Convergence Strategies, Deleveraging, & Hedge Funds Returns

by

K. N. Taleb, Ph.D. & A. G. Marar, Ph.D.

November 18, 2008

Introduction

The financial markets are going through one of the most gut-wrenching periods in financial history and the spate of negative news is not limited to just one geographical area. The wave of globalization has caught every economy wrong-footed, from the United States of America, to Europe, to the BRIC region (BRIC being the acronym referring to Brazil, Russia, India and China, and which became widely popular following a Goldman Sachs report). The financial shakeouts and failures of institutional giants spanned the globe, and the universe of blue chip investment banks shrank to a handful; Lehman Brothers went bankrupt and Bear Stearns and Merrill Lynch got acquired by J.P. Morgan Chase and Bank of America respectively. The fate of Goldman Sachs and Morgan Stanley also came under serious doubt hinging upon the approval of a governmental rescue; their business model, which was based on a rolling credit line in the repo market, broke down under the liquidity pressure and the two firms found themselves scrambling to register as commercial banks.

It is now an undisputed consensus that, entering the last quarter of 2008, we are in a state of a global and severe recession. Credit markets have frozen and in order to ease the credit liquidity, the federal government, under the influence of Treasury Secretary Henry Paulson, has approved a $700 billion rescue package for the financial industry, and is planning to take stakes in major financial institutions and persuade them to ease the liquidity crisis.

After this first swift and destructive wave of credit contraction that brought the global financial system to its knees, and forced an unprecedented level of governmental interventions, one wonders about what to expect from here. This article looks at the impact to the hedge funds space in general and the convergence driven strategies in specific.

Henry Paulson has already publicly announced that the rescue plan will exclude hedge funds and private equity firms. Moreover, the hedge fund universe continues to face severe “contagion risk” as assets have increased to over a trillion dollars and most of the strategies are capacitated.

Under the current economic and market conditions, it looks like hedge funds are still facing a significant deleveraging risk and a renewed domino effect on the rest of the players cannot be excluded.

As we stand, and while the initial deleveraging was caused by a liquidity freeze forcing funds to unload positions at an accelerated rate, we wouldn't be surprised to see this deleveraging gather even more momentum as managers continue to face client redemptions. Some of the prominent funds have already moved on to freeze client redemptions by putting into effect a provision, the so-called "gates".

As banks incur losses, they become reluctant to take on risk from hedge funds which rely on bank credit lines to shore up returns. During tight credit conditions, banks avoid extending credit as well. The haircut (the cash balance that prime brokerages require hedge fund clients to post with them) increased substantially in early 2008. For leveraged investors buying AA-rated bonds, the haircut demanded by banks increased from between 0%-3% to between 8%-12% during the period of March 2007 until March 2008 (source: *FinancialNews, March 2008*) This implies that the leverage employed by the hedge fund clients reduced from a high of 30 times in March 2007 to 8.3 in March 2008. For investors buying BB-rated bonds, the haircut demanded by banks has increased from between 10% to between 15% to 25% to 30% reducing the leverage from 6.7 times to 2.5 times. On equities, the haircut has increased from 15% to 20% which translates to a decrease in leverage of 6.7 to 5.0. It should be noted that we expect the haircut for equities to have increased further during the period following March 2008 as markets globally have experienced a spike in volatility due to a major sell-off in all equity indices. As funds post more cash as haircut, their available capital to buy securities is diminished, and which in turn raises the odds of a fund becoming insolvent after a big loss.

Prime brokers also hold a hedge fund's securities as collateral to safeguard them against risk. As a fund faces a margin call from the primer broker, it is forced to sell the securities in an illiquid and volatile market, resulting in a downward pricing on the securities triggering more margin calls. Such a downward spiral can get aggravated in very illiquid and volatile conditions and can often lead a fund to insolvency.

This is the tale of LTCM and how a lone ranger can bring down a whole stable. LTCM roiled the credit markets as the fund was highly leveraged and forced to liquidate its holdings to answer margin calls. As liquidity dried up and LTCM started unloading its positions, the prices of its investments plummeted forcing it to unload more positions. This has a detrimental effect on other hedge funds due to "mark-to-market risk" and where a hedge fund is required to mark its books to the most recent trade. Marking-to-market immediately causes other hedge funds to post losses and thereby face margin calls from the prime brokers.

