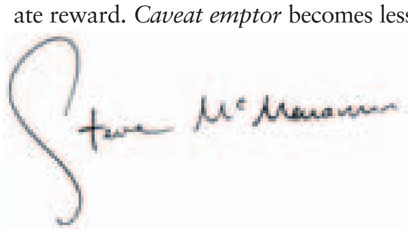
# The Need For Investor Education

Inside this edition of the *Greenwich Roundtable Quarterly* we examine credit and fixed-income strategies as well as the practice of performing due diligence on hedge fund managers. With a dizzying array of strategies and legions of new entrants, the art and science of due diligence is more important than ever.

This is the third year we've published our Best Practices in Due Diligence study. The first focused on equity strategies. The second focused on managed futures. In the summer of 2007, we released the credit and fixed-income study. We had no idea the subprime market would collapse and that it would spread to mortgages, commercial paper, and all markets, including stocks and commodities. However, the study did reveal the red flags. Selecting hedge fund managers is hard work…very hard work. A systematic due diligence process will uncover a multitude of inconsistencies and flaws. Practiced conservatively, the investor will avoid the major disasters. The investor may also avoid some very good managers. But hey, that's where intuition and judgment come in.

When I said we had no clue I was not referring to our speakers. Two months before the August meltdown, Brian Miller warned us that markets were on an "inevitable path to vastly higher delinquency rates (in subprime mortgages)…still being systematically underestimated." Claudio Phillips then advised us to find out how much diligence a credit manager actually does on its assets. Three months before the meltdown, our symposium on subprime revealed some cracks in the dike. Andy Davidson cautioned us that structured finance allowed investors to buy yield and ignore risk. Brian Peters is the well-informed regulator who looks for dark clouds. He indicated that the bulk of subprime resets will be done in 2008 in an environment of tighter credit standards. Greg Jacobs was both blunt and optimistic when he told us that subprime is in a meltdown stage that will create opportunity. In 2006, we examined exotic credits. Dan Zwirn dazzled us with his tour of the vast frontier of smaller illiquid credit opportunities. We also examined the craft of due diligence from an interdisciplinary perspective. Bethany McLean was the investigative journalist who uncovered the Enron scandal. Jules Kroll is the legendary detective who warned of more hedge fund frauds simply because the incentives to cheat are too tempting. And Jim Roth described the incredibly sophisticated methods the CIA uses to determine whether a source is telling the truth. In 2005, Dino Kos described the many improvements to the plumbing of the financial system that were put in place to avoid another crisis. Christian Zugel focuses on distressed asset-backed securities. Finally, Richard Robb specializes in the European structured credit markets where lending standards are still very high.

This is also the third year that the External Affairs Committee has traveled to Washington, D.C., to meet with policymakers. In those meetings it became evident that investors are the clearing mechanism. Investors are economically motivated to perform the most rigorous due diligence. They create a culture of compliance. We also stressed the enormous need to educate sophisticated investors. We urged Fed Chairman Ben Bernanke, as well as senior officials at the U.S. Treasury, the Council of Economic Advisors, the SEC, and the Department of Labor to help the GR advance the mission of investor education. Investors need the freedom to take risk and receive an appropriate reward. *Caveat emptor* becomes less disturbing when an investor understands the risks.



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Standard & Poor's

# Greenwich Roundtable Quarterly

*Exploring New Frontiers Of Investing*

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*Caveat emptor* becomes less disturbing when an investor understands the risks.

# Putting An End To The Madness

**Andrew Davidson,** Vectors Research Management LLC | May 17, 2007

Let's begin with these dates—1989, 1998, and 2007—the years of subprime meltdowns and, rather than talking about the end of the beginning or the beginning of the end, we like to think of it as there is nothing new except what has been forgotten. The mortgage market, due to its size and complexity, is subject to these periodic and inevitable disruptions. In 1981, 1987, 1994, and 2003 the mortgage markets had major disruptions due to interest rate risk and prepayment risk, as opposed to the other set of numbers, which were the credit risk meltdowns.

Being in the mortgage market means that from time to time parts of the market stop functioning because it is too easy to hide the risk through structured finance, and there are always investors who want to take on yield without knowing the level of risk or without paying attention to the level of risk. As long as structuring continues, these events will continue.

This meltdown is a little more serious in some ways. Maybe it is affecting more borrowers than some of the prior ones, but from the investor's standpoint, it is a pretty typical market experience. That said, there are some differences.

So what happened? Basically, excess global liquidity channeled money into the mortgage market via CDOs. The CDO managers, Wall Street, and the rating agencies were able to create non-economic structures that acquired rich assets. By last year, virtually every cash investor had exited the market. As a matter of fact, even at some of the CDO management firms their long-only managers say that they do not buy MBS or subprime mortgages. However, at the same time, they are creating structures that would buy those assets to distribute those same risks via the CDO market.

Major mortgage originators were leaving the market. The origination side was dominated by brokers and thinly capitalized institutions. While some of the major banks were still originating subprime loans, they were not dominating that market the way they were dominating the prime market.

The market ignored a couple of fundamentals of finance: the ability to pay and the willingness to pay.

What happened in the end was that hedge funds, through excess liquidity, put an end to the madness. I do not believe the hedge funds did this out of any altruistic desire to protect the homeowners, but basically the credit default swaps and Asset-Backed Securities Index (ABX) created a mechanism to go short. When you have assets that are incorrectly valued by 20 basis points (bps) to 30 bps in a market like this, with the amount of liquidity and intellectual firepower available to hedge funds, they can become very active very quickly and really counteract a gigantic force on the other side. Last fall, people called it the battle of the titans between CDO managers and hedge funds.

The hedge funds finally won as Wall Street created ABX, and then this tranched ABX made it clear where the value of these securities were.

The market ignored a couple of fundamentals of finance. When doing credit analysis of subprime residential mortgages, the focus is on two things: the ability to pay and the willingness to pay. If you start making loans to people at a stated but not confirmed income the same time you give 100% loan-to–value on that loan, it is clear that those borrowers have neither the ability nor willingness to make a payment unless the value of the home goes up.

If home prices stagnate, those loans are going to default. That is what happened in 1989. There were these new types of loans with stated income and some adjustable-rate mortgages that brought down Guardian Savings and Loan Association. The Dime Savings Bank also had giant losses. They were the exact same types of loans that created the losses this time.

The second failure of financial theory is in the CDO market. The CDO market assumed that there was some diversification that you could get by putting lots of subprime mortgages together into the same deal. While that may work within a certain range, the primary driver of default is what happens to home prices and/or employment. If home prices decline or not rise on a national basis, all of the pools underlying these CDOs will be affected at the same time. Things that people talk about in diversification are just a matter of different levels of risk.

One originator might be a little bit better than the other, but that is a question of beta, not of whether or not they are diversified. Two stocks—one with a high beta and one with a low beta—do not create diversification. You need two stocks that are uncorrelated to create diversification.

> The CDOs are structured in such a way that the manager does not take the credit risk. They own some equity, but they are earning fees that offset that risk.

How this happened is that the arbiters of credit risk in this market were the rating agencies operating through the CDO structure, and none of them were the bearers of the credit risk. The CDOs are structured in such a way that the manager does not take the credit risk. They own some equity, but they are earning fees that offset that risk. They could do some hedging. The rating agencies claim that they take risk, reputational risk, but reputational risk is not quite the same as having money on the line.

We have a distressed market, but there is no distress. So one thing is the losses in this market have not yet been real-

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For six years, Mr. Davidson worked at Merrill Lynch, where he was a managing director in charge of a staff of 60 financial and system analysts. In this role, he produced sophisticated analytical tools including prepayment and option-adjusted spread models, portfolio analysis tools, and was also responsible for the development of trading systems for the mortgage desk covering ARMs, CMOs, pass-throughs, IOs/POs, and OTC options.

He is co-author of the book *Securitization: Structuring and Investment Analysis and Mortgage-Backed Securities, Investment Analysis & Valuation Techniques.* He has written numerous articles that have appeared in the *Handbook of Mortgage-Backed Securities, Mortgage-Backed Securities: New Applications and Research and the Journal of Real Estate Finance and Economics*. Currently, he publishes *Quantitative Perspectives*, a fixed-income newsletter available at www.ad-co.com or on Bloomberg and The Pipeline, a "pipeline" of relevant and useful information for participants in the fixed-income industry that addresses recent trends and advances in the marketplace that consultants, developers, and sales force have extensively studied.

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ized. There is about $20 billion to $30 billion of losses in the cash market and probably another similar amount synthetically. But other than the originating companies who have a separate set of losses related to early payment defaults, we have not really seen any financial institutions fail as a result of this supposed crisis. It may happen over time, but some of this money is pretty widely spread.

The other issue about distress is that there is a tremendous number of new investors entering the market, and the market is finding the clearing level for the cash bid. Our view is that ABX is priced near fair value. It is very volatile because slight changes in default assumptions can make a big difference in outcomes, and there is a lot of uncertainty now about the outcome. But at least to a first order approximation, this ABX index is now priced near fair value so there's no distress.

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What makes this liquidity crisis different than all prior liquidity crises is that there is more liquidity after the liquidity crisis than before the liquidity crisis. The number of people who are interested in getting into the market as a distressed opportunity is greater than the number of people who were interested in investing in this market last year, when they should not have been investing because obviously it was rich. There were so many people on the sidelines waiting for this market to become distressed that it is very hard for it to get to a distressed level. The market went from rich to fair, the subprime market will shrink, there definitely are borrowers in homes that they cannot afford, and there is going to be overhang on home inventory. This excess is going to create a lot of pressure on the economy. But as far as the financial side of the market, the distress does not seem to be coming.

The Wall Street mortgage operations will probably shrink over time. CDO managers and rating agencies will adapt to these changes—they have in the past—and banks will probably be the main beneficiaries due to some changes in laws about origination. The market will be fairly valued and go along nicely. It will be a good market in which to find relative value opportunities, until the next time.

Over the past few months there is definitely been some real money entering the market. There are still people creating CDOs, though a little bit differently because Wall Street is not facilitating in the same way with warehouse lines. The rating agencies still have not made major adjustments to the CDO rating criteria. There is a balance going on right now as to whether or not this will become a real money market again or whether the CDOs or some other advantaged investor will continue to dominate it. But the last few transactions have cleared at what we consider to be fair value levels. We found some opportunities where bonds were a little bit cheap. We have not found anything in the bond market that we see as distressed, and it seems that it is real money investors who are now investing side by side.

