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Newsletter of Horizon Cash Management LLC • Winter 2008

"Volatility" is the theme of this issue. Learn how several of our readers have not only coped with the challenges of a roller-coaster market, but have turned unpredictability to their advantage. Read, too, what Rick Bookstaber, noted author and risk management expert, has to say about why markets occasionally 'slide out of control'. Finally, see what volatility looks like, as illustrated in some dramatic charts that just might surprise!

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Volatility and Assessing Portfolio Risk Factors

By Roy G. Niederhoffer – President, R.G. Niederhoffer Capital Management, Inc.

The rapid 10% decline in the S&P 500 Index during November was the latest in a series of volatile selloffs that have affected hedge fund investors over the last 18 months. While hedge fund performance is thought to be partially unrelated to the overall direction and volatility of the stock market (they are "hedge" funds, after all), results from many hedge fund strategies suggest otherwise, particularly over the last few years. In November's decline, and in each of the other, large numbers of hedge funds have performed poorly.

Whether or not the most recent decline turns out to be merely a temporary blip or the beginning of a bigger problem, there have been several notable recent shifts in hedge fund performance patterns that challenge the assumptions under which many portfolios of hedge funds have been constructed. An understanding of these changes is critical to an accurate assessment of portfolio risk factors, and to making appropriate decisions, if warranted, to mitigate those risks.

In studies we've undertaken at R. G. Niederhoffer Capital Management, Inc., we have found that several significant relationships in hedge fund performance that have changed dramatically in the past few years.

In short, the direction of equity markets, the success of the "carry trade," the level of stock market volatility (as measured by S&P 500 implied volatility, credit spreads (e.g. the difference between a high yielding corporate bond and safer treasuries) and "trend" (the presence of long term price trends), have for many years explained a substantial percentage of hedge fund performance. Consequently, a great deal of discussion has ensued on the subject of "hedge fund replication," in which hedge fund strategies are decomposed to driving factors like these, and an attempt is made to duplicate the performance using easy-to-access benchmark products like equity market, credit spread, equity option volatility, and "trend" indices. Over the long term, it is possible to develop fairly accurate models of hedge fund performance, there has traditionally been a substantial piece of manager "alpha" that is non-replicable.

Volatility and Assessing Portfolio Risk Factors continued

However, recent performance of hedge funds suggests that these "index" factors have in recent years become far more significant predictors of hedge fund performance. Moreover, these factors have become more correlated to each other. Why is this important? Because all of them appear to be moving simultaneously in the "wrong" direction lately.

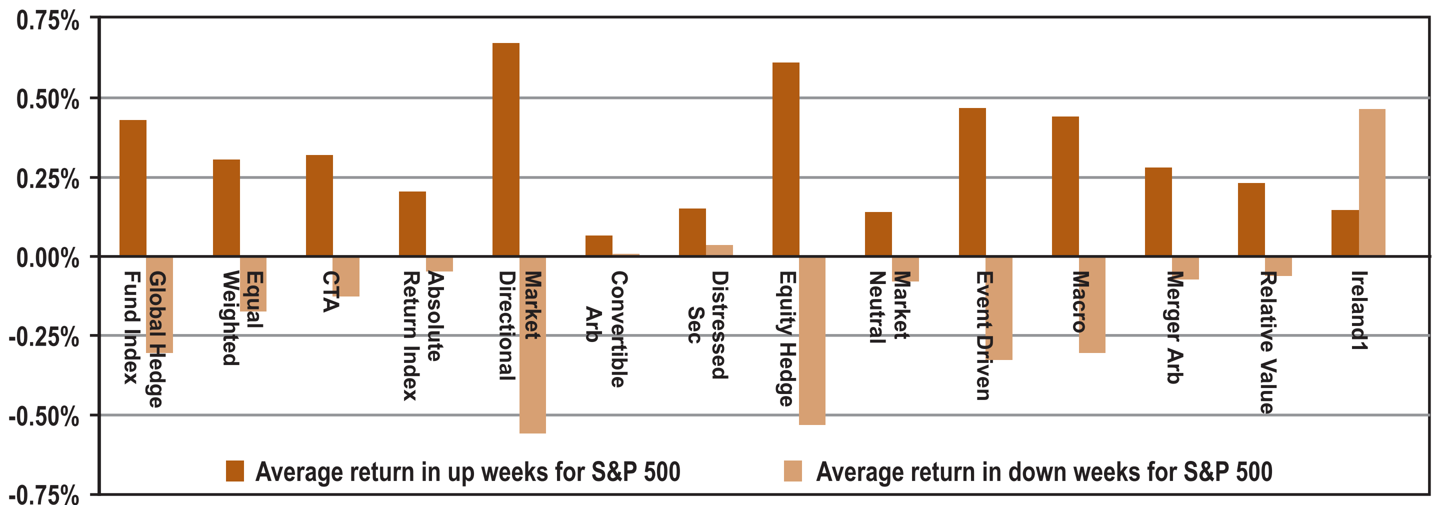
Consider the rising correlation between equity direction and hedge fund performance. We studied the relationship of the monthly returns of the S&P 500 to the monthly performance of many types of hedge funds, and Commodity Trading Advisors (CTAs). We found that in each case, correlation of hedge funds and CTAs to the S&P 500 has risen since January 2005, when compared with the period 1994 to 2004. This suggests that the risks to hedge fund portfolios is greater now should stocks decline than it was in past years.

To look more closely at this relationship, we hypothesized that during recent sharp selloffs in equities, hedge funds should have trouble. We found that almost every type of hedge fund had negative average performance during the 10 largest declines in the S&P 500 since 2005. The equal-weighted index of hedge funds lost an average of 1.7% during the 10 most severe declines since 2005, and was unprofitable in all but one of the ten worst declines. Moreover, during each of these declines, volatility tends to rise, credit spreads tend to widen, and the carry trade tends to reverse. The implication is clear: risk to hedge fund portfolios is extremely high during stock market declines – and this risk is higher now than in past years. But is it worthwhile, or even possible to protect a hedge fund portfolio from a rapid decline in equities?

During the 10 worst declines for the S&P 500 since 2005, most funds of funds, hedge fund strategies and CTAs did poorly. The RGNCM Negative Correlation Fund was extremely protective during these big drops.