We next discuss some of the well established convergence strategies which account for the good part of the total index's return and review some key factors and events that affected their returns and revealed their vulnerabilities:

Convergence Strategies

1. The Convertible Bond Market: 2005 & 2008

During May of 2005, an interesting turn of events took place. When Standard & Poor's downgraded GM and Ford, the corporate credit spreads widened significantly. When Kirk Kerkorian later on offered to buy a chunk of General Motors in a surprise bid, this created a situation where the GM credit spreads widened while its equity rallied. Many hedge fund players who had a play in GM were hit with a "double whammy". Although the overall damage in this situation was short-lived it roiled the convertible markets for a while.

Convertible bonds, especially, the ones trading at a significant premium were affected. In a convertible bond, the "premium" is defined as the value of convertible in excess of the value one would obtain by full conversion to the equity. Theoretically, a scenario of widening credit spreads does not necessarily create a downward price pressure on a convertible bond as the volatility tends to rise in such a situation. Unfortunately, during periods of negative sentiment, implied volatilities underlying convertible bond prices are significantly dislocated from the corresponding equity volatilities. Even as such dislocations present arbitrage opportunities, the overall selling pressure in the markets overrides these opportunities and causes a decline in the returns.

As of this writing in 2008, the on-going convertible bonds carnage can be attributed to three factors – deleveraging, credit deterioration and the inability to monetize gamma. The level of deleveraging seen in the markets has put a downward price pressure on the convertible bonds. As the convertible bond has a fixed income component, in deteriorating credit markets and as evidenced in September and October, the value of the convertible can go down. While it is a possibility that traders could have hedged their credit risk, a liquidly traded CDS in a particular name is not always available. This is especially the case when dealing with mid-cap companies. The convertible value consists of a straight bond and an equity call option. In order to trade on the cheapness of the call option, one has to be able to short the stock and trade on the gamma. New short selling regulations by the FSA and SEC have affected all the financial stocks in the UK and around 900 stocks in the US. Unable to freely trade on the short equity positions prevented convertible managers from trading on the gamma thus eroding the convertible bond value. Of the roughly $60 billion in convertible securities issued in the first eight months of the year, 65% came from the financial sector (source: *Wall Street Journal, September 2008*).

The situation of the convertible bond market so far in 2008 is very similar to the one of 2005 when a weak month caused redemptions triggering in turn more negative returns. Towards the end of this, however, converts looked very cheap and the managers who were able to last this trip reaped the benefits. We believe the situation to be different in 2008 and even though implied volatilities are trading 15 points below option volatilities and 25 points below realized volatilities (source: *Nedgroup Investments newsletter, October 2008*). The freezing of the convertible markets will have an adverse effect on the economy as whole as many struggling companies turn to the convertible bond markets to raise money in trying times.

2. Mergers and Acquisitions (M&A's) and Leveraged Buyouts (LBO's):

Another major hedge fund strategy that can be adversely affected by lending conditions is the M&A. Early in 2007, some of the popular deals taking place were of the LBO kind where a company takes a controlling stake in the equity of a target company with payments funded through borrowing. As lending from the banks starts to recede many of the private equity players tend to stay on the sideline letting their capital stay idle. During the second part of 2007 and as the overall credit worthiness weakened, many of the existing LBO deals were put in jeopardy. Typically, LBO deals have a relatively low break-up fee allowing the acquirer to walk away from potentially risky deals.

The other bane of the M&A strategy is leverage. The M&A space has become so saturated that the moment a deal gets announced the premiums turn too tight to offer any competitive advantage. The profits in an M&A strategy tend to be localized around a few strategies where a target is under a bidding war by two or more acquirers. The only way an M&A trader could justify generating profits from other strategies is through the use of leverage. The sources of lending for LBO deals are the prime brokers themselves, hence, in a tight credit environment, the M&A space is affected by a deleveraging as well as by a shrinking of the spectrum of deals due to the reduction in potential LBOs.