I see some form of the mezzanine part of asset-backed CDO market eventually making a return. My view is that we will start to see some downgrades, and that will force some major changes on rating agency criteria. But the CDO is an incredibly powerful tool, and it is hard to see it going away. It seems like there will be changes in criteria and in structures, but eventually a CDO-like entity will be an important force in these markets for the foreseeable future. ●

# Relative Value Makes Market Ripe For The Picking

**Greg Jacobs,** Agamas Capital Management, LP | May 17, 2007

The subprime market is entering the early stages of a meltdown. On the other side of the coin, there are reasons to be optimistic about the market. Market drivers include deteriorating sector fundamentals and strong technical trading factors. These fundamentals include high delinquency rates, stalled housing price appreciation that may be headed downward, and interest rates that are much higher today than just a few years ago. Supply has been disrupted because loan originators are struggling. In fact, two of the top five originators recently went under within weeks of one another.

Subprime mortgage securities are comprised of non-homogeneous collateral. As a result, few deals look good in all aspects since the underlying loans are to borrowers with impaired credit. This is a variety of different layered risks inherent to the subprime sector. Some of these include stated income loans where borrowers just write down their income, which is never checked and done for people with low FICO scores (Fair Isaac Corp.) Others include loans for 100% of the purchase amount made to first-time homebuyers, who then buy furnishings by loading up their credit card balances as well. The complexity of these layered risks creates a lot of uncertainty for this market.

The underlying loan characteristics of subprime loans are varied. There are "2/28s" and "3/27s" (the first numbers are fixed-rate years; the remaining years are at a floating rate), fixed rate, and other kinds of mortgages in subprime pools. Security structures are also unique. The subordination or credit enhancements within the deals grow over time (as with other structured products). However, if the deal is doing well at a point in the future there are provisions where the credit enhancement can be reduced significantly, often before losses are to be realized.

The subprime market has evolved into a real two-way market where investors can go both long and short.

The subprime market has evolved into a real two-way market where investors can go both long and short. Strong technical trading factors are created because many investors have different investment objectives. Some take a strictly directional focus, some are long-only, while others focus on relative value. Since some investors can be quite large with their activities, one can often find good opportunities in their wake once they come into the sector.

New products have created a lot of value in the subprime sector. The clear number one is the creation of the single-name credit default swap (CDS) market. These are a "pay-as-you-go "CDS on asset-backed securities that were introduced in early 2005 and have proven to be a phenomenal piece of financial engineering. Before this introduction, investors could not establish short positions in the sector. Today, you can actually take a short position in literally any class of an asset-backed deal. This is a major reason why the market has grown to the extent that it has. Another important product is the Asset-Backed Securities Index (ABX), which was launched in early 2006 and has become a well-known sector benchmark despite the lack of long-term buyers for the indexes. In addition, ABX tranche indexes

(TABX) were launched in February 2007. TABX may, in the future, add to the valuation of CDOs.

Looking back to January of this year, valuations for the ABX indexes were clearly rich, indicating a sector that was generally overvalued. What did this mean for subprime and were there any early signs?

Overall, what happened in February to the subprime market was a brutal financial reckoning for some market participants. The violent pricing action caused many to take losses.

During the second half of 2006, we began to see very interesting information. Back in September, the Office of Federal Housing Enterprise Oversight (OFHEO) reported that housing price appreciation was flat. This was shocking news to the market. Subprime remittance reports for October and November shocked the market further by highlighting borrower delinquencies, which had shot up dramatically. It was not just an incremental rise month over month—it was a jump that grabbed the attention of everyone in the marketplace.

Last fall you could buy single-name CDS on 'BBB-' rated subprime securities for 300 basis points (bps) to 400 bps a year, which allows one to establish a short position at 100 that could go down to zero. Over a three- or four-year period, the premium payments total about 12 to 16 points. To pay 12 to 16 for a chance to make 100 was a very good bet in a market with fundamentals going sour. This was a clear sign that market valuations were too expensive last fall.

In January, the subprime yield spreads began to widen out and the ABX market began to collapse. During February, the ABX 'BBB-' indexes dropped for a price of 92 to 65 at month's end, a 27-point decline for the month. The collapse was exacerbated when, as the indexes began to drop, a lot of investors piled on the selling—it was really a momentum trade at that point.

The ABX market remains technically driven at this point. After the huge February declines, many investors are beginning to unwind their short positions and realize profits. Over the past two weeks we have seen the indexes rebound by about five or six points. All of this follows more recent remittance reports that indicate that fundamentals, notably delinquencies, continue to rise. Despite this weakness, we have seen a rally of some five or six points, which clearly shows the technical price action driven by the shorts getting out. Since the indexes were clearly rich back in January and now that we are heading back toward a price of 80 in some cases, there may be another round of selling coming.

The February selling in ABX stopped around 65 because it got too expensive for investors to continue shorting at that point. At prices of 65 to 70, the implied cost to maintain the short was about 10 to 12 points at that point. Simply put, if you want to short these securities, you have to expect further price declines of 12 points or more per year just to cover your short-position costs. These are quite expensive shorts, so it's understandable why the sell-off slowed down.

Another reason for the recent rebound is that many investors have realized the losses predicted for subprime—and there are a lot of losses that we are going to see well out in the future. Many homes will go through the foreclosure process. Those homes will eventually be taken back as real estate owned—a property that is in possession of a lender as a result of foreclosure or forfeiture—and then will be sold, thus realizing the expected losses. This is not something that will happen in one or two months. More likely, the losses will be realized 12 to 18 months in the future. As such, many investors have covered their short positions rather that wait for these losses to be recorded. The 'BBB-' rated ABX indexes have rebounded from the mid-60s up into the mid-70s.

Overall, what happened in February to the subprime market was a brutal financial reckoning for some market participants. The violent pricing action caused many to take losses. If you take a look at the originators, they found themselves making loans with very lenient guidelines that would sell for only 95 cents to 97 cents on a dollar, while the costs for making loans were 101 or 102. Therefore sales at 95 or 96 create losses of $60 million or $70 million per billion that you originate and sell. These sobering mathematics showed their current business models needed change. Such potential for losses caused lending to be curtailed immediately. Over the past few months, these originators have removed much of the silliness from their underwriting guidelines—first-time homebuyers borrowing 100%, stated income loans to low FICO borrowers, etc. All of these gimmicks, which came about from an extremely competitive lending over the last few years, are now gone.

We expect by the summer are very clean subprime pools. There likely will be a bifurcation in how they trade versus deals with older collateral. The collateral originated to the new guidelines certainly will trade at much tighter spreads. At the other end will be the 2006 vintage collateral with all its problems trading at rather wide spreads. The will create value opportunities.

We believe that these wide spreads will bring more folks back into the market. We have seen a lot of new buyers come in over the past few months and that is pretty healthy for the market. It became a little bit too thin in terms of trading when during these large price declines.

We see housing price appreciation (HPA) as the main factor and largest driver of the subprime market. We expect housing prices generally to remain flat or decline a percent or so over the next two to three years. They will probably rebound. However, if housing prices take another step downward—say down 5% to 10% over the next year or two—you are going to see these subprime deals deteriorate substantially. Current cumulative loss assumptions of 6%-10% over the life of a deal will be revised to well in excess of 12%-15%, which will affect even some of the higher-rated securities. Investors must closely monitor changes in HPA going forward.

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On the other side of the coin, subprime may affect HPA. We found data showing that from 1995 to 2007, home ownership in the U.S. had gone from about 64% to 69%. Much of this increase has been part and parcel to the effects of subprime money. Since subprime money is being curtailed—maybe two-thirds of the lending is now going to be cut out—there will be fewer subprime homeowners, leading to shrinking overall levels of home ownership. Whether this is a few percent or so remains to be seen. Many homes will likely to be sold, which will further depress prices and affect HPA. Indexes to watch include the S&P/Case-Shiller Home Price Index and the OFHEO reports from the federal government. Look for incremental changes over the next few months. The cumulative effect of small incremental changes downward or upward could startle the market once people take stock in where prices are headed.

Loss mitigation will have an increasing effect on subprime securities as servicers seek the best means to limit losses. One way is through loan modifications. Some borrowers may have problems because their rates recently reset from 8% to 11%. There are two outcomes for this scenario. One, the servicer could put a borrower into foreclosure for not making payments, take the house and then sell into a weak market. The result may be a substantial loss of 40% or more when that house is finally sold. The alternative is to modify the loan. Instead of a reset loan rate of 11%, the servicer may reduce the borrower's rate to 8%, which results in 3% less interest annually. Accepting this 3% reduction in interest may be better than a 40% loss through foreclosure. I expect that, over the course of the next year, there will be a lot of talk about loss mitigation and loan modifications.

We expect the subprime industry will survive this turmoil. There is a subprime borrower out there that really needs

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mortgage credit and there is ample risk capital available in the private sector to provide it.

The media has chronicled proposals regarding government intervention in the subprime market. When looking at such proposals, things to consider are who will pay for it and who will benefit from it. Ohio, I believe, recently created a $100 million fund to aid subprime borrowers who are having difficulties. However, the loans to those borrowers are probably part of a subprime securities deal and the only means that Ohio has to acquire such loans at 100 cents on the dollar, its face amount. The real value is probably 50 cents or 60 cents on the dollar at that point in time. So, if Ohio wants to buy them out at par, who is it really helping? It is helping investors, not the homeowner. Outside of certain regulatory changes to lending guidelines, we do not see much happening from government intervention.

In an effort to demonize the subprime market, every week there are newspaper articles that can provide one a good chuckle. In many cases the media misses a lot. Consider homeowners who financed with 100% loan-to-value loans and now cannot meet the payments of the hefty debt load. If housing prices had gone up by, say 25%, and these folks had refinanced, everyone would be happy with how well the subprime market had served its borrowers. But with housing prices flat or down, the loan goes back to the lender who likely realizes a substantial loss. In this case, the homeowner really has an option on housing prices and accepts little risk. Often the media does not focus on scenarios where the borrower wins and investors lose. Each will win and lose as the sector sorts through its turmoil.

The investment environment for subprime sector looks very interesting despite the all of the uncertainties at this point.