Start Date	End Date	S&P 500	RGNCM Negative Correlation Fund	Global HF Index (FoFs)	Equal Weighted Strategies (FOFs)	Calyon Financial Barclay CTA Idx.	Global Macro	All Absolute Return Strategies	All Market Directional Strategies	Equity Hedge (L/S Equity)	Equity Market Neutral	Event Driven	Merger Arb.	Relative Value Arb.	Dis-tressed Securities	Con-vertible Arb.
19-Jul-07	15-Aug-07	-9.0%	15.3%	-6.8%	-6.2%	-7.9%	-13.5%	-2.6%	-10.1%	-7.6%	-4.6%	-5.8%	-6.5%	-4.2%	-3.9%	-1.2%
31-Oct-07	21-Nov-07	-8.4%	14.7%	-3.3%	-2.5%	-1.0%	-0.4%	-0.5%	-5.2%	-5.6%	-1.5%	-4.7%	-3.1%	-1.6%	-0.4%	-2.2%
20-Feb-07	05-Mar-07	-6.0%	4.8%	-3.2%	-1.9%	-5.9%	-8.2%	-0.1%	-5.7%	-4.2%	0.4%	-2.1%	-0.7%	-1.2%	0.7%	-0.2%
09-May-06	23-May-06	-5.6%	7.5%	-2.9%	-1.6%	-3.2%	-4.3%	-0.7%	-5.1%	-4.5%	-0.9%	-2.8%	-0.3%	-0.5%	0.1%	-0.0%
07-Mar-05	29-Mar-05	-5.1%	2.3%	-1.6%	-1.0%	-1.4%	-2.2%	-0.5%	-2.3%	-2.2%	0.1%	-1.5%	-0.1%	-1.3%	-0.7%	-0.2%
02-Jun-06	13-Jun-06	-5.0%	3.2%	-2.9%	-1.9%	-2.4%	-2.4%	-1.2%	-4.9%	-4.8%	-2.3%	-3.5%	-0.7%	-0.5%	0.3%	-0.6%
16-Sep-05	13-Oct-05	-4.9%	8.9%	-1.5%	-1.0%	1.4%	1.1%	-0.7%	-2.6%	-2.8%	-0.3%	-2.4%	-2.6%	-0.8%	0.4%	-0.3%
07-Apr-05	20-Apr-05	-4.6%	3.8%	-1.5%	-1.1%	-2.0%	-1.3%	-0.9%	-2.0%	-2.1%	-0.5%	-1.4%	-0.5%	-1.1%	-1.5%	-0.7%
09-Oct-07	19-Oct-07	-4.4%	11.0%	0.4%	0.5%	1.1%	1.9%	1.0%	0.3%	-0.3%	-0.2%	-0.0%	0.7%	1.0%	0.2%	0.8%
04-Jun-07	26-Jun-07	-3.8%	3.6%	-0.9%	-0.5%	0.5%	0.4%	0.1%	-1.0%	-1.3%	0.0%	-1.6%	-0.5%	-0.9%	0.0%	0.1%
Average		-5.7%	7.8%	-2.4%	-1.7%	-2.1%	-2.8%	-0.6%	-3.8%	-3.6%	-0.9%	-2.5%	-1.4%	-1.1%	-0.6%	-0.2%

Funds of Funds, Hedge Funds and CTAs make money only in weeks when stocks rise (2005-07). If stocks fall, returns suffer. RGNCM funds had the opposite pattern, performing particularly well in weeks when stocks fall.



We also found that there was a strong tendency for hedge funds and CTAs to make money only in weeks when stocks rose. In declining weeks for equities, these strategies lost money.

There are several common ways to mitigate stock market declines, including selling equity index futures to reduce risk, buying equity put options to serve as downside insurance, and adding traditional short selling hedge funds or commodity trading advisors. We examined each of these, and found that in almost all periods, despite their seeming attractiveness, the risk-adjusted return of a diversified hedge fund index was substantially reduced by these methods. Problems included a negative rate of return for all of these options, the high price of put option "insurance" during periods of high volatility, the overall tendency of equities to rise over time, and the recent substantial rise in CTAs' correlation to equities (CTAs were negatively-correlated and diversifying to equities until 2003, but since then have become quite positively correlated to equities).

We found that a more effective method of reducing equity downside risk in recent years has been the use of hedge funds whose strategies are designed to perform well during equity market declines and yet achieved positive performance overall during the overall bull market for equities.

In summary, a common element of most difficult periods for equities and hedge funds seems to be a rise in the overall level of market "fear," a quality that usually takes the form of increased volatility in equities and other markets. Firms that employ high frequency trading strategies can often take advantage of significant increases in volatility, and have historically performed well in high volatility periods. ■

Roy G. Niederhoffer is President of R. G. Niederhoffer Capital Management, Inc., founded in 1993, a 30-person quantitative hedge fund specializing in strategies that are protective and negatively correlated to equity markets.

COMMENTARY

A Cautionary Tale

By Bob von Halle – Managing Partner, Director of Business Development

It is a rare historical event when a credit-crunch induced financial market setback seeps into the conservative backwater of cash management. Yet that is exactly what occurred during the volatile summer months of 2007. Rather than enjoying its usual role as the "safe-haven" during times of market stress, the cash component of managed futures and hedge fund portfolios underwent a heightened level of scrutiny and alarm usually reserved for far riskier segments of the financial markets. Is this attention and concern warranted? Absolutely not! Properly defined and rigorously executed, cash management is not only rock solid, but remains an extremely attractive asset class.

The much-reported unraveling of Sentinel Management Group in August serves as a cautionary tale. In this worst-case scenario, not only were the disciplines of prudent risk management and the principles of careful cash management carelessly tossed aside, but the firm's leaders have been charged with 18 counts of fraud, breach of fiduciary duty and other unlawful conduct by the trustee assigned to oversee Sentinel's bankruptcy proceedings.

The lesson is simple. For fund managers who rely upon levered exchange-traded futures contracts and whose margin (i.e. cash) balances represent the preponderance of their assets under management, it's essential that the role and importance of cash management be clearly understood. Cash management is much more than the simple function of sweeping bank balances to an overnight investment account. Prepared and executed correctly, a cash management strategy must accomplish three critical goals: the preservation of capital, the efficient use of capital and the prompt movement of capital.

> *...cash management is not only rock solid, but remains an extremely attractive asset class.*

Preservation of Capital

Warren Buffet had it right when he wrote: "Two rules: 1. Preserve the capital. 2. When in doubt, see Rule 1." While this dictum may seem obvious, some fund managers continue to chase above-market yields that over time are exposed by the old bromide: "If it seems too good to be true, it probably is." The object here is simple: achieve a fair and low-volatility investment return on cash that is superior to simply holding safe Treasury bills. A smart, principled cash management strategy includes these three components:

> *"Two rules: 1. Preserve the capital. 2. When in doubt, see Rule 1."*
>
> *—Warren Buffet*

1 Separately managed accounts

Managed futures and hedge funds that display no discernible cash flow patterns are best served by an investment strategy crafted around unique and individually managed accounts, not in a pooled account. Why? Pooled vehicles expose individual holders to large withdrawals of other investors and subvert individually-crafted risk tolerances to the less well-defined "greater good".

A smart practice: Work with an investment manager who will craft a unique cash portfolio solution tailored specifically to your risk tolerances and liquidity requirements.

2 Limited security selection

A fund's cash balances should seek to achieve positive returns over a chosen benchmark (i.e. Treasury bills), not relative returns versus other asset classes. As tempting as it may be to place one's cash assets in Bank Leveraged Loan funds, Floating Rate Mortgage funds and/or Enhanced LIBOR funds (to name just a few), one must resist.

Despite being described as "low volatility", "enhanced cash" or "daily liquidity", these vehicles are bond sector investment choices and not cash substitutes.

A smart practice: Stick with plain-vanilla, high-quality and highly liquid securities in a diversified strategy crafted by a dedicated cash management firm.