3. Credit Portfolios and Bank Debt: July 2007

Banks started transferring corporate loans to the secondary market providing hedge funds with yet another investment to trade in – bank debt, mostly first and second lien. Bank debts offers a floating rate of coupon, typically a coupon over LIBOR and during the time when interest rates were rising they provided an attractive investment over fixed coupon investments whose payments were eroded by the rising interest rates. Hedge fund investors were also inclined to use leverage as bank debt, located at the top of the capital structure, was anticipated to be less volatile and offered a safer haven than other forms of credit instruments.

A significant downward price movement occurred in the bank debt prices in July 2007. A similar price decrease happened in January 2008. Both these price decreases are based on the CSFB Leveraged Loan Index (source: *MoneyWeek, March 2008*). One of the disadvantages of bank debt is that effective hedging instruments such as the loan index (LCDX) are just starting to emerge and any downward price move in the bank debt investments translate to considerable losses for the hedge fund investor.

4. Quantitative Equity Strategies: August 2008

Early August 2008, quantitative equity strategies posted significant losses across the board even as returns in the overall market were not unusual. This phenomenon was observed not only for US stocks but also for non-US regions and coincided with both the Federal Reserve and European central bank injecting cash into the monetary system.

While the specific strategies employed by quantitative funds are closely held and not disclosed, one of the salient points to note is that during this credit crunch, most of the funds experienced a substantial decline. This could indicate that these funds shared more of the fundamental risk factors than originally suspected, and which only became obvious during a period of tight liquidity.

For instance, and while there may only be a modest overlap between quantitative strategies taken two at a time, the aggregate overlap within the quant space could prove much higher and present a significant contagion risk.

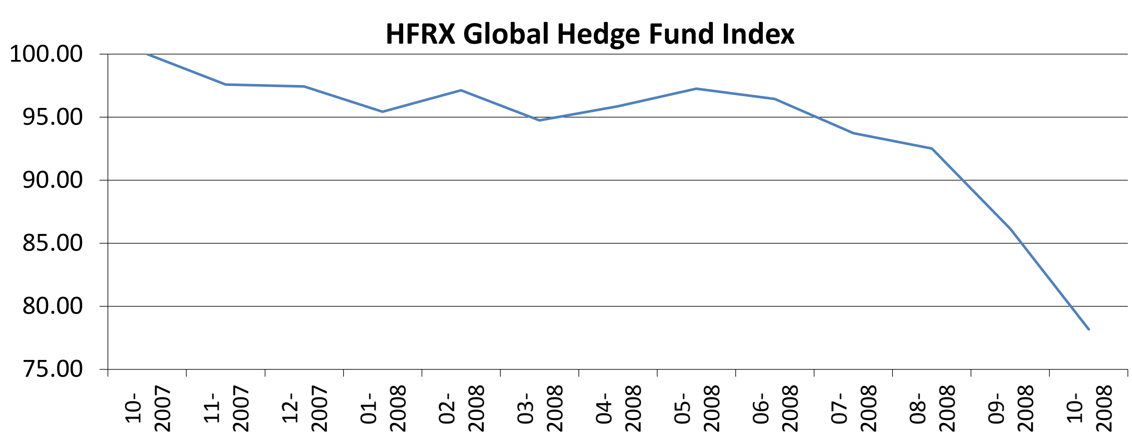
The fact that various quant funds had to compete over forced liquidations of the same names indicate that while the strategies could have been quite different taken two at a time, the entire holdings of the quant funds proved highly correlated and vulnerable to deleveraging and limited market liquidity.

Next, and having discussed the characteristics and risks of the main convergence strategies above, the following section attempts to assess what to expect from the hedge fund space and convergence strategies in specific within the current market environment.