The investment environment for subprime sector looks very interesting despite the all of the uncertainties at this point. Transaction costs remain high due to bid/ask spreads of multiple points in most cases. Given the level of turmoil, yield spreads are generous and investors may find attractive relative value or other bargains upon completing their diligence. The opportunities, however, are going to be longer term in nature. Many investors reaped huge returns in February by shorting the ABX index or owning single-name CDS. Those trades were easy based on the prevailing subprime fundamentals at the time. Going forward, investing in subprime will become a lot more granular, requiring greater attention to detail and an understanding of the problems that the underlying loans are experiencing. Extensive analytical capabilities and the expertise to execute both the asset and the hedge sides of these transactions will be needed for this process. ●

# Center Stage In A Three-Act Play

**Brian Peters,** Federal Reserve Bank of New York | May 17, 2007

The subprime is a three-act play. We are currently completing Act I and moving into Act II. In Act I, we had early signs of weakness in the 2005 and 2006 vintages. Just to put it into perspective, roughly 9% of total mortgage loans outstanding were subprime. But in the fourth quarter, we had 310,000 foreclosures, up from a quarterly average of around 230,000 for the prior two years. Subprime accounted for more than half of those foreclosures.

From my perspective, there was an abundance of liquidity that led to indiscriminate buying which then led to weak underwriting. Before securitization, lenders would put these mortgage loans on their books. Therefore, lenders had the incentive to be disciplined about their underwriting standards because they had to live with the defaults. Toward the end it became thinly capitalized brokers who would underwrite and sell to the investment banks who in turn would package the loans.

Where does the risk stop? The thinly capitalized brokers take their profits and go away. They vanish, taking with them their marginal origination capacity. The underwriters to some degree are protected from legal liability on this. The whole nature of the mortgage finance market changes when we get into the extreme ends of the spectrum.

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While some blame accrues to the structuring of the deals and the rating agencies, I blame the investors. Investors were not sufficiently discriminating given the quality of the underlying collateral. If you are relying solely on the rating agencies to tell you what to buy, shame on you.

The intense competition for collateral by the investment banks to ramp up CDO deals made the CDO managers much less picky about the underlying assets that they were after. The result was much less market discipline. Lenders were competing on price and credit terms. To give you an example on spreads, the risk premiums charged to the "2/28" subprime borrower during the initial fixed period (two years fixed the remaining 28 years floating) declined more than 200 basis points from the first quarter of 2004 into 2006. We saw risk-layering. We saw high loan-to-value. We saw negative amortization loans. We saw incomplete documentation. We saw all the classic end of period behaviors.

People wonder why FICO (Fair Isaac Corp.) scores appeared not to predict things toward the end of the cycle. Well, FICO scores were not originally developed for 110% loan-to-value (LTV) loans. One can argue that the borrowers were fairly rational about exercising the options they had under the mortgage. If I have a 110% LTV loan and my house price does not go up, what's my incentive?

Interest rates began to rise in mid-2004 and housing prices flattened. We saw investors walk away from properties. We saw some increase in fraud. This led to the early payment defaults, though that seems to be slowing. To give you an estimate, lifetime losses on the 2006 subprime vintage are estimated between 6%-11% ands probably toward the higher end. For a comparison, the 2000 vintage lifetime losses were about 7%.

It is estimated that 60% of the defaults from this 2006 vintage will be in the pipeline by November, but you are only going to have recognized about 5%-10% of the lifetime losses by then. The lifetime losses are not going to peak until 2008 and 2009. "Alt-A" losses will probably be lower than subprime. Those are better quality loans; however, the quality of the structuring on some of those deals is pretty bad. There is relatively thin protection for some of the more senior tranches, so there's a lot of risk there as well.

At the end of Act I, the market is showing signs of self-correction. Investors have tightened their expectations, spreads are wider, and underwriting standards have tightened. The market is differentiating on credit quality. People are trying to look through and look at the underlying collateral, and that is all good and healthy. So that's not bad. Credit supply has declined but it has not evaporated. People are still getting loans if they deserve to get loans. That is not a horrible thing.

Act II is the payment reset risk: the payment shock. Just to be clear: the credit story to date has not been the rate resets and payment shock that has been in a lot of the press, but instead the volume of resets set to increase in late 2008 through 2009 for the 2005 and 2006 vintages. The subprime and Alt-A resets are going to occur in a market with tighter lending standards. It is going to be harder for some of these people to refinance out of the loans. In the current environment, there may be many loans that will not go into default until after the reset rate.

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Thinking about it from a structure point of view, there are considerable limitations on the ability of the servicer to modify loans in advance of default. When loans were put into a portfolio, bankers kept them on their books and you had easier options for handling them. The restructuring and workout of some of these loans get a lot more difficult in the current securitization environment.

People generally start by talking about FASB 140 (Financial Accounting Standards Board accounting for transfers and serving of financial assets and extinguishments of liabilities.) I am going to start with the tax code. The tax code actually makes it difficult for services to take action before homeowners default. The servicers have to be able to predict who is going to be the problem.

The press has written a lot about FASB 140 and the potential for what is called "tainting the Q," or tainting the qualification treatment, which would force many of the loans to be brought back onto the balance sheets. This is particularly a problem for regulated firms that face consolidated capital requirements. If that happens, then regulatory capital balloons. Modifications to large numbers of pooled loans likely require investor consent. When this paper is spread all around Wall Street you have to rent Madison Square Garden to pull everybody together to get consent. Before certain modifications can be made—let us say reducing the rates on loans and other things that might affect the spread account—you probably have to go to the rating agencies and get a "no downgrade" letter. This presents considerable hurdles to restructuring some of these loan pools.

That said, with regard to the 2005 and 2006 originations, it appears that servicers are already actively modifying loans within the scope of their ability. The regulatory agencies recently put out guidance encouraging the servicers to work with the borrowers. Basically, the regulators said to do what is the economically right thing to do, but if you can, keep the person in the home. Often loan work-outs are in the interest of both parties. If there are ways that we can facilitate getting through some of the more difficult challenges while keeping people in the homes and minimizing ultimate losses, that's probably a good thing.

The key is, though, that if work-outs are economically viable, an incentive exists for third parties to purchase the distressed pools of loans at a discount and undertake the work-out process. And we are actually seeing that. So there may be some gap; some may say some of the stuff is at fair value. Some of this may have enough value in it that people are actively pursuing going through the considerable work it would take to modify and restructure some of the loan pools.

The riskier subprime MBS tranches more often than not put into CDOs. About 70% of the 2006 mezzanine ABS CDO collateral was subprime, according to Standard & Poor's. That's a pretty considerable chunk.

That leads to Act III—deterioration in the underlying subprime collateral may cause losses and downgrades among the CDO structures. I do not believe we are fully in it yet. So far, few CDOs with exposure to mezzanine ABS tranches have been downgraded. Defaults on the underlying subprime MBS have been minimal due to limited seasoning, and therefore they have not flowed through to the CDO structures. However, rating agencies are increasing downgrades on the recently issued sub-prime MBS. In the *Financial Times*, there was a full page article saying the regulators are concerned about the rating agencies' ability to look at structured credits. The rating agencies are under pressure to move on their ratings before the losses start to flow through the structures, which is very interesting from their point of view.

Spreads, particularly in the more liquid synthetic market, have widened considerably. That implies mark-to-market losses for many of the CDO tranches that are carried by investors on accrual or held to maturity basis. What typically happens at this end of the cycle? Some investors are holding these loan pools. They are holding them to maturity. They are not recognizing their losses. It is sitting there in accrual, and until they are forced to recognize the losses by the market, nothing will happen. They have not been forced to recognize these losses yet.

The thin tranche widths on the mezzanine subprime MBS makes CDOs that invest in these assets very sensitive to changes in loss estimates. On the underlying collateral, a 1% decrease in house prices leads to a 2% increase in defaults. So you can imagine how sensitive some of these more levered structures are going to be to actual realized house price appreciation or depreciation. The realized losses are probably not going to peak until about 2008 or 2009. This was not an unexpected shock to the system. Instead, it was more of a slow-rolling train wreck or headwinds on some investors.

The realized losses are probably not going to peak until about 2008 or 2009. This was not an unexpected shock to the system. Instead, it was more of a slow-rolling train wreck or headwinds on some investors.

Equity in junior tranches on the CDOs are likely subject to mark-to-market losses, and the senior and super-senior tranches have some degree of risk of downgrade in certain scenarios. The risk here is forced divestiture by some market participants who, if they own an 'AAA' rated tranche, an 'AA' tranche, or a super-senior tranche, and that tranche gets downgraded to 'BB' will be forced to sell. This forced selling might cause more liquidity issues within the market. Depending upon whether you are long the super-senior that is getting downgraded or maybe short some of the strategies, investors have to know how they are going to get out of these positions. However, the liquidity on the way out is not going to be like the liquidity on the way in, and if people are assuming they are going to get out of the structures quite easily, there may be some shocks coming. ●

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# The Market's Role Of Shedding Business Cycle Risk

**Richard Robb,** Christofferson, Robb & Co., LLC | June 16, 2005

The European ABS market is bigger than you probably think. In 1998, new issuance was roughly 25 billion euros. In 2004, the funded issuance was 250 billion euros. For every one you see, there is probably one you do not see, such as private and synthetic transactions. Considering only funded, public deals, that amounts to 800 euros new issuance for every man, woman, and child in Western Europe. ABS is now an important way that European business and consumers obtain finance.

This market has grown because securitization creates genuine value. I don't think it's possible to describe in a word or a sentence how these tools are used. But let's look at some examples that highlight how securitization serves an economic purpose and leads to opportunities for investors like us.

The securitization composition in Europe is about 50% U.K., 10% Italy, 10% Spain, 10% Netherlands, and 20% in other countries. The market is roughly half residential mortgages and the rest divided between commercial mortgages, credit cards, auto loans, equipment leases, nonperforming loans, syndicated leveraged loans, and bilateral bank loans.

Let's start with residential mortgages. Unlike the U.S., most lenders in Europe are large banks or building societies. Before securitization, depositors and lenders supplied money to the banks who in turn originated mortgages. The reason I think that is inefficient is because once lenders give the money to the bank, they do not know what the bank is going to do with it. It may get into mischief; it may change its underwriting standards; it may do unexpected things. Once it has its hands on the money, it may even pursue interests of management or equity at the expense of creditors, such as the U.S. savings and loan scandal.

In the case of syndicated leveraged loans, there is an equally compelling case for securitization. It is quite difficult in a big bank to induce credit analysts to apply what Adam Smith called "anxious diligence."