3 Transparency of client account statements

The integrity of a fund's cash account is sacrosanct as long as two key tenets are met: *daily transparency* and the ability to *independently verify holdings* by having direct access to the custodial banks' records. If Sentinel's clients had the ability to access their account information directly from Bank of New York, it would have been virtually impossible to hide the rapidly deteriorating nature of the underlying investment strategy. It would have revealed notations as to the loans, reverse repos, and pledged collateral all of which would have flagged Sentinel's unauthorized use of leverage to juice returns.

A smart practice: Insist upon transparency and be sure you can have direct access to your account records through the custodial bank.

Capital Efficiency

Fund managers are increasingly aware that all their assets, including cash, need to work hard. The Managed Funds Association (MFA) endorses this idea in its just-released 2007 Sound Practices for Hedge Fund Managers publication, stating: "hedge fund managers should actively manage (or monitor) the cash in margin accounts." It is no longer good enough to view cash management as an administrative chore. At the end of the day, cash management is essentially a spread business: earning a conservative net margin over the manager's cost of funds (i.e. benchmark). By actively managing those cash assets rather than passively giving that spread away to financial intermediaries (e.g. prime brokers and clearing firms), fund managers can capture that spread to the net benefit of their own underlying investors.

Movement of Capital

When money movement and related recordkeeping are centralized under one cash management umbrella, fund managers can become highly efficient in the production of internal reports and investor statements. Centralization should produce a savings of bank related fees and a maximization of investable excess cash. This latter point is of particular importance during current periods of attractive 5% plus yields being generated by the cash management portfolio. Sweeping excess margin balances from exchanges, clearing firms and FCM's is both a prudent risk management strategy and a potential source for enhanced fund performance based on the spread game described above. Above all else, centralizing money movements enables fund managers to focus their own efforts on what they do best: executing the core investment strategy of their fund(s).

> *...centralizing money movements enables fund managers to focus their own efforts on what they do best.*

Summary

Contrary to the 'sky is falling' media-driven frenzy about reputed problems in the commercial paper markets, a balanced and well-run cash management strategy remains an oasis in today's choppy market environment. Similarly, one should not think of Sentinel's late summer implosion as a cash management event. Rather, according to Sentinel's bankruptcy trustee, it appears to be the outgrowth of a massive and long-term pattern of deception and fraud. At its core, cash management is – and always should be – a boring business. At the same time, however, it should provide many compelling ancillary benefits for fund sponsors around the generalized themes of liquidity and efficiency. By following the core principles outlined here and by applying care in the due diligence process, you'll likely avoid unpleasant surprises.

FROM THE PORTFOLIO DESK

Volatility Rears Its Ugly Head

By Jill King –
VP, Senior Portfolio Manager

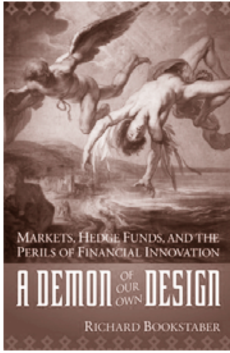
Volatility: characterized by, or subject to, rapid or unexpected change. No phrase can more succinctly illustrate recent market activity. The fixed income market and the stock market have experienced extraordinary fluctuations in both value and sentiment over the past several months. The return of volatility comes after several years of benign market conditions. Over that time, fixed income markets had experienced very limited levels of volatility, with nominal spread differentiation between asset classes and risk levels. In the 3rd and 4th quarters, heightened levels of concern about housing, sub-prime mortgages, securitizations and asset-backed commercial paper resulted in some asset classes being unable to issue paper or find a bid in the secondary market.

The Federal Reserve reacted to these circumstances by reducing the Discount Rate, the interest rate charged by a central bank on loans to its member banks, by a total of 125 basis points and eased the Fed Funds rate by 75 basis points. By reducing the Discount Rate, the Fed provided banks, mortgage companies, and other financial institutions a source of funding and increased liquidity. After the Fed's October 31st announcement, in which the risk of economic slowdown versus the threat of inflation was proclaimed "balanced", few thought a Fed ease in December was likely. Sentiment began to change in early December, however, with the markets fully anticipating a 25 basis point cut in rates (which the Fed announced December 11). What changed so dramatically in this six-week period? One major contributor to the material change in outlook is the ongoing balance sheet "confessional" by major financial firms. Merrill Lynch, Citigroup, and Freddie Mac (among others) have all announced that losses related to sub-prime and other associated products were substantially higher than they had initially reported. Recently, HSBC revealed plans to bail out 2 of their SIVs, adding $45 billion of assets to its balance sheet to avoid a fire sale. Several other significant data points have emerged in the past few weeks: economic growth forecasts were lowered by Fed policy makers, new home prices dropped the most since 1970, jobless claims rose to a 9-month high, and consumer confidence fell to its lowest level since the aftermath of Hurricane Katrina in 2005. Further, renewed volatility in financial markets has intensified owing to the continued dislocation and ever-increasing illiquidity in sub-prime mortgages and structured products, such as Structured Investment Vehicles (SIVs), Asset Backed Commercial Paper (ABCP), and Collateralized Debt Obligations (CDOs). All these events have added fuel to the volatility fire.

Horizon is no stranger to volatile times. In our 16-year history, we've seen volatility manifest itself in the Long-Term Capital crisis, the Asian currency crisis, and in the weeks following September 11th. While the circumstances leading up to each of those volatility episodes differ, the rules remain the same: uncertain times present opportunities as well as challenges, and prudent investing will win. In times such as these, active portfolio management and internal credit analysis are particularly valuable: both to take advantage of the opportunities that are presented, and to avoid the landmines in the market. Recently, we've turned the volatile market conditions to our advantage by investing in Libor floating rate notes and callable agencies which issue at higher yields during periods of higher levels of volatility. At the short end of the curve, spikes in volatility increase the differential in spread between bullet (non-callable) bonds and callable bonds, creating a short-term opportunity to pick up alpha in callables. A recent illustration of this point: in the early 4th quarter, we saw the yield difference between a 2-year non-call 3 month and a 2-year bullet agency (which was in the 75-80 bps range) widen to as much as 88 bps. While a temporary phenomenon, this window of incremental yield is representative of the market volatility at play. We have also observed an increase in the issuance of step-up bonds and floating rate notes. Each of these investment vehicles offers yield enhancement with minimal risk.

No one knows what the future holds. This is especially true in times such as these when the market exhibits extraordinary levels of volatility. The Fed has no crystal ball, nor do investors. None of us knows how long the current markets will remain volatile. Experience teaches us, however, that opportunities can and do present themselves even in the most tumultuous times. Those who are best prepared can benefit most. ■

From the Bookshelf



A Demon of Our Own Design: Markets, Hedge Funds, and the Perils of Financial Innovation

By Richard Bookstaber,

John Wiley & Sons, Inc. 271 pages (2007)

Malcolm Forbes got it right when he suggested that "failure is success if – and only if – we learn from it." The premise of Richard Bookstaber's best-seller, *"A Demon of Our Own Design: Markets, Hedge Funds, and the Perils of Financial Innovation,"* is startlingly simple: despite greater sophistication among investors, incredible advances in technology and improved regulatory oversight, financial markets have never been riskier. Why? Because, Bookstaber observes, the investment community has repeatedly failed to learn from its past mistakes.

