IMPLICATIONS

I think long only or short only strategies are risky because the long tail risk of a Black Swan market move can wipe out gains. In my view investing in equities is more risky today than it was last month as institutional concerns about liquidity may limit the potential for price appreciation. I think institutions are now more likely to hedge and take profits as the experience of watching a fund's returns plummet to zero in just five minutes must be on the minds of most portfolio managers.

In my view, fundamental shorts and long/short pair trading strategies are the only means by which money managers can manage risk and generate absolute returns in volatile markets. I also suggest that what I call traders discipline (systematic profit taking and stop losses) needs to be practiced because discipline forces managers to sell stock positions as value declines and as the probability of Black Swan correction increases. However many managers cannot trade actively and need to manage risk differently. In that case, I think buying volatility is a possible solution as large institutions can trade the VIX or volatility futures. What makes the Volatility Index (VIX) attractive is its negative correlation to the market. Times of distress are usually marked by increased volatility. There is no economic return component to the VIX, it simply measures volatility. Some funds are prohibited from owing futures but VIX ETNs are available. In 2009 Barclay's launched the iPath S&P 500 VIX Short-Term Futures ETN (NYSE Arca: VXX) and the iPath S&P 500 VIX Mid-Term Futures ETN (NYSE Arca: VXZ). I prefer the futures contract because ETN's are less liquid derivative notes (not unlike CDS) and that is an inferior capital structure, in my view, because there is an element of counter party risk if the originator (Barclay's) fails.

I also view Black Swans corrections (or bubbles) as potential buying (or selling) opportunities. During past Black Swans the 1987 Crash and the Credit Crisis 2008/09 spread between earnings Yield and the 10 Year Government Bond expanded. My rule of thumb is when the Cyclical Earnings Yield spread to Treasuries is 5% or greater then the risk of equities is well compensated. However EPS is not only on metric I use; Debt-to- Capital, FCF, Revenue Growth and management teams are also critical to picking companies that can potentially trade higher in a market rally.

REGULATORY IMPLICATIONS

While technology and hedging are integral to generating absolute returns and long term economic growth Congress and the SEC has to put all cards on the table and every sacred cow on Wall Street needs to be examined. The Credit Crisis and Flash Crash as well as the Madolf and Goldman Sachs scandals are symptoms of larger issues with market structure.

I think institutions had a false sense of security in regards to market structure; it seems the perception of liquidity in the markets is greater than realized liquidity when positions have to be liquidated. That creates the psychological panic in the market because traders start to doubt their technology and decisions. The tools traders need to execute institutional orders; algorithms, reserve books and black box systems have to be examined. It is possible that these systems contributed to the collapse. After the initial downdraft momentum in the markets built as volume and average price participation rates may have automatically increased simultaneously. As algorithms fell behind volume participation rates the computers may have "panicked" and sold more stock. For example, if I have a million shares of MSFT to sell at the market and have programmed my computer to sell shares at the VWAP (volume weighted average price) and participate at 20% of the volume then the computer will sell more shares more aggressively as the stock declines. It is like a panic because that is the only way the computer can make the math work and stay with volume and price. When 30 institutions are trading this way all at once and when Flash traders are front running their orders the conditions for a Flash Crash are created.

As the SEC has increased the regulation of regulated exchanges such as the NYSE and NASDAQ capital has migrated to unregulated hedge funds, CDO and CDS markets. For example Bernard Madolf generated most of his revenue from market making prior to 1998, he also had strong relationships with his regulators –he influenced SEC rules, sat on NASDAQ's board and his son even married the firm's SEC auditor. It was only when new regulations made life difficult for his institutional brokerage firm did he decide to open a hedge fund business and embezzle his client's money. My point is new regulations failed to stop Madolf's $50 billion Ponzi scheme and those losses were 25x greater than the savings to investors generated by the pricing and limit order protection rules. Moreover, finite regulatory resources were diverted to price and limit order compliance when the greater risks to the economy were frauds like Madolf and "------" deals like Abacus.

Clearly, inferior market structure provides incentive to hedge and delays liquidating sell orders thus hedges can provide an incentive to let the securities fail. The problem, in my view, the more institutions are hedged less capital available to buy securities on weakness. For example, according to media reports, CDS outstanding on Greek Bonds is greater than the Greece's debt outstanding. If true, the incentive to buy Greek bonds for yield or to loan Greece Euros to retire the bonds is non-existent because capital is locked up in short positions. Moreover, hedge funds also stand to earn a greater return by letting Greek Bonds fail than by taking constructive measures to solve the problem to provide credit to Greece.

My two cents about cause

The Flash Crash was extremely broad based and I do not think it was the result of an errant trade. Securities such as the IVR, a small Mortgage REIT, and CYB (the Chinese Yuan ETF) traded lower even though they are not well represented by any large index. Therefore the Flash Crash must have another catalyst; a trading desk error in the S&P 500 index does not cover enough securities to explain the breadth of the down draft.

I think the two most likely causes is 1) The "Mother of all Shorts", defined as a massive short trade executed by a sovereign wealth fund or investment bank. Recent Congressional testimony has given us insights on hedges executed by Lehman Brothers and Goldman Sachs. During the credit crisis Lehman reportedly bought commodities and derivatives in a failed attempt to hedge its Mortgage book and according to the Senate Hearings Goldman's short book could have been as large as $4.5 billion during the credit crisis which limited the firms CDO losses to $1.2 billion. It is not unreasonable to think that a poorly executed hedge (against a Sovereign Euro Bond position) is potentially large enough and perhaps broad enough to trigger the flash crash. Clearly Russia's ($168 billion), UAE's ($627 billion), China's ($630 billion), and Saudi Arabia's ($430 billion) sovereign wealth funds are sophisticated enough to consider a hedge large enough to move markets.

Or

2) As Wall Street cut costs, the transition to computerized trading accelerated. It is possible that the latent potential for a Flash Crash has increased over the last year as Wall Street Laid off 250,000 workers in 2008/2009 and replaced them with computers. Algorithms combined with Flash Traders (electronic trade profiteers that trade ahead of, or front run, institutional orders in order to quick profits and ECN rebates) could have easily created the conditions we saw on May 5, 2010. This scenario actually scares me more than the Sovereign Fund Trade because like a Tornado or Tsunami a Flash Crash under these conditions can occur with little or no warning.

Alternative reforms

Since 2003, I lobbied Washington for regulatory reform because new regulations which promote institutional electronic trading at the expense of price and breadth have clearly undermined the capital markets. In my view, the hot spots that constitute the DNA of Black Swans in today's equity markets are:

1) The unregulated ability of Institutions to buy Credit Default Swaps on securities which they do not own.
2) Unregulated Counter Party Credit Risk on OTC Derivative Swap Contracts
3) A regulatory structure that provides an artificial incentive to trade on electronic trading networks.
4) The Decimalization and Sub-Decimalization of equity securities.
5) The elimination of realistic minimum bid and offer sizes on equity markets.
6) The institutional tolerance of the front running of equity orders (flash trading).
7) The failure of institutions to train and supervise traders, sales traders, buy-side traders, technology and programmers.
8) The emphasis of the element of time over size as well as price in most new regulations and trading systems.
9) The inability and failure of institutions to effectively make markets in securities and provide capital in times of distress.
10) The de-facto nationalization of equity trading through the creation a National Market System (NMS) which also allows trades to cross in nano-seconds on Black Boxes that are not transparent and are too fast to understand or regulate.