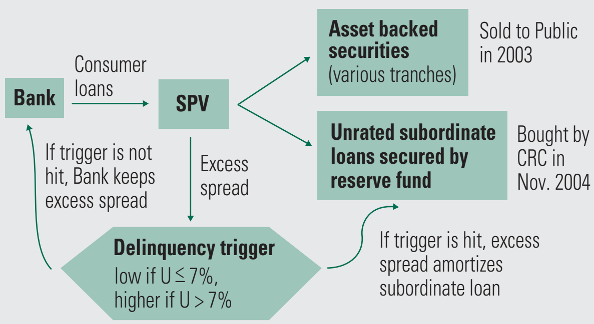
But we can create a much more desirable investment by isolating the mortgages and giving them an independent life. If the bank that originated them goes under, a back-up servicer can step in, collect the payments from homeowners, and the investor goes on as before. This solves the principal agent problem of corporate debt. We do not have to worry about whether the bank is going to look after our interests. It also solves the asymmetric information problem; there is perfect transparency into consumer assets on which investors have a claim. These gains in efficiency are ultimately shared by the homeowners, banks, and investors.

In this way, we could think of securitization as a market-based solution to corporate governance: a company engaged in a business (from mortgage origination to drug development) can strip off financial assets and sell them to a financial investor. The entity that remains is simpler and smaller—easier to manage and easier for agents to monitor.

In the case of syndicated leveraged loans, there is an equally compelling case for securitization. It is quite difficult in a big bank to induce credit analysts to apply what Adam Smith called "anxious diligence." Employees in large organizations necessarily make

### Consumer Finance Loan With Macro Trigger

A European bank wanted to sell a loan backed by a reserve fund in a previously issued consumer finance securitization. Because the loan was deeply discounted and highly leveraged, the bank agreed to divert its excess spread to pay down principal in the event that the consumer assets soured. CRC incorporated a trigger linked to the country's unemployment rate, so the bank bears the origination and servicing risk that it can control: if unemployment is low and delinquencies are high, the bank cannot take cash out of the deal until it repays the loan.




decisions based on process. I used to work for a bank, and I know from experience that credit officers, above all, try to stay out of trouble. But a specialty asset manager has a financial incentive to invest in loans that are good deals and then look after investor interests in the event of a default. In a successful deal, the manager earns a subordinate management fee; an unsuccessful deal may put the manager out of business. This may explain why no tranche of a European CLO has ever been downgraded.

Another important purpose of this market is to allow banks to shed cyclical credit risk. European and American banks have securitized massive amounts of loans and transferred risk to end investors. As a result, in a recession, banks can stay in business and continue performing their functions as financial intermediaries. The experience of a few years ago illustrates this point. In 2001 and 2002, default rates of noninvestment-grade rated debt reached their highest levels since 1991. Yet where was the financial crisis? There wasn't one. And I think to some extent, the securitization market and the credit derivatives market can take credit.

Tranching of structured credit creates more efficient scale for investors. The 'BBB' rated corporate loans pay about LIBOR plus 200 basis points or so. What do you do with those? As asset manager with a huge pool of 'BBB' debt is not motivated to do full credit work on each one. But a pool of those bonds can be separated into a very large 'AAA' tranche that goes to investors who can without expending much effort. They earn some spread and some liquidity premium over LIBOR. Investors in subordinate tranches have incentives to perform full due diligence and earn correspondingly higher potential returns.

What's the opportunity for people in this room? In 2002 and 2003, hedge funds could buy the 'AAA' rated tranches at deeply discounted prices. The forced sellers came into the market after defaults by WorldCom, Enron, British Energy, Marconi, and others, and there were limited buyers who could take the effort to buy seemingly tarnished bonds. But that trade is over. As the market has matured, I doubt whether it is ever coming back.

At the moment, few investors are prepared to tackle the complexities of junior tranches. This ought to lead to opportunities for hedge funds, but that market, too, is rapidly maturing.

An even more interesting direction for funds is to explore is novel structures that are too highly customized to fit the public markets—that is, to take the kind of risk that a bank or an insurance company could not easily process. To take one example, a large private bank that originated consumer loans in northern European wanted to raise capital by selling the loan backed by a reserve fund for an outstanding consumer loan deal. Their credit origination, servicing, and special servicing were impressive to my firm, CRC. The historical defaults were low and stable.

Nevertheless, the bank has more information about its assets than any investor. To mitigate the risk that these loans may turn out to be worse than they appear, we proposed a delinquency trigger: if delinquencies pick up, we would like to use the bank's excess spread to pay down our loan. Specifically, if delinquencies go over 1%, we proposed that the bank would make have to divert excess spread to creditors rather than keep it for themselves. The bank objected to this idea because it would make the transaction risk-free for CRC. It countered with a higher delinquency trigger of 2%. That did not help us—by the time delinquencies reached 2%, little excess spread would remain to buy down our loan. CRC, through its London office, proposed a macroeconomic-linked trigger: if the unemployment rate in this country was below 7%, the trigger would be 1% *(see flow chart)*. Thus if the economy is doing well, and the bank has lent to a bunch of deadbeats, it is the bank's responsibility—it should pay back their creditors before it can take out any money. But if the unemployment rate is over 7%, CRC would live with a higher delinquency trigger. After all, we are earning a high spread and ought to be taking some risk.

The bank accepted our proposal, and so far it is working smoothly. I think this deal illustrates in a simple way how an end investor can work with an issuer to achieve efficient structures that would never work in the capital markets. If an investment bank dreamed up the macroeconomic trigger and tried to sell it to investors, no one would buy it because it looked like a trick. But we know it is not a trick because we proposed it. This is only one example of value that can be created when a single investor negotiates with an issuer outside of the constraints of rating agency templates or the standardization the public capital markets demand.

As I mentioned, the easy secondary trades from a few years ago are no longer available, although they didn't seem so easy at the time. But I think we are still much closer to the beginning than we are to the end in terms of opportunities for investors in European structured credit.

More than 75% of mortgage debt is securitized in the U.S. compared with less than 25% in Europe. As Europe catches up with the U.S., there will be lots of value to create and money to be made there.

Again, residential mortgages are a good example. In Italy you still need 50% to 70% down payment to buy a home. Home ownership in Germany is half of what it is in the U.S. Residential mortgage debt is 70% of GDP in the U.S. versus 40% in Europe. More than 75% of mortgage debt is securitized in the U.S. compared with less than 25% in Europe. As Europe catches up with the U.S., there will be lots of value to create and money to be made there.

As another example, Basel II is coming. It is going to make it much more punishing for banks to retain subordinate tranches of deals that they have originated. And perhaps even more important than Basel II is International Accounting Standards No. 39 in Europe, which will require banks and finance companies to reconsolidate transactions back onto their balance sheet if they have any material ongoing exposure to those deals. So the market will require a focused and dedicated investor that does not care about the impact that owning such deals will make on the investor's own balance sheet. This seems a perfect place for hedge funds.

How about in emerging markets? Mexico seems like a land of opportunity. Mexico reformed its bankruptcy laws in 2000 and amended a securitization law that provides for the transfer of assets to bankruptcy-remote trusts. I think this will create some good investment opportunities.

Many other countries would like to tap into the benefits of securitization. The finance minister of India declared that securitization is the most important priority. Yet many obstacles remain including stamp duty on the transfer assets to a special purpose vehicle, heavy withholding tax and exchange controls. So in many countries, there is a significant amount of work that needs to be done and it is going to take many, many years before they can realize these benefits. ●

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# Opportunities Don't Come Overnight

**Christian Zugel,** Zais Group LLC | June 16, 2005

Where are the opportunities today? The investable universe is large and interesting investments have shrunk a lot. Two years ago, if we had seen 19 offerings, we might have said 15 look in the ballpark of interesting. Today, maybe it's one out of 20. It takes a lot to find a good investment. There are certain places that offer interesting opportunities. CLO equity can be selectively interesting. There are two issues. First: the good managers have very limited capacity left, and the bad managers obviously have a lot. Second: two or three years ago, loans consisted of about 85% 'BB' rated and 15% 'B' rated. Today it is 50%-50%. There could be some problems waiting in the loan market in years to come because a lot of second lien loans, which are essentially high-yield bonds in disguise, have been issued and are 'B' rated. Under that rating, obviously, default risk goes way up. There are some risks looming.

Selectively synthetic or derivative CDO tranches are attractive. Obviously, Long-Term Capital Management fiasco was not quite as bad as billed. There were some players in the market who took a lot of what is called tranched index trades. It is reasonably complicated but there are some interesting opportunities in that field.

Playing between the cash and derivative markets offers a lot of opportunities. The cash market talks about defaults, severity of loss, timing of default, collateral quality, and ratings. Derivative players talk about correlation, risk-neutral pricing, and attachment and detachment points. Yet, the markets share exactly the same underlying risk, so you have two different languages—two completely different ways of thinking, yet the risks are the same. Either the company goes belly-up or it doesn't. There is a credit event or there isn't. At the end of the day, these markets will have to converge. There are interesting opportunities from time to time that one market completely misjudges the risk or the return expectation.

Also, there are opportunities in ABS. Europe ABS provides some opportunities. There are also opportunities in the secondary market in the U.S. that are reasonably complex. The home equity market will offer a lot of interesting opportunities. There are even today new deals by the same issuer in the primary market and you read the indenture, the offering document, and they are structured differently by different banks. Depending on how credit events will unfold in the years to come, they will have very different outcomes in the different note holders.

Now, why do all these opportunities exist? The first reason is that it is like a great gravy train for investment bankers. That clearly has happened, and it will always continue to happen. But, while there are bank fees, they are within reason in most cases and can also be negotiated. If we were to invest in a new issue CDO for example, the all-in fee including structuring, placing, rating agency fees, and so forth comes out between 1.3% and 1.5%. That is substantially less than in a high-yield offering.

Cynicism creeps in a bit when investors talk about all the fees in this space. And yet they can not throw enough money at private equity firms who dole out fees all over the place, but then are surprised that there is not that much left at the end of the day.

Another reason why the opportunities still exist is that there are a very small number of real players in this space who understand and take the time—who really go through the indenture, who read the offering documents, who model the waterfall. It takes a lot of time, a lot of work, but you can do it. It can be done, and it can be modeled if you are prepared to spend the time and effort in doing it. Part of what the hedge fund world faces today is that there are so many people focusing on the same strategies that it gets harder and harder, even if you are very good at what you do, to make that incremental return. In this field, fewer market players means that there is still more opportunity.

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Another big factor in the structured credit space is that there are we have a plethora of different players with completely different agendas. One group is rating-based buyers: banks and insurance companies. And they often have to sell if a rating goes below a certain point. This happened in 2002. Abbey National basically had to liquidate $7 billion of structured credit in one form or the other. Because things were downgraded, they lost and were threatened to lose their own rating as a bank. That led to forced selling, but clearly the people in Abbey National who knew the space thought we should hold on to them at those prices. But the board said "out" and that led to very interesting trading opportunities.