One of the more provocative observations that Bookstaber makes is that many of the financial innovations and regulations that were thought to lessen risk in fact have exacerbated it. Innovation, writes Bookstaber, has not only added **complexity** to markets (thereby increasing the likelihood of something going wrong) but has produced **tight coupling** (in which components of a process have infinitesimally small margins for error). While the author cites several well-known disasters in the financial sector to illustrate his findings (i.e. Long-Term Capital Management, Barings, the Asian Crisis of 1997), he shrewdly showcases such engineering failures as Three Mile Island and the Challenger space shuttle explosion to underscore that risk management can go terribly wrong in any enterprise.

Not only is *"A Demon of Our Own Design"* smart, insightful and thought-provoking… it's wonderfully clever. One need only review some of his chapter's subheads to reflect upon the author's wit and wisdom.

- "Thirty Million Over Tokyo" (a vivid portrayal of how much money Salomon Brothers' proprietary trading operation in Japan lost in a single week in 1997)
- "Searching For Land Mines With Their Feet" (which details a host of disasters in the mid-1990's, ranging from the 1995 bankruptcy of Orange County, California to the Nick Leeson/Barings fiasco and the Joe Jett/Kidder Peabody blow-up)
- "DaVinci's Accountant Is Still Keeping the Books" (in which the author notes that "current accounting methods not only summarize business information into irrelevant measures, but are also excruciatingly slow in doing so").

In one of the latter chapters of his text, Bookstaber advances a most intriguing premise, drawn from the world of animal biology. He writes, "The best measure of adaptation to unanticipated risks in the biological setting is the length of time a species has survived. One that has survived for hundreds of millions of years can be considered, *de facto,* to have a better strategy for dealing with unanticipated risks than one that has survived for a short time." Thus, Bookstaber introduces the reader to a most surprising – but highly relevant – example of elegant risk management: the cockroach. While to many, the cockroach might appear to be a simple, basic and seemingly sub-optimal mechanism, animal biologists note that the cockroach's senses are programmed to address the unforeseeable, primal risk that escapes humans' axiomatic approach to probability and measurement.

> *Many of the financial innovations and regulations that were thought to lessen risk in fact have exacerbated it.*

Some have argued that looking for predictive insight in the financial markets is akin to searching in a dark cellar at midnight for a black cat that isn't there. Richard Bookstaber's, *"A Demon of Our Own Design: Markets, Hedge Funds, and the Perils of Financial Innovation,"* illuminates that search and puts a spotlight upon those elements that most directly lead to problems in the financial markets. It's a dazzlingly good read. ■

To learn more about Richard Bookstaber's thoughts on risk management, the markets, complexity and regulation, be sure to read "A Conversation with Richard Bookstaber", beginning on page 8.

A Conversation with Richard Bookstaber

Recently, we sat down with Richard Bookstaber, author of *"Demons of Our Own Design: Markets, Hedge Funds, and the Perils of Financial Innovation,"* to discuss his thoughts about the return of volatility and unpredictability into the markets. We think you'll find Mr. Bookstaber's observations both interesting and insightful.

FOCUS: You came to Wall Street from academia?

RB: Yes. After getting my Ph.D. in economics from MIT, I taught for five or six years and I was among the first group of people who, having studied option theory, moved to Wall Street. Fischer Black was among the first to make the move and a year later, I was among that earliest wave of academics who were recruited to price and to hedge derivatives.

FOCUS: How was that transition? Did migrating to the business world hold any surprises?

RB: It was easy, because the first work I did at Morgan Stanley was in the fixed income research area. The instruments they had and the challenges they were encountering were things that I had already been looking at in academia. Also, more than any other area in economics, option theory mapped very cleanly into practice. In a sense it was simple engineering: the start of financial engineering.

FOCUS: So, you were there at the very beginning.

RB: Yes, and I was interested in options right when they started in the CBOE. Although I didn't discover it until a few years later, this was when Fischer Black and Myron Scholes had completed their paper on the general political economy and Bob Merton did his paper on what became known as the Black-Scholes options pricing model. So, I pretty much was there at the start of things. I had a class with Bob Merton and initially thought of doing my dissertation on option theory.

FOCUS: It certainly was a seminal time in the development of the industry. Does it surprise you that, with all the subsequent advancements in learning and technology, the same fundamental mistakes seem to occur over-and-over again?

RB: I think that we end up learning our lessons in the specific but we don't learn lessons in the more general. By that I mean, after the crash in '87 the system installed circuit breakers and everything was presumed fine. Then, when Long-Term Capital Management (LTCM) failed, a host of other initiatives were considered, but the bank consortium came in shut that particular barn door. What people fail to understand is that some barn doors stay ajar all the time. As I mention in my book, there are really two components that serve to make the market crisis-prone: **the complexity of the markets** (by that I mean things like structured products, derivatives and the like) and what engineers call **tight coupling**. A tightly coupled process is one where it is difficult to intervene; you can't just pull an emergency stop switch and convene a committee to figure things out. One example of tight coupling is when people are highly levered and then – because of some circumstance or event – have to liquidate very quickly, independent of issues of value. Another example of tight coupling is the computer-based trading models that dictated trading during the crash in '87. The key point of tight coupling is that it becomes a process that, once started, can't be easily or quickly stopped. Two of the major crises were stemmed when steps were taken to stop the tight coupling: the use of circuit breakers in 1987, the formation and actions of a bank consortium in 1998.

FOCUS: Do you believe market practitioners now understand these concepts? Or are they destined to re-emerge and confound us once again?

RB: Absent some type of regulation, I think the problems are going to recur for a couple of simple reasons. **First, if you can lever you have the potential to make more money.** Those who don't lever are going to risk being left behind. **Second, lots of trading mechanisms and instruments are far more complex than they used to be.** Investment banks like to create and market "innovative securities" for obvious profit reasons. Investors like them for several reasons. One of these is that it helps them better mold returns to meet their objectives. In academic terms, the reason for options and derivatives is to better expand the state-based contingencies. In other words, if you really think that some

stock that's at 60 now is going to end up someplace between 75 and 80, with options you can get a payoff if it ends up right there. With options, you can better pinpoint the contingencies that you want to either invest in or protect against. The point is: leverage and complexity have profit centers on each side to keep them going. What people don't observe in their one transaction is the aggregate effect of many people doing the same thing. As a result, on the margin each new derivative just adds that much incrementally more complexity to the market. If someone leverages a little bit more, it adds incrementally that much more tight coupling to the market. As an individual trader, though, you don't see this. It's a negative externality. And this gets back to the issue of regulation: most people would agree that if you have a non-priced negative externality that's where government intervention makes sense and is reasonable.

FOCUS: You observe in your book that regulation frequently carries added complexity and that occasionally a consequence of this complexity is the unwitting exacerbation of the problem it's trying to solve.

RB: That's right. And that's a point that seems somewhat counterintuitive to people. Regulation can sometimes make matters worse. In the book, I draw upon a few examples from engineering. In engineering, when tight coupling and complexity cause trouble, what you get is called a "normal accident". In other words, in an engineered system that features both tight coupling and complexity, accidents are "normal", they are pretty much inevitable. And if you try to add safety measures on top, you simply increase the complexity, which just makes matters worse. I point to some examples in my book: Chernobyl, Three Mile Island, ValuJet. My observation is that we should be mindful that more regulation isn't always the solution. The prevailing sentiment today is to hear regulators say, "If you want to do new derivatives fine, if you want to lever fine, we'll just have to add more layers of regulation on top of it." In my mind, this could be counterproductive. The better thing is to say, "Let's not try to add complexity to the market. Let's try to reduce or control leverage."