Hedge Funds Returns Going Forward

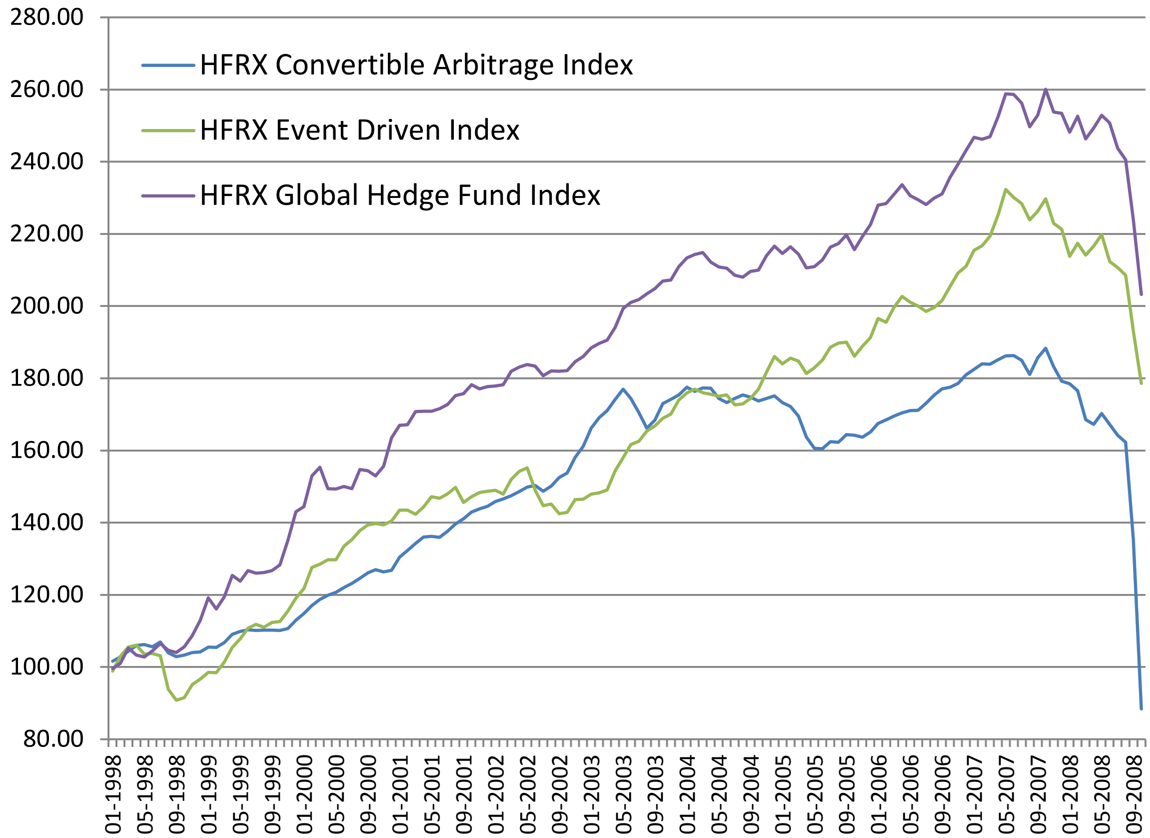
We now look at the recent returns of hedge funds investments using the data published by Hedge Fund Research Inc. (HFR) as a proxy. Looking at the chart below, an investment allocation to the HFRX Global Hedge Fund Index at the beginning of November 2007 would now be worth 78% of the initial amount just a year after.

While a 22% average loss on hedge strategies could seem reasonable relative to the larger losses for outright equity investments, a 22% loss is nevertheless difficult to justify if not unacceptable coming from managers representing their strategies as ‘market neutral’, ‘arbitrage’, ‘non-correlated’, etc…



The next chart below shows how some convergence strategies in particular and which tend to be leverage intensive and credit sensitive, such as Convertible Arbitrage and M&A/LBO/Event Driven, were even more affected than the average HF strategy. Looking at the Credit Arbitrage index for instance, the losses of the past few months erased all of the accumulated gains of the past 10 years; after several years of seemingly solid and consistent returns, this positive performance came to an abrupt halt with the months of September and October 2008 registering the worst monthly performance on record with results of -6.9% and -9.3% respectively.

While it is easy to come up with an explanation of what actually happened in retrospect, there would be little to learn if one does not closely investigate the initial conditions making for a structurally unstable equilibrium, and which allowed a crisis scenario to unfold.