In May 2005, there were some opportunities arising from these synthetic transactions and mismanaged books. Somebody programs the models and the people who programmed them did not quite understand the risks. The *Financial Times* had a very interesting article that showed that a lot of these synthetic transactions and these tranche trades can be interesting but you really have to understand what you do. You can not lay the blame on some poor programmer or some quant. At the end of the day, the person who takes the risk should understand which risks he wants to take, and then you can build a model based on that.

The next point where the opportunities continue to exist is that there are reasonably high barriers of entry for all the points of entry.

The last reason is that money flows back through to you through cash flow. For some people this might be good, for some it might be a negative. I believe it is a good thing. If you look at a structure, there are the assets and these assets pay through the liability side waterfall. Once the assets have been acquired for a special purpose vehicle, it is closed. The assets are there. They are owned by the whole liability side, from the senior debt to the equity. They can not be taken away. There are trustees who look after them. Cash will flow to you. In that sense you can predict it quite well.

There are many opportunities to generate alpha in structured credit—probably much more so than in debt and equity, but you need to do your homework. And I think you need to be patient and be a long-term oriented investor. I would not recommend structured credit if you need to have very quick liquidity, because if you go back and look at 2002, liquidity was clearly not there.

There is a very detailed knowledge required of the collateral managers, the structures, the modeling that goes on, and the different rating agency methods. If you do not have this, it is hard to pick the right assets. You might have some good ones, but you will also end up having some bad ones.

Investing in more than 5x levered structures with hedge fund-type liquidity and banks that control the mark-to-market is a fool's game. I truly believe you might have four good years and you lose everything in the fifth year. It will not work for the simple reason that all these synthetics—especially derivative trades—are marked to mid. Now, imagine you're 5x levered; you are in a 10-year synthetic or derivative trade and the bid-ask just widened 40 basis points (bps). On 10 years, that's $4. Now you're 5x levered; that puts net asset value down 20 bps. That's just math. It does not mean that you have been a bad manager. It does not mean you have been a bad investor or whatever—it is just math. That is part of the problem of these strategies.

I believe this space allows you to make a solid 8% to 12% returns, but if people look for more, it is the wrong space. But at the same time, even through 2002 where we had probably the worst credit markets ever—with $270 billion notional in investment-grade issuers defaulting and obviously a ton of high yield at the same time—these products still managed to make it through, not with a phenomenal return, but not a disaster either. I think it shows you that it is not a bad space.

The other point is that we are prepared to take back incentive fees. That's an important factor in this space. Again, if you take a classic hedge fund structure where you have a lot of unrealized gains, and you mark up a position, you take an incentive fee, and you highly levered—that's asking for trouble. We recognize this and we are prepared to take incentive fees back. It is important to truly align, in my opinion, the interest of the investor and the manager.

On the U.S. side, you have credit sensitive tranches that are driven by pre-payments and defaults, but not interest rate change. Then you have the whole Fannie Mae, Ginnie Mae, and all these jumbo 'A' issuers that clearly are pre-payment risk-driven by interest rates. The other thing one should note is that all these securities are deliverable to the Depository Trust Co., which from a payment/risk point of view makes it like a treasury bond. You pay against delivery and any bank can settle it so it is not like these are secure instruments that float around and are physical certificates.

Are there a lot of holders of this asset class who do not know what they are holding? Yes, but that is true for worldwide investors. Do you read all the annual reports of your equity holdings? I do not, and sometimes you get bad surprises. I do not know if the structured credit market is any better or worse than other markets. Are there many people who buy these instruments based on ratings? Yes, absolutely. Do the rating agencies do a good job? By and large, probably, and especially on the senior notes. 'AAA' is sort of their hallmark.

If you are in the equity tranches, you should do your homework; you should read about it. We know investors who sign a purchasing agreement without ever looking at the offering document. Quite frankly, if you do that, I would almost say you are asking for trouble. But it happens. It is a 144A market; people are supposed to be sophisticated.

We know investors who sign a purchasing agreement without ever looking at the offering document. Quite frankly, if you do that, I would almost say you are asking for trouble.

We do our own sort of client due diligence, because I was trained in my old JP Morgan days to make sure that you have a feeling that the investor knows what he is doing. In one of our funds, you have to fill out a questionnaire box that asks if you are a sophisticated investor. Everybody checks the box. But then sometimes we meet people who clearly do not understand what CDOs are, yet they say they want to invest in this space because they heard it is a good return.

As an asset manager, it would be fabulous for us if investors would be prepared to time spreads and come in when there is a major stress point. But from my personal experience in 2002, I could not find any investors who were prepared to do it. I went around the world twice to raise assets where I thought money was the easiest to be made. You could buy distressed 'AAA's at 80 cents on the dollar. But investors always wanted to wait and see. We tried again this year in May when things started selling off. We called up a couple of friends and people who have invested with us for many years. Two of them made a quick commitment and have made a phenomenal return. But it is hard to do; very hard to do. In the ideal world, it would be perfect and I would agree that in credit markets you want to be able to time it a little bit. In reality, however, it is often very hard to actually get it done.

As president and global head of Investment, **Christian Zugel** is responsible for the Investment Manager's global investment strategy across all product categories as well as global operations, research and development initiatives, risk management, and compliance matters. His direct reports include the senior managers of the Investment Manager's portfolio management, research and development, mid-office and treasury, and compliance departments.

Prior to founding the Investment Manager in 1997, Mr. Zugel was a senior executive with JPMorgan, and led JPMorgan's entry into new trading initiatives. These included serving as head of the high-yield and distressed debt proprietary trading, research and sales; head of relative value trading (an initiative started under the direction of Mr. Zugel) based in New York; head of Asian proprietary trading as well as the Asian fixed-income business (excluding Japan), based in Singapore; and head of global Deutsche Mark securities and OTC derivatives based in Frankfurt.

Mr. Zugel graduated from the University of Mannheim, Germany.

# Financial Engineering And The Dangers Ahead

**Brian Miller,** Elliott Associates | June 5, 2007

At Elliott Associates, we believe that we are on an inevitable path to vastly higher delinquency and default rates and that these higher rates are still being systematically underestimated. I will examine the recent events in the ABS markets related to subprime mortgage underwriting practices and the implications for structured products that contain subprime exposure.

The rapid increase in the complexity of structured credit products has left many plain vanilla managers ill-equipped to do independent credit work on today's complex structures. The analysis in many cases has been reduced to a series of questions related to only two variables: ratings and spread. This added complexity has resulted in an increase in the power of the major credit rating agencies. Any miscalculation by them will wind up being magnified throughout the global financial system. As leverage and complexity has increased, every investor is now more exposed than ever to these ratings agency miscalculations.

If the hypothesis is even partially true, then all fixed-income investors are about to simultaneously realize that they are exposed to the same set of miscalculations. Needless to say, return correlations are likely to increase dramatically in this environment. Jim Grant, in a piece entitled, "Structured Complacency," stated it very succinctly, "A new fact commands the attention of lenders and borrowers: financial engineering is displacing credit analysis."

Let's start with what has happened already. Early payment defaults (EPDs) created the first wave of widespread focus on the subprime market. An EPD is a default in the first few months after origination. The EPD episode in the first quarter of 2007 has come and gone without any major, lasting financial market implications. Prices of subprime mortgage securities adjusted lower, and many originators were put out of business as a result of having to make good on their money-back guarantees. Other than that, it is business as usual.

We are much more concerned about the second wave. Think of this first and second wave process as drilling down into a pool filled with potential mortgagors. This pool contains a mix of potential borrowers with the most worthy at the top and the least worthy at the bottom. Those at the bottom never had the financial capability to consistently service a mortgage, and they never should have become "homeowners." The collapse in short-term rates that started in 2001 made the monthly payments on adjustable-rate mortgages much more affordable, which temporarily expanded the number of mortgage applicants that could be approved.

Drilling down through this pool was driven by the originator's relentless need to keep origination volumes from shrinking. By relaxing the qualifying terms, the originators were able to drill down a little further and reach a deeper part of the pool. Each successive relaxation of loan terms allowed another layer of previously unqualified borrowers to get access to mortgage financing. This process reached its logical conclusion in the last months of 2006, when the originators reached the bottom of the pool. These were the borrowers that had no ability, and in

Each successive relaxation of loan terms allowed another layer of previously unqualified borrowers to get access to mortgage financing.

some cases, no intent to service their new mortgage. This led to a massive increase in EPDs and to the first quarter of 2007 focus on subprime default rates.

The first wave came and went—no big deal. The potential of the second wave to wreak havoc in the financial system is much greater. The second wave will be caused by the unique features of the most popular type of subprime loan issued during this period, commonly referred to as a 2/28. These loans are fixed for two years at a teased rate, followed by 28 years of payments that float at a spread above some short-term, fixed-income benchmark. The "teaser rate" was typically reduced several hundred basis points below the normal fully indexed rate. The loans that were originated in the second half of 2005 are currently approaching a 25th payment. This will cause many monthly payments that had been teased to move to a fully indexed rate, which will typically cause the monthly payments to rise by 30% to 50%.

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Why is the reset issue so important now? The distribution of subprime resets looks almost like a normal distribution centered on March 2008. The largest concentration of resets occurs in the fourth quarter of 2007 and the first quarter of 2008. The third quarter of 2007 shows the most rapid increase in the number of resets. Many of these borrowers assumed they would be refinancing when they reached the reset date. In the past several months, almost 50 subprime originators have ceased operations, and those that remain in business are originating loans under much more strict underwriting guidelines.

The entire section of the pool that we move through before getting to the EPD group is currently struggling to stay current, and they have not yet reached the reset date. When they try to call their friendly local mortgage broker to arrange the inevitable refinancing, they are likely to hear that familiar telephone company recording that starts "the number you have reached..."

Why is this so important to fixed-income investors today? If the hypothesis of the second wave is correct, then the implications will likely go beyond the market for subprime ABS. Let us say that this thesis is perfectly accurate and many 2005 and 2006-vintage RMBS deals sustain principal losses of 8%-10%. If you are not a practitioner, you will have to take my word that these are reasonable loss numbers in the environment I described. These principal losses will wipe out the equity and 'BBB-' rated tranches of most RMBS deals.