FOCUS: That's a provocative notion and seemingly counterintuitive. It takes away from regulatory bodies that which they do best.

> *...we should be mindful that more regulation isn't always the solution.*

RB: Or, redirect how they do it because again I'm not arguing that regulators shouldn't do something. It's just that they might redirect the manner by which they do it. An example of this from the financial markets is the value risk capital restrictions that were put on banks. Although designed to be a safety measure, it can be pointed to as one of the things that precipitated or certainly exacerbated the Asia crisis in 1997. Why? Because the banks suddenly discovered that with high volatility their value at risk went up. As their assets dropped, their capital dropped. Both of these required them to liquidate positions, which just added fuel the fire.

FOCUS: They felt a sense of confidence having those numbers that were historically drawn but were not contemporaneously accurate? A "false positive" reading?

RB: Yes. Managers can look at their reports each day and say I'm okay: here's my value at risk and it's within my tolerances. What they may not realize, however, is that what happened historically may not bear a resemblance to what can occur at this new moment of crisis. That's actually one of the huge problems in today's markets. A lot of people have increased leverage over the last few years because they've looked at the volatility numbers, which for equities have been substantially lower in the past few years than in more distant history. Instead of saying, "This is certainly an unusual period but I'm not going to sort of predicate my risk-taking on that basis," they said, "Gee, if volatility is two-thirds what it used to be, I should be able to have leverage that's three-halves as much!"

FOCUS: While leverage itself is neither good nor bad, is there a level of leverage that, if you were a risk

A Conversation with Richard Bookstaber continued

manager, would set off early warning sirens in your head?

RB: The problem with leverage isn't just how much leverage **I have**, it's how much leverage **other people have** that could become triggered by the same event that might trigger me. That's what causes problems to turn to crisis. It's that when I'm under pressure, I have to liquidate and that liquidation drops prices. If enough other people are levered, with the price drop now they have to liquidate as well. By the way, what they choose to liquidate is probably not the segment that's under pressure because there's not going to be market for that. They move to a different area and liquidate some other set of unrelated assets. So the stress in the original market propagates to other markets. So, the big problem with trying to ask the question of are you too levered or what market event is going to be subject to risk is: it depends on who owns what, who's under pressure, what else they own and whether the people who also own that are highly levered. We simply don't have that sort of information.

*The problem with leverage isn't just how much leverage **I have,** it's how much leverage **other people have** that could become triggered by the same event.*

FOCUS: And it's not easily captured, either.

RB: No. I think the government could capture that sort of thing if they had the mandate to do so. In my view, Risk Management 101 for a regulator would be to know the level of leverage in various markets because that is so intrinsically linked to the risk of crisis, and we just don't know that sort of thing. By the way, it doesn't do any good to know what is leveraged generally because if people are in ten-year bonds, the leverage can of course be different than if people are in emerging market equities. So, you have to know by asset type and by timeline. In fact, if you look at a timeline for a particular asset class and see how leverage is changing, you might say, "I think leverage now is too high in this market." Why? Because it's twice as high as it has been and everybody in this market seems to be leveraging. On the other hand, if I see one firm that has high leverage but nobody else in that market is levered to the same extent, it could be bad news for that firm if something happens but it's not going to propagate out. Their selling won't force other people to sell because those others don't have the same leverage issues.

FOCUS: With so many regulatory and safety measures in place, and with the investment community having an improved understanding of risk and its consequences, are problems being identified and solved earlier, or will they still grow into full blown crises?

RB: No. I think some will still become crises. Amaranth is an example of a failure that was not a crisis because it stopped where it started. The sub-prime situation, by contrast, is a crisis because the events that unfolded in this one market – perhaps because of justifiable economic reasons – have propagated and affected a lot of other markets. Although the sub-prime mortgage market isn't really that large, the problem is that you have instruments such as Collateralized Debt Obligations (CDO's) that included these in their structures. So it's a bit like a kid with a cold being invited to a birthday party. The kid with a cold (the sub-prime market with its CDO's) gets invited to a party attended by all these other healthy kids. The sub-prime troubles affect those others, which become transmission mechanisms to other markets. So, you create linkages because of the financial structure that don't necessarily exist economically. I think again that's really the key point: day-to-day correlations tend to be driven by economic and fundamental linkages. It's common sense: this company is in the same industry as that company. Both get all of their imports from China. There are reasons they're correlated. They're both consumer discretionary. But when a crisis occurs and it's driven by liquidity, what matters most isn't what's economically linked but who owns what. You end up

with correlations that are surprising. You end up with surprising linkages that have no economic reasons to be linked. Most importantly, you can find yourself having some securities connected or dependent upon one another that really have no reason – aside from a liquidity crunch – to be.

FOCUS: We know the Fed continues to wrestle with the issue of how much to insert itself into this situation. What are your thoughts generally on the appropriateness of the Fed bailing out the sub-prime mortgage industry?

> *When a crisis occurs and it's driven by liquidity...you end up with correlations that are surprising.*

RB: I have a blog, *rick.bookstaber.com*, that I write things in occasionally. In mid-September, I posted "Bailouts for Profit" in which I talk about two high-profile hedge funds that failed – Amaranth and Sowood – each of which had its assets bought up by Citadel Investments. It's important to understand that in each instance, Citadel bailed out the **market**, not the fund. And the way they did it why by saying, "Hey, Amaranth, hey Sowood: rather than you throwing all your distressed assets into the market, where who knows might happen, we'll buy them from you. But we'll buy them at a most advantageous price for us, because we know you're in trouble. We're not going to bail you out. We're not going to say, here's some money, I hope you do better next time. We'll extract value from the equation. You will still fail, so there is no moral hazard, but the markets will be saved from some of the effects of your failure."

FOCUS: That's a classic business model.

RB: Right. It is a business model. Citadel announces: "We have the capital, we'll risk that capital, we'll make the money and we'll basically take these assets that could end up flooding the market and causing problems." In this instance, there's no moral hazard. The fund is out of business. Not only can't the former owners say, "Good, maybe we can do this again next time," but the markets are saved some pain because somebody has taken these instruments and kept the prices from dropping precipitously. Why? Because most everybody else steps back and says, "Whoa, I don't want to touch that stuff." In each instance, had the underlying assets been marked down over a long period of time, other hedge funds might have been placed under pressure. By having the capital and demonstrating the willingness to take on those risks, Citadel provided its own form of market circuit-breaker.

My point in this: "Bailouts for Profit" is okay if there is a Citadel who will do it. But if there isn't, maybe what the government should do is have a capital pool to do that type of bailout. That is, when there's some sector of the market or some set of funds or banking institution that's under stress, you don't go, "Here, let's give you a capital infusion." Rather, it's "OK, we'll buy these assets from you and we'll take it from here guys. Have a nice life and we'll make some money out of it." At this point, it becomes for the taxpayer's benefit. While this is a most unconventional and out-of-the-box idea, I think it could be an interesting model to investigate.