Quoting from our June 2006 article entitled '[*Commodities Raging Bull*]':

"At this point in the 'debt supercycle', and where repeated reflation efforts have taken the debt level to steeper and unsustainable heights, any dry up in liquidity could have devastating consequences that would send the global economy in outright deflation that dwarfs the economic depression of the 1930's."

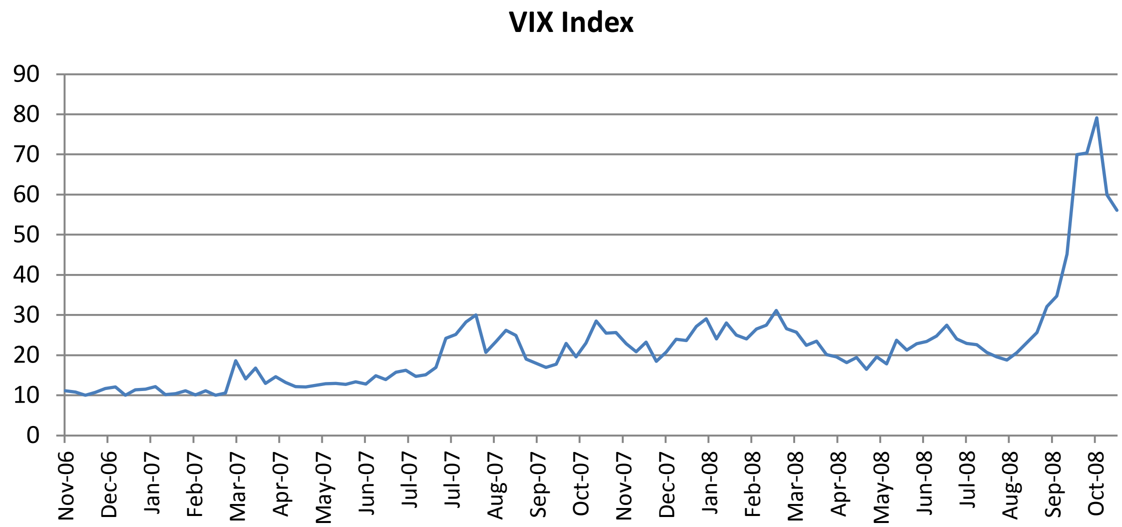
Some managers who got caught in the spiral argue that their strategies were undermined by governmental interventions such as the ban on shorting financial stocks for instance, or a lack of typical liquidity, or an unlucky counterparty risk.

While we are opposed to governmental interventions in general, and even more so when they are biased (such as recently was the case), the authors' opinion here is rather non-sympathetic overall and refutes the excuses now being sold to the public; the market does not owe liquidity to its players, nor does it guarantee counterparties. Such risks have always been inherent to markets and investment strategies, and it is the managers' responsibility to exert prudence and operate within those constraints and unknowns.

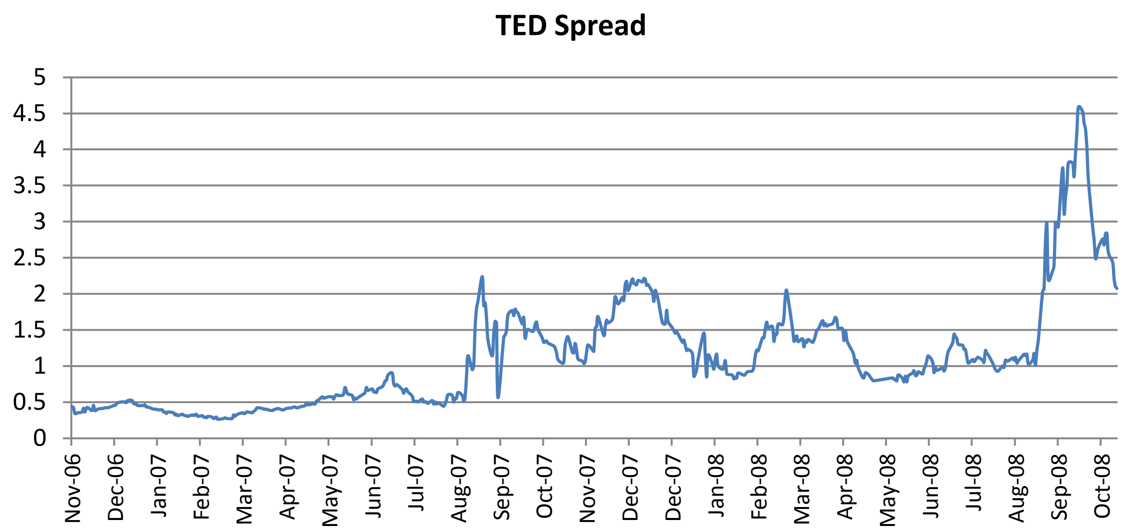
Hence, and by and large, the bulk of the losses were not the result of exogenous factors to a normal market, but the consequence of unrestrained money managers showing little respect for risk. There was a 'herd behavior' that exacerbated the initial conditions and created non-transparent risks born by the investors. These risks only became apparent upon their realization during this crisis. (For more details, we refer the reader to our earlier article "*Hedge Funds Allocation Strategies: Re-examining the Convergence & Directional Style in the Current Economic Climate* " in which the convergence strategies were explained and compared to divergent strategies.)