This is where the leverage and complexity part sneaks up on us. Many CDOs constructed in 2005 and 2006 hold assets that are almost exclusively 'BBB-' tranches of these deals. These deals sold liabilities that were predominantly 'AAA' rated. In my 8%-10% loss scenario, large swaths of 'AAA' rated CDO paper will take substantial hits to principal or will be wiped out entirely. If we get to this stage of the second wave hypothesis, further prognostications obviously become more difficult to make. One thing that seems clear is that we are no where near the bottom of this housing correction. In our view, the most likely outcome is that we are facing a multi-year corrective phase that will include lower house prices and much higher foreclosure rates.

So what have people gotten wrong this time? Stated simply, the benefits of geographic diversification will not help in this upcoming episode. Historically, the two variables that are most predictive of increased defaults are employment conditions and home price appreciation. A strong economy kept people working, enabling them to continue to service their debts, while rising home values increased home equity, creating the incentive to service a mortgage.

The major flaw in the ratings agency analysis is that they continue to rely on the concept of geographic diversification to avoid correlated default events. Historically, the U.S. has experienced pockets of regional housing market depreciation but the overall market, as measured by national averages, never sank into negative territory. The periods of localized depreciation were normally a result of regional economic development such as the Texas oil bust or the impact of defense spending cutbacks in California. A regional increase in unemployment resulted in a soft regional housing market.

The ABS structure today continues to rely on this rolling softness concept. If one regional market does poorly, the others will pick up the slack, and everything will be OK. The problem is that two major changes have occurred. The first major change is the prevalence of initial rates that have been artificially teased lower to create the illusion of a serviceable monthly payment. To a mortgagor, the reset of a mortgage from a teaser rate to a fully indexed rate is equivalent to an hourly worker having his hours cut back. After the reset, the worker needs to allocate a greater percentage of his after-tax income to service the mortgage debt.

The data that we have examined lead us to believe that in many cases the debt will immediately become unserviceable after the reset. The prevalence of resets will create a correlated national event of increased defaults. From Portland to Miami, the financial impact of these resets will be causing massive increases in foreclosure activity, putting further downward pressure on home prices.

The second very simple principle that has changed is the homeowner's equity exposure to a default. Historically, a homeowner had a significant down payment that was at risk if a default resulted in a foreclosure sale. The reduction of required down payments and the increased use of second-lien mortgages have substantially reduced this barrier to defaults. Many of the new homeowners that have been created in the last several years are really just renters in disguise, without any real equity value at risk. The total lack of home appreciation over the past 18 months will only exacerbate this situation.

Once the gapping wider process starts it is likely to have broad implications for all credit and equity instruments, and ultimately a large negative impact on the real economy.

If the sequence of events that I have described turns out to be mostly accurate, then it will have portfolio implications for everyone. We could find ourselves in an environment where the entire ratings agency process comes into question. In that environment, it is likely that credit spreads will move substantially wider as investors begin to realize that credit risk does actually still exist.

An important issue for everybody to think about is that we have been in an environment where credit spreads have been ratcheting tighter for the past five to six years. You have to ask yourself the following questions:

- Is that rational?
- What has that happened?
- Are companies better managed?
- Are companies more efficiently managing their balance sheets? or
- Is there something else at work?

Our view is that there is a feedback mechanism at work here. The proliferation of structured credit products, creating a bid under credit, has resulted in a consistently contracting credit spread environment. And anything that occurs—perhaps the sequence of events that I described—could make it unravel. When that event does occur, you could be exposed to a sequence of events where all fixed-income credit becomes correlated and begins to gap wider.

Once the gapping wider process starts it is likely to have broad implications for all credit and equity instruments, and ultimately a large negative impact on the real economy.

We have seen something interesting in the way that the structured credit markets in residential mortgages have developed. Originally you had to find somebody to buy the 'BBB', you had to find somebody to buy the equity, and you had to find somebody to buy the 'BBB-' tranche. Then they said: "Hey, I've got an idea: how about we make a CDO that only buys 'BBB-' tranches."

That works for a while. Then all of sudden people start getting a little tired of the CDOs and who is going to buy the bottom tranches of the CDOs. They then say: "Hey, let's make a CDO squared, and those guys will buy it." There are CDO cubes out there, and it effectively turns into nonsense. So ultimately it is really just piling leverage on leverage, and when it unwinds it is likely to be ugly. So just be aware of it. ●

Elliott Associates is an $8 billion assets under management multi-strategy hedge fund. **Brian Miller** joined Elliott in 1991. He is currently a senior portfolio manager, risk manager, and director of U.S. trading in Elliott's N.Y. office. Mr. Miller also manages Energy trading, Structured Credit trading, and U.S. Event-driven strategies business units.

# Key Factors For Finding The Right Manager

**Claudio Phillips,** Commonfund | June 5, 2007

There are several issues to consider when choosing a credit manager. It is not just about doing the legal diligence, which is hugely important and a certain given building block. It is not just about doing the financial due diligence on the audited financials of a fund or a manager because that also is a building block. Risk management is another building block, as is comparing performance results. These are all givens.

There are also four other areas that are needed to explore in order to understand how we should be looking at asset allocation and deciding which managers could be the most effective.

Point one is something where I probably have an advantage and is difficult to replicate. When I was on the sell side, my favorite accounts were those that when I showed them a loan, a bond, or commercial paper they would say: "That is great; it looks pretty good and we had a good time at the Yankees game. OK, here's your trade!" I love those guys!

The guys I did not like as much were the ones that actually made me work and do the due diligence that they needed to make a decision. In fact, when I first joined the allocation side, managers were quite surprised when I gave them a phone call and said: "How are you doing?" They would reply: "I thought you hated us!" I would then say: "Well, I did, absolutely, but I'm looking at it from a different perspective now, and I need to make sure that you're doing your due diligence."

That is a factor when you are talking to a manager. Start from the very basics:

- How do you find an asset?
- How do you look at it?
- Who else is looking at it with you?
- Is it a team deal?
- Is it a club deal?

Just find out how much diligence they actually do on assets. It sounds very simple, but in fact, from my side of the table, I can see that there is a huge disparity. Intuitively I knew that for 20 years, but now I can tell you that there is quite a disparity among managers on the level of diligence done on individual credits.

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The second thing that I would like to talk about is manager portfolio transparency. It is becoming more important as we see less and less credit opportunities, especially on the stress and distressed side. Spreads are becoming tighter and tighter, and there are major multi-billion dollar issuances. You have to make sure that your manager is providing very timely transparency.

With most assets that are liquid, make sure they are marked-to-market correctly. Historically in less liquid markets, you did have a little bit of wiggle room because there were illiquid assets. You were able to choose fair value, and sometimes the fair value would be different. But now, as much of these markets have become more liquid, I believe it is vital that that these managers, especially from my perspective managing a fund of funds, are not over-exposed in either a particular name or a particular sector.

I think the highest profile example of that potential trap-fall is the GMAC sale by GM to a high profile fund manager. GMAC was a huge deal that was syndicated among a group of managers. If I look in my portfolio I see not just one manager involved in GMAC on the debt side—or as we talked about, on the equity side—but a whole group. So do I really want that much exposure in one industry or in one company?

Again, we are not in a position where I am automatically going to short GMAC or buy credit default swaps (CDS) against GMAC, but we have to be aware of that. So when it comes time to put more allocations to work, maybe we do not want someone who has exposure to the auto sector. So transparency from that perspective means that you need to know what your risks are.

Managers are a bit loathe giving transparency: It is more work for them—they are busy doing their deals, etc., trying to increase the returns; and they have egos: "Boy, I don't want the world to know that I'm doing this! Or, I don't want so-and-so to know I'm doing that!"

The fact of the matter is that egos abound in the industry and there is no way that one manager really cares what another manager is doing. I had that conversation with a manager who told me that he could not give me the transparency I needed because if it leaked out, "other people were going to follow our lead." The manager's returns were absolutely horrible and no one was going to follow him. In fact, he would be used as a counter-indicator! He did not think that was as funny as I did.

The third point is experience. It is not about whether a manager has four or five years experience or 20 years of experience. This particular market has been an unprecedented credit-friendly market. Starting probably toward the beginning of 2003 and going well into 2007, default rates have been historically low. It was reported that the loan default rate on a rolling 12-month basis was at 0.29%. It is a number that I am not really familiar with, having gone through several cycles before. As a result, these managers now have new toys, for lack of a better word. We have the credit default swap market; we have the loan-only credit default swap markets; and we have the Asset-Backed Securities Index markets. These tools are very useful.

The market has shown that it has been able to increase returns. By any stretch of the imagination, it has grown exponentially. It also has the risks. Going back to the transparency issue, we have to make sure that the manager is putting forth exactly what the risks are when you are either buying or selling protection from that perspective.

But the fact of the matter is that these new tools have not been tested in the rainstorm. We do not know when or from where it is going to come, but we have to be aware of managers that have been lulled into a sense of complacency for the past four years. They have not been punished for being long credit. They would have been punished for being concerned about credit if buying CDS. If they are buying protection, they have been paying the price. However, sooner or later it will turn.

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There is a debate about that but I believe that from my perspective, you have to make sure that you understand your new toys, such as:

- What are the legal contracts between two parties in an OTC CDS agreement?
- What is the position of a second lien in the capital structure?
- What exactly are creditor rights in a third lien? It seems a creditor has all the risk of equity without the equity upside.

We do not know the above points because they have not been tested in a stressed environment. With that in mind, those are decisions that we as allocators will have to decide: what sort of managers do we want to work with? But on the other hand, when we do find a manager that is involved with these new tools, we have to make sure that the manager has the legal know-how. The manager needs either a group of lawyers or a group of structuring professionals that can dissect a loan agreement or a second lien and ask:

- What exactly is it worth?
- What are our risks?
- Is it senior to the unsecured bonds and junior to the loans?

We do not know yet. It has not really been tested on a grand scale. There have been times when we have seen a default or a near default on a second lien but it was refinanced before there was any sort of a confrontation between the bond holders, equity holders, and the loan holders.

So we have to have some sort of a legal outline as to what these new asset classes are, and we have to have a department or a group of people within that fund that can actually look at it and have some sort of opinion. One way or another, that role must be filled.

As we know, we are in an unprecedented, very credit-friendly environment.

Once it breaks, you need to make sure that you have the ability to do work-outs. A credit manager is going to be long, and with some assets going from par to the 20s, you are going to be on a workout committee. I have been on workout committees. You have to have people who have that experience if you are going to manage credit because these problems are not going away. With all the unprecedented amount of debt that has been issued in the past three years, there will be defaults and following these defaults, there will be a need to work out the bankruptcy. They are not going to be fun workouts. Everyone is going to be in the same boat. There are going to be legal issues.

Make sure that if a manager is going to be playing in a pure credit spectrum, the manager has the ability, if and when the tide turns, to be ready to work out these assets.