FOCUS: That idea suggests that the government enter the asset management business or find a subsequent manager.

RB: Instead of being a **lender** of last resort, it becomes a **purchaser** of last resort. It becomes a liquidity provider of last resort because the reason all these assets are being driven down is somebody needs liquidity and nobody is there to provide it. So, the government comes in and essentially says, "Nobody in the market is willing to give you the liquidity because they can't figure out what's going on and their bosses are saying, 'Don't you dare risk money right now'."

In this scenario, the government says, "Okay, we'll come in. We have a staff of experts and it may be that they work with hedge funds or others to value it and once we're satisfied that we're buying it at well below fair value we'll do it." Nine times out of ten, the taxpayers will end up making money out of this bailout and, to restate the important point, there's no moral hazard.

A Conversation with Richard Bookstaber continued

FOCUS: Why do conventional risk management measures, metrics, why do they fall short so often? Are they measuring the wrong things?

RB: They're measuring one of the right things. One thing you do want to know is: in a normal market environment "what are the odds that on any given day, I'll make or lose a million dollars or two million dollars?" You know that's basic Risk Management. Beyond that, the thing you care most about is: "what's the risk that things suddenly and without warning go totally crazy?" Conventional risk management does not do a good job there and the reason it doesn't is that historical day-by-day type of measures aren't going to tell you what's going on when there's a liquidity crisis driven by complexity and tight coupling. Modern-day crises are also driven by leverage and by the near-instantaneous market feedback. Indeed, it's the reaction by people to the market that leads the market to do what it does next: move precipitously in one direction. That type of dynamic is just not in the nomenclature of risk management right now. In a way, what I'm trying to do in my book is identify the components of this dynamic so that people might be able to find ways to better understand the risk potential.

Modern-day crises are driven by leverage and by the near-instantaneous market feedback.

FOCUS: Is that a likely outcome? Are there any "silver bullets" out there?

RB: I do believe there are things that can help you understand and deal with the risk of these sorts of crises. Unfortunately, some of the information you'd really like to have – the degree of leverage in different markets and the trend lines of those levels – we simply don't have. This measure, by the way, wouldn't have to compromise the proprietary information of individual funds. Rather, it would be helpful to know the average leverage of a particular strategy: long and short equity quantitative funds, for example. What's the average leverage for this sort of fund and most importantly, how has it changed over time? I think that sort of knowledge can be very helpful. Said another way, if you can spot one sector that has been moving up and up in its leverage, then begin to see a lot of variability or volatility in that space, you now know that things are set up for potential crisis.

FOCUS: Do you think the recent state of volatility will lead to less sophisticated, less structured products or just a different manner of marketing them?

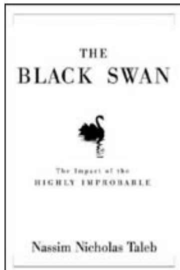
RB: It's interesting. I seem to recall that Fed Reserve Chairman, Ben Bernanke, once suggested that one way out of the mortgage crisis is to develop new mortgage structures. In my judgment, this misses the point. Does it really make sense, as a way to exit this problem that occurred because of all these new "innovative mortgage structures", to create and launch even more new innovative mortgage structures? I think people probably are starting to realize that added complexity can intensify problems. You need only look at what's happened with the CDO's and other structured products. If interest rates go up, we'll see the problem get worse with interest-only and negatively amortizing ARMs and the like.

...people probably are starting to realize that added complexity can intensify problems.

FOCUS: That sure sounds like a textbook definition of contagion.

RB: Yes, it really does. People are beginning to take notice but the problem is deeper. If I'm a hedge fund or insurance company and want to make some sort of a bet and the only way I can do it is through some derivative because it's on a balance sheet, I'm not going to be thinking about the broader implications: "Oh, but what does this mean for the market?" So, it still comes back to needing a regulatory solution. I happen to think that such a regulatory solution should point not at hedge funds, but at investment banks. They're the ones that provide the leverage and they're the ones who, because of their organizational size and scale, are naturally set up to take on regulation. Hedge funds simply aren't. ■

From the Bookshelf



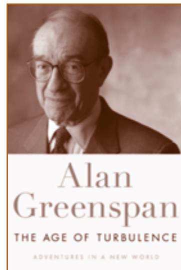
The Black Swan: The Impact of the Highly Improbable

By Nassim Nicholas Taleb
Random House,
400 pages
(April, 2007)

Trying to describe Nassim Nicholas Taleb in a single word is simply impossible. Taleb is a modern-day Renaissance man, having parlayed a host of talents and interests into such diverse – but complementary – careers as financial mathematics wizard, market theorist, university professor, derivatives trader, author, philosopher and social commentator.

In 2001, Taleb wrote *"Fooled by Randomness",* which became one of the best-read books on Wall Street and in the trading community. *"The Black Swan"* continues Taleb's investigation into randomness, focusing on how highly improbable events can – and will – occur, dramatically impacting individuals, markets and civilizations.

The book's title comes from the 1697 discovery of Cygnus Atratus (a black swan) in Australia that instantly and dramatically overturned the then scientifically-accepted truth that "all swans are white". The book blends humor and empirical observation to make the case that the world is 'fractal' rather than 'linear', with change coming not in an orderly fashion, but in fits-and-starts. *"The Black Swan"* is a terrific read: clever, provocative and instructive. Two key learnings from the text: 1) the unknown happens more frequently than we imagine; and, 2) such unexpected events can have devastating consequences. ■



The Age of Turbulence: Adventures in a New World

By Alan Greenspan
Penguin Press HC,
544 pages
(September, 2007)

This best-selling book by the former Federal Reserve Chairman documents his lifetime of international monetary policymaking, focusing particularly on the roller-coaster of world and market events that have profoundly shaped a brand new world. Risk, unpredictability and significant events percolate throughout the text. Greenspan points out that immediately after his 1987 nomination to head the Federal Reserve Board, bond markets experienced their biggest one-day drop in five years. Shortly after his confirmation, Greenspan faced his first crisis: the October, 1987 stock market crash, an event that rippled through global economies, occasioning 20-45% drops in value in a week's time.

While Greenspan uses the horrific events of September 11, 2001 as the starting point for his narrative, the author proudly asserts that "the most remarkable thing that happened to the U.S. economy after 9/11 was… nothing. What in an earlier time might have been a crippling shock to the system was absorbed surprisingly quickly." To this day, Greenspan's influence on the markets is sizable: one day after a February, 2007 speech hinting at a U.S. recession by year-end, the DJIA lost 3.1% of its value… the largest single-day loss since 9/11. Like its author, *"The Age of Turbulence"* is larger-than-life and rich with insight. ■