Looking again at the HFRX Global Hedge Fund Index chart above and noting how returns peaked around mid-2007, it is apparent how the start of the rapid deterioration in hedge funds returns clearly coincided with the beginning of the credit crunch. The flight-to-safety that ensued is also clearly visible in the chart below showing the SHY exchange-traded fund of the 1 to 3 years treasuries.

We also note that mid-2007 marked the beginning of the increase of both the VIX index and TED spread presented below (note that the TED spread is the difference between 90-day LIBOR and 90-day T-bill rate and LIBOR is the base reference rate at with hedge funds deal monetarily with financial institutions.)



Looking at the VIX and TED spread, it is quite obvious that the implied risk aversion coming from both the equities and credit markets is consistent and at very high historical levels.



While both charts have clearly marked significant peaks, one wonders what to reasonably expect from here.

Given the possibility that future realized risk could prove more docile than currently expected levels, and coupled with the fact that many analysts and institutional investors are pointing out to the discounted valuations and 'screaming buys', an optimist's viewpoint could be given consideration.

We clearly differ and see more pain ahead; our stance here is that it is too early to rule out the possibility of those peaks being revisited again in the foreseeable future and that renewed pressure on hedge funds in general and convergence strategies in particular is quite likely to resume.

We can certainly see a powerful bear market rally take hold from current levels, but we'd still disagree with our peers calling a solid bottom at this point and looking into 2009.

We stress the fact that this crisis started with a credit squeeze that remains the governing constraint with everything else being secondary in importance, including valuations.

Anybody looking at valuations in a vacuum without taking the monetary environment into account risks misdiagnosing the entire situation. Further, and while valuations could indeed be very reasonable by recent precedents, they could also be disguising drastically reduced future earnings.

Hence, if the current readings on the VIX and TED prove accurate at such levels or higher, then most hedge funds are not out of the woods and will still have to feed the credit beast. Only those that survive with sufficient liquidity will stand a chance later on at recapturing some lost ground.

So how far are we from reaching bottom and how long will we stay there?

It is rational to assume that the future will be influenced somewhat by the steps being taken today to contain the crisis, and which could vary in terms of depth and coverage.

We also take a cue from Citibank's recent stock price of under $10 compared to $55 a share at the beginning of 2007, and remember that the banks and brokerages are usually leading indicators to the market as a whole.

Where we feel more certain over forecasting tops and bottoms, is critiquing those calling a bottom and expecting a recovery in 2009:

It would be naïve to believe that the credit and financial excesses that took decades to build would be quickly reversed and resolved with few governmental announcements and promises. It is in fact entirely plausible that we may have only experienced the first wave of several more to come.

We hope that we are wrong, but if history is any guide - and which does not preclude strong bear market rallies – then another extreme needs to register on the downside before a bottom can start to form.

Only then, and given sufficient time for the credit contraction cycle to take its course, would a new market foundation settle in and allow for the birth of a new bull.

Till then, and as long as credit spreads and volatility are high, and until a market bottom has set in and firmly asserted itself, hedge funds and convergence strategies in specific will be spending more time in the pressure cooker.