Another characteristic is innovativeness. We have not seen a lot of that. If there is a manager out there who tells you that he or she has a capital structure trading strategy (i.e. buying equity against selling debt, buying senior debt, shorting junior debt, trading CDS against cash, etc.) that is not really innovative. There are a lot of people doing that. I get five phone calls a week from managers who say: "We've got this new idea; we're going to trade the capital structure."

My response? "That's neat; take a number!"

New ideas must always be ahead of the next danger curve. I asked a manager what happens if the apocalypse comes and that huge investment bank that the manager had assumed would always be there to make markets and honor those CDS suddenly disappeared.

The manager agreed that this is going to be an issue but that they are buying way out-of-the money puts on this huge investment bank's equity as insurance. That makes sense. To me, that is innovativeness. So dig a little bit deeper than just "we're hedged and wedged." What is beneath that hedge and wedge? What is beneath that corporate structured trading? There is a lot of innovativeness and smart people out there, you just have to dig deeper to find them. The next liquidity and credit crisis will do a thorough job of separating the good from the lucky mangers. ●

The next liquidity and credit crisis will do a thorough job of separating the good from the lucky mangers.

**Claudio Phillips** is a managing director at the Commonfund. He joined Commonfund in 2006 from The Seaport Group where he was responsible for running the performing and non-performing bank loan trading group. Mr. Phillips' previous experience includes his role as a managing director at Citigroup/Salomon Smith Barney and was also with NationsBank and Midland Plc. He also served as an assistant executive director at Habitat for Humanity for two years. He received his A.B from Harvard University.

# Let The Buyer Beware: It's 1987 All Over Again

**Jules Kroll,** Kroll Inc. | March 9, 2006

I am going to put myself in the shoes of the hedge fund and private equity industries and touch on the investigative aspect of things. I am also part of the Enron club, so to speak, in that probably our largest business is running companies that are in bankruptcy. One of those companies happens to be Enron. It is been fascinating doing the pathology after the body is left for dead.

Let me talk for a moment in historical terms and then try to predict what I think is going to happen. A recent *Wall Street Journal* had an article on International Management Associates out of Atlanta—a good old-fashioned, down-home fraud. It was a $185 million hedge fund put under receivership last month. We are working on that. We are looking for the money. It is a kind of post-fact situation, but the journalists who wrote about that story laid out some of the most basic things that were not done.

Then there is the Bayou Management case, a once $400 million hedge fund that collapsed in 2005 and whose two founders pleaded guilty to fraud charges. We all refer to these things as aberrations but they are not. We have phony results put out by companies concerning their performances; we have the staggering influence of the hedge fund industry and the private equity industry; and we have the fact that hedge funds are becoming private equity outfits and private equity outfits are becoming hedge funds. It is the convergence of all that.

People who do it right, try to set standards, try to think ahead and make their reputations based on that, are getting put into the same bouillabaisse because of the staggering sums of money that people are making in the private equity and hedge fund game. Here is what is going to happen. First, you are going to see more Bayous and more International Management Associates because there is dumb money going to people who just are not good investors. They can not hold on to the investment capital that people give them.

Some of those people will take the honorable path; they will close the fund and give the money back. Others are not so easily moved in that direction, and will either start to engage in more aggressive activities or they will feel the pressure to keep that 2% and 20% rolling in while they cheat. They will tell their clients that their performance is really 14.6% while the rest of those dummies are only doing 4.5% because they have an unusual strategy. We all become prisoners of what we think and say and what other people think we are and what our approach is.

> It feels a little bit like early 1987, where there is a lot of money going to people who have no clue on what they are doing.

It feels a little bit like early 1987, where there is a lot of money going to people who have no clue on what they are doing but they have been able to raise the money. Consider the implications of that and the behavior.

There are a series of techniques that can be used when you have the opportunity, and time, for direct discussions with hedge funds. Certain people are going to go about this in a methodical way if they have a concern or are careful how they run their business. I do not believe that is a high percentage of the private equity and hedge fund population. There are relatively few people who seek outside expertise. Look at the accountants that are typically hired. The accountant's role in a private equity transaction is to do just enough work to make sure you get the terms and conditions that will allow you to borrow money at the bank and put in the right amount of leverage. It typically does not involve the hard kicking, the scratching through documents, and the probing because there is not enough time.

Usually there is competition for these deals if they are any good, and sometimes even if they are not. As a result, what you get is just enough to either "have something in the file" or you are under such time pressure that you will limit the amount of work by outside professionals such as lawyers, accountants, special consultants, or organizations such as mine.

I encourage different kinds of folks in the business because they will have different life experiences. You want people who have different mind-sets and different experiences.

As a result, what you see are more and more inaccurate performance results. You see more and more people under pressure to perform. So how do we look into that in such a way that we can get higher quality information?

There are a series of things one can do. When you think about how much you actually looked into the position you consider and how long you are in the decision-making and research mode, we all operate under time constraints. Typically you want to go for the information. If you move beyond the interviewing stage and focus on the paper stage, then you have a chance to do both your paperwork and conversational work when you get the chance—and hopefully you do it well.

We think that we are not doing as good a job in interviewing as we ought to. We think in certain parts of our business we have become stale, and we have too many people who look like each other. Besides hiring forensic accountants, we recently recruited a newspaper reporter who has won two Pulitzer Prizes for investigative reporting.

Think about who works in your organizations. How much diversity of thinking and experience do you really have, or are you just pulling them out of the cookie cutter from XYZ investment bank and XYZ business school? I encourage different kinds of folks in the business because they will have different life experiences. You want people who have different mind-sets and different experiences. If you have the time and if

**Jules Kroll** is the founder of Kroll Inc., the world's leading risk consulting company, and vice chairman of Marsh Inc., the world's leading risk and insurance services firm. He also serves on the board of directors of Marsh Inc. and on the International Advisory Board of Marsh & McLennan Companies, Inc. Mr. Kroll is the acknowledged founder of the modern investigations, intelligence, and security industry.

In 1972, when he established Kroll Associates Inc. as a consultant to corporate purchasing departments, he created the prototype for a new breed of professional service firm dedicated to mitigating risk. By employing former prosecutors, law enforcement officials, journalists, and academics who utilized sophisticated fact-finding techniques to address decision makers' needs for accurate information, Mr. Kroll established investigations and risk consulting as valuable corporate services. In the early 1990s, Mr. Kroll gained worldwide renown for his firm's success in searching for assets hidden by Jean-Claude Duvalier, Ferdinand and Imelda Marcos, and Saddam Hussein. Since 1997, his vision of providing clients with a full spectrum of risk consulting services propelled the firm's growth as a public company, in particular, its acquisition of employee screening, forensic accounting, data recovery, and corporate advisory and restructuring firms. This vision was fully realized in July 2004 when Kroll was acquired by Marsh & McLennan Companies. The recipient of numerous awards throughout his career, Mr. Kroll was named "Entrepreneur of the Year" by Cornell University in 2003 and was honored with the U.S. Entrepreneurial Award by BritishAmerican Business Inc. in 2002.

Mr. Kroll received a B.A. degree from Cornell University in 1963 and an LOB degree from Georgetown University Law Center in 1966. He was admitted to the New York Bar in 1967 and began his career as an assistant district attorney in Manhattan. He currently serves as a member of the board of visitors of the Georgetown University Law Center. He is a former member of the board of directors of Presidential Life Insurance Co., Board of Regents of Georgetown University, and Board of Trustees of Cornell University.

you are willing to make the investment to create that sort of diversity of thinking and experiences, it can be useful.

What I have found is that at some point in time, of course, the whole soft dollar game will go away because it is semi-corrupted. People need to do their own work. But there is an obsessive behavior about not wanting to spend money on the expense line and running up the administrative costs. That is just a reality. As a result, you have a whole series of outcomes that flow from that.

I love the expression "activist investor." Some of these activist investors are doing good things. They are taking interesting positions and they are stirring the pot. Tweedy, Browne Co. looked into Hollinger International after many years of being a Hollinger shareholder. It insisted on probing and trying to get underneath of what was going on at that firm. We applaud that serious work. Probably no one knew how weird and strange Hollinger was being run until Tweedy, Browne Co. exposed questionable executive compensation.

But what you are going to see is a reaction. You will see certain hedge funds and certain short players being sued by companies that they've been looking at. The people that have been engaged to do the research also are being caught up in the suit.

We will see more of that in the future. Think of it: increased activism to get returns, combined with people who feel they are being maligned and badly treated—rightly or wrongly—and the inevitable will happen. They will bring in lawsuits, try to get their favorite politician or regulator to intervene, and we'll be off to the races.

Instinct dictates that you do your due diligence. But, you are doing it in a certain context now, and that context is: Welcome back to 1987. ●