Blue Blood and Mutiny: The Fight for the Soul of Morgan Stanley

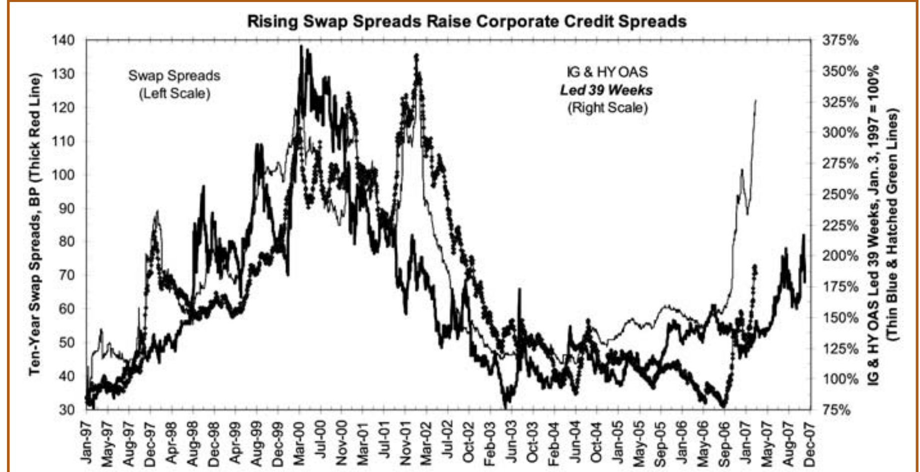
By Patricia Beard
William Morrow,
432 pages
(September, 2007)

Few things produce more volatility and uncertainty than the merger of two giant business enterprises. *"Blue Blood and Mutiny"* provides a captivating, 'behind-the-scenes' account of what happened when two behemoths in the financial services category – Dean Witter and Morgan Stanley – joined together and ultimately ripped apart at the seams. This is a remarkable book in several regards: it provides a detailed look inside one of the most private firms on Wall Street; and it chronicles the fight for dominance between two competing cultures – one, a collegial meritocracy (Morgan Stanley); the other, a cold and calculating corporate model (Dean Witter).

A dramatic moment arrives when a full-page ad appears in the *Wall Street Journal,* paid for by eight former Morgan Stanley executives (whom later came to be called, the "Grumpy Old Men"), calling for the removal of Morgan Stanley CEO, Phil Purcell. Although the firm's stock price had fallen 50% in Purcell's 8 years as top executive, the author notes that this public 'call for change' by these former employees was as much about restoring the ethos and character of the Morgan Stanley firm as it was correcting bottom-line business metrics. Although its subject matter comes right out of the financial pages, *"Blue Blood and Mutiny"* reads like a best-selling novel. ■

Feedback

Volatility takes many forms – and can yield opportunity as well challenge. Over the next two pages, we present some graphic examples of marketplace volatility – some of which may surprise you! – and share the observations and insights of some of our savviest readers.



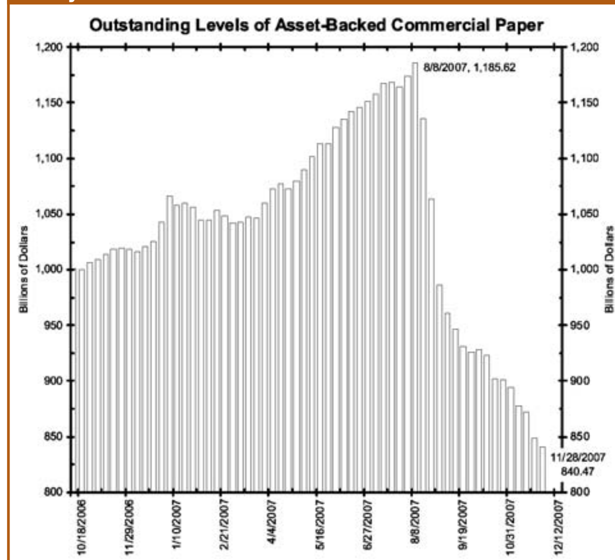
SOURCE: BIANCO RESEARCH L.L.C.

Question 1

Q: Why has volatility returned? Is it just based on the U.S. credit crunch that is seeping into the world markets, or are there more reasons beyond this? Have we passed the point of maximum credit or related upheaval or is it yet to come?

"Volatility has increased because uncertainty has increased. It is easy to forget in a time of easy credit and benign inflation statistics that the world revolves around credit ratings. Now that credit ratings institutions themselves have come into question, that has introduced more uncertainty than the financial world can tolerate. Add to that the uncertainty over the prospects of inflation, even in clearly weakening economies, which has and is becoming more prevalent. The sum of these factors makes for a volatile mix."

Sanjeev Lakhanpal – Partner, Beach Horizon LLP



SOURCE: BIANCO RESEARCH L.L.C.

SOURCE: BIANCO RESEARCH L.L.C.

"Increased volatility in the markets can be viewed from several perspectives; the most rudimentary is that the laws of mean reversion had to eventually come into play. That is, when volatility (or anything for that matter) remains at historical extremes, it is highly likely that it will revert to its historical average. However, the longer it stays in the extreme, the greater the overshoot of the mean will be. Timing is the only aspect that is uncertain. Volatility had reached such unrealistically low levels for so long that everyone knew it had only one way to go.

There are many triggers for the onset of the renewed volatility and those reasons have been covered in great detail. However, the effects on trading remain uncertain. There are many opportunities that now exist. This is an exciting time for participants in the alpha driven investment space. However, opportunities cannot and do not exist without risks. We are modifying portfolio allocations to become more nimble, focusing on real and repeatable edge in the markets. We believe this new era will last for quite awhile, resulting in prolonged volatility, much of it without direction over long periods."

Tom Zucosky – Founder and Chief Investment Officer, Discovery Capital Management

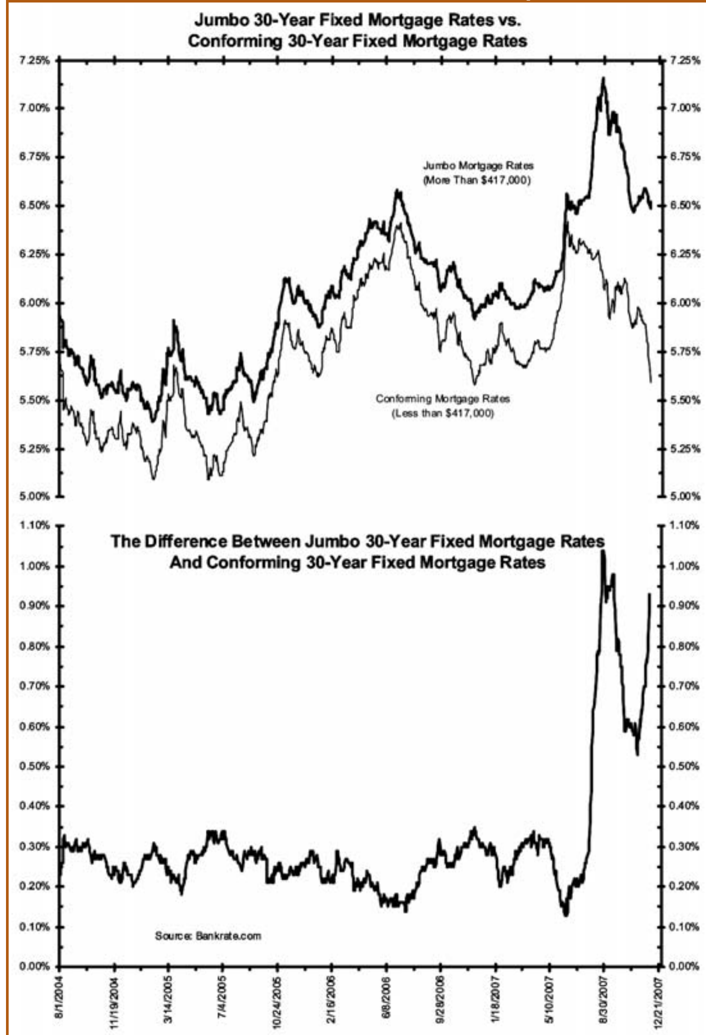
Question 2

Q: How has increased volatility affected your business – whether in creating opportunities or posing new challenges? Please share your best example of either. Relatedly, how long do you foresee this market choppiness to continue?

Altis welcomes the recent market volatility and we view it as an opportunity. Our portfolio construction method is based on advanced risk management and thus a complex volatility regime is where we find our edge. As we are 100% quantitative and systematic we tend to have a period of adaptation when the markets change their behavior as we have seen this summer. However as long as markets show some kind of direction, we believe we are equipped to take advantage of any environment.

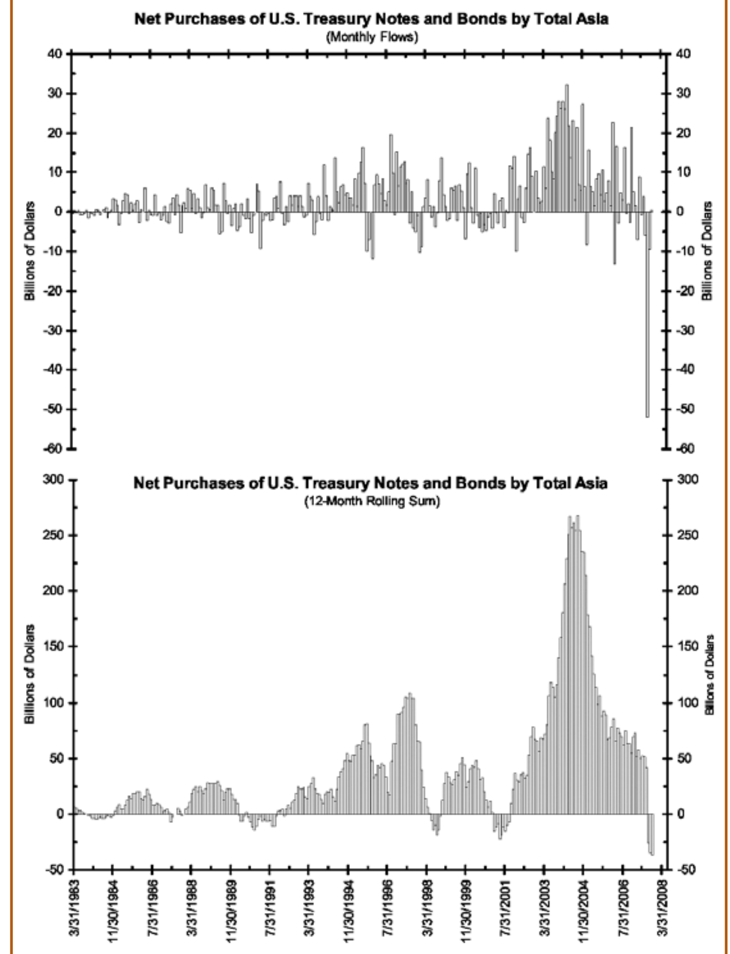
Natasha Richardson – Principal,
Altis Partners (Jersey) Limited

Not all homeowners are created equal...



SOURCE: BIANCO RESEARCH L.L.C.

Foreign buyers of U.S. Treasuries head for the hills...



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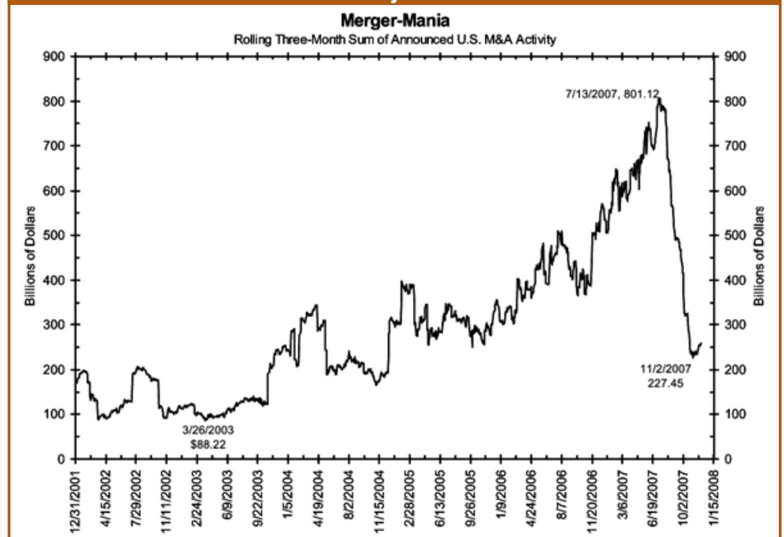
M & A activity hits a wall...



SOURCE: BIANCO RESEARCH L.L.C.

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Horizon People

Rich Ignacio, a six-year Horizon employee, has been promoted to Head of Portfolio Operations. In this responsibility Rich oversees daily operation activities encompassing trade settlement, wire transfers, client statements and maintaining Horizon's proprietary trading and reporting system. On a daily basis, Rich is in contact with both clients and the custodial bank, Northern Trust. In his spare time, Rich is an accomplished golfer, an avid fan of every Chicago sports franchise (particularly, his beloved Bears and Cubs) and plays acoustic guitar.

Nine-year Horizon veteran, **Peg White,** left the company in early August to pursue a lifelong ambition: teaching mathematics to high school students. Over the next 12 months, Peg will obtain her teaching certification, then embark upon her new career in September, 2008. Because she oversaw the firm's accounting and reporting functions, Peg was – to most of our clients – one of Horizon's most visible and accomplished employees. While we miss her, we know the teaching profession has landed a truly remarkable talent.

Horizon's Redesigned Website

We invite you to visit Horizon Cash Management's website – **www.horizoncash.com** – to explore the firm's dramatically redesigned web presence. Drawing upon the talents of LightPort Consulting, a Florida-based web consultancy that has assisted hundreds of financial services firms in web design and hosting, Horizon has overhauled its website to provide improved navigation, richer content and a look-and-feel that's wholly consistent with the firm's other branding efforts. There's something of interest for first-time and regular visitors alike: from TV interviews of key Horizon executives to a simple yet comprehensive review of the cash management process. Stop by our new website and let us know what you think.

Contributors Welcome

FOCUS invites its readers to submit articles and essays for publication. If you have an idea you'd like to explore in print, please contact Brian Hurley via email (brian.hurley@horizoncash.com) or phone (312) 335-8500.

FOCUS, the newsletter of Horizon Cash Management, is published quarterly.

Diane Mix – Publisher **Brian Hurley** – Managing Editor

Opinions expressed in FOCUS are those of Horizon Cash Management or, for articles submitted by outside contributors, solely reflect the opinions of those authors.

This newsletter is for informational purposes only, and is not an offer or solicitation to buy or sell any securities.

One reason volatility exists...

"Markets are constantly in a state of uncertainty and flux. Thus, money is made by discounting the obvious and betting on the unexpected."

- George Soros