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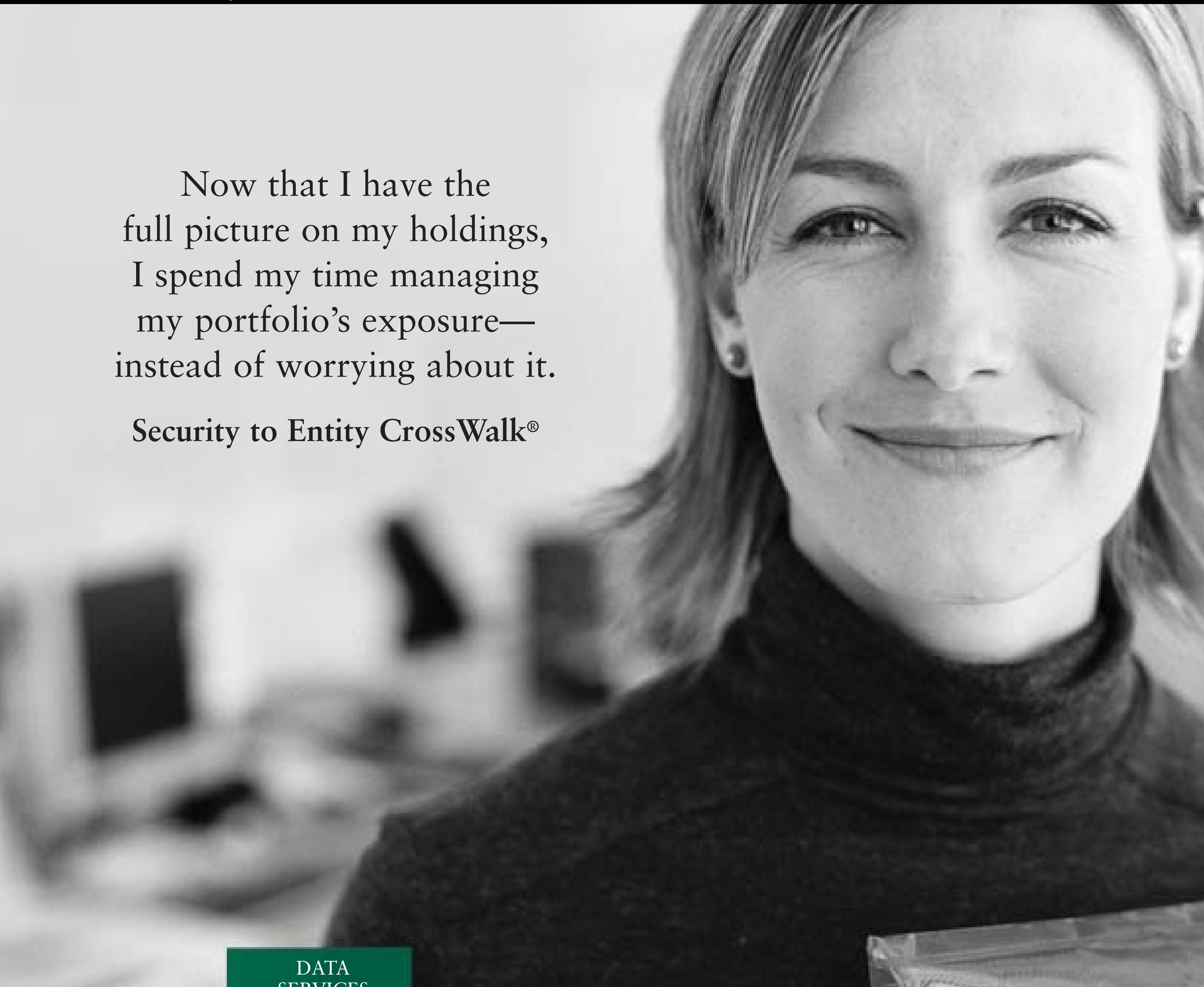


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# Straight Talk On The Smartest Guys In The Room

**Bethany McLean,** Fortune Magazine | March 9, 2006

My involvement with Enron Corp. started back in early 2001 when Enron was an "it" stock. I believe its stock sold at something like 60 times earnings. It had gone up some 90% in the year before. Every Wall Street analyst who covered the company, with one exception, had a "buy" rating on the stock.

My connection started with a tip from a short-seller, who called me to say that I should take a closer look at Enron's numbers. He was very amused, because *Fortune* magazine, where I work, had named Enron its most innovative company for the past six years running. I like to defend my magazine by pointing out that Enron actually was the most innovative company out there. But we all failed to recognize just how innovative they were at Enron!

When I began talking about my Enron experience, people asked me how I could take a tip from a short-seller. "They're biased," they would say, adding "they want a stock to go down." I take tips from everybody. I think everybody is biased, whether it's a short-seller, company management, a portfolio manager who owns the stock, or a public relations person. Everybody has a bias, and so the trick is just knowing what that bias is, understanding it, and working with it from there. I do not discriminate. I'll talk to just about anybody.

The next step is: Can the information the person gives you be supported from an independent source? Even though the short-seller was an off-the-record source, he told me to go to Enron's financial statements. After getting any kind of information, I usually go to whatever documents I can to see if it can be supported. In Enron's financial statements it was pretty apparent on the surface that something just did not add up. I am by no means an accountant, but I always look at the difference between a company's earnings and its cash flow. In Enron's case, while its earnings were marching up nicely at 15% a year, its cash flow from operations was actually negative. The debt on its balance sheet was mushrooming, and its return on invested capital was around 7%, which made no sense for a company that was supposedly incredibly profitable and had this incredibly high price-to-earnings ratio.

> There is nothing like digging through a document and putting together your own analysis so that you understand where every piece of something came from.

There were all these weird disclosures in Enron's financial statements about a fund that was run by its CFO and was doing business with Enron. I had never seen anything like that before. So this tip was pretty easily supported by stuff in the documents.

I often do this because of my previous background at Goldman Sachs where I did all my own spread sheets in order to lay out my numbers. I was not relying on anybody else's analysis or anybody else's numbers. I am sure a lot of people have analysts who do numbers for them, but I have never found any substitute for doing it myself. There is nothing like digging through a document and putting together your own analysis so that you understand where every piece of something came from.

The resulting article had the headline that read: "Is Enron Overpriced?" I wanted the headline to read: "Is Enron a Hedge Fund in Drag?" but lost my nerve at the last minute.

Contrary to perception, reporters do care about accuracy. I quite honestly learned more from my mistakes in covering that story than from anything I did right. I would say one big mistake on my part was that I was too naive. When I wrote this story, I questioned a lot of Enron's financial statements but I did not write at all about these partnerships that were run by the CFO because the accountants and the board of directors had signed off on them. I thought that if the accountants and the board of directors signed off on them, I guess I must be crazy to think something is wrong here.

The lesson I have taken away from that is that you can never trust gatekeepers because they may have gotten it wrong. Even the most reputable of gatekeepers, like Arthur Andersen, and a celebrated board of directors, get it wrong badly. It never pays to be naive.

The other lesson I took away from it was the red flags in Enron's management behavior toward me. Most companies do not take it kindly when reporters come knocking with skeptical questions. Companies employ armies of public relations people whose sole job seems to be to turn the press into an extension of their advertising campaigns. Nonetheless, Enron's reaction was like nothing I had ever experienced. Jeffrey Skilling became very agitated with me on the phone, and accused me of being unethical because I had not done enough homework and if I had I would see how silly the questions I was asking were.

That is a really scary thing for a reporter to be told, because the truth is you could always have done more homework. They might be right. You could still be getting it wrong, no matter how much work you have done.

Enron was also an extraordinarily promotional company at that time. At that time I believe its stock was around $80 a share and Skilling was saying that it should be $126 a share. That incredibly promotional attitude should have been another clue for me that something really could be deeply wrong here if the company was that obsessed with its stock price.

I did something else in the course of writing the Enron story that I have always found helpful, and that is to have somebody else in the room with me. Enron executives flew up to New York to talk to me before the story ran, and I had two of my editors sit in on this meeting. I do not know if this is true of everybody, but I have always found that when you have to present a case and ask questions, it is often very hard at the same time to really do justice to listening to somebody else's answers, especially if you are in a confrontational situation. It is different if you have set up a relationship with a source; obviously you can listen. But when you are really having to confront somebody else, especially a group of people, I find it helpful to get somebody else in there, somebody independent who can hear what is being asked and what is being answered. Oddly enough after this meeting, it was my two editors who told me to make the story tougher because they did not answer any of my questions.

I learned some real lessons about investigating from this process. The biggest one is that there is no efficient way to do it.

I never expected that the Enron story would turn into a big story. People and the press talk about looking for a big story, and I never saw it that way at the time. I thought there was something really interesting here. Here was this celebrated company and something just did not add up. The company's fundamentals did not appear to justify the level of interest. When I talked to people, even though no one would talk to me on the record, portfolio managers, even those who owned the stock, would say things like they were scared of them or characterize their meetings for analysts and investors as revival meetings!

If you had told me at that time that Enron was going to be bankrupt nine months later, I would have thought you were kidding me. So when people say I broke the story, I always say that I was not even close. I raised a few early questions, but I did not go nearly far enough. After Enron's bankruptcy, I began to work on a book about the company. That was one of the most terrifying experiences of my life—the early stages of this book contract. I had a book contract because I had landed in the middle of this story. It was very easy to get a contract. But now there was stuff about Enron on the front page of the paper every day. My co-author and I just had no idea how we were going pull this off. We knew the only way to tell the story was going to be to get ex-employees to talk, but because of the criminal investigation surrounding the company, no one wanted to talk.

There were days when I would call 20 or 30 people and no one would call me back. That sort of stuff becomes pretty wearing. As a journalist, you have nothing but your own powers of persuasion to get people to talk to you. I have been in the courtroom for a while getting to know the prosecutors and the FBI on the Enron story. If I had subpoena powers, I could have done some real damage.

I learned some real lessons about investigating from this process. The biggest one is that there is no efficient way to do it. There is no way you can streamline it. I talk to anybody who will talk to me. I call everybody I can think of, anybody with any connection to the company, anybody at any level of the company, because you never know who is going to have interesting information and you can not handicap who is likely to talk to you. You can not predict who is going to be interesting and helpful to you either, because often people at junior levels in the company, maybe even people in the PR ranks, happen to have the best insight into what happened.

I think especially in the case of a company like Enron, the level of self-delusion rises the higher you go in the ranks. Even if you talk to Enron executives in the years after the bankruptcy, it was not as if they were going to say: “Here’s what was wrong and here’s how we did it.” I do not think many of them had even admitted it to themselves. It is another lesson about human nature that I came away with from this. I used to think the world was more black and white: either people were doing something wrong and they knew it, or they were not and they did not know it. But I did not understand how prevalent self-delusion can be, especially in the upper ranks of management, and how slow that process by which we rationalize and deceive ourselves can be. The short-seller said to me once that he had never met the CEO of a fraudulent company who had not somehow come to believe. That was certainly true of the people at Enron.

I did not understand how prevalent self-delusion can be, especially in the upper ranks of management, and how slow that process by which we rationalize and deceive ourselves can be.

The other thing that helped in our investigation, and it was not efficient, was that I went through every single document, every single piece of information I could get my hands on. My process when I am working on any story is the more the better. Any document I can get my hands on, anything, I will dig through it.

You really do find the most surprising tidbits buried in the back of places. The bankruptcy examiner in the Enron case put out thousands of pages of detailed reports on everything that had gone wrong with the company and there was amazing stuff in there. I also learned that just because everybody knows something is out there does not mean there is not really interesting stuff there anyway. That is true when you think back to the beginning of the Enron story. This stuff about Andy Fastow’s partnerships was in Enron’s financial statement since 1999 or 2000 and nobody looked and nobody cared until all of a sudden everybody cared. But it was right there for the looking.

In the course of investigating the Enron story, the Federal Energy Regulatory Commission put something like a million documents on its website. There were documents that did not have anything to do with the California energy crisis—just documents it had gotten from Enron. These documents were completely unorganized. At the risk of betraying how obsessive I am, my co-author and I would sit there at 3 a.m. hunting and pecking on documents and then calling each other up about what we found.

I found this great Enron internal document showing their earnings targets for the year and how far behind they were, and that they were short of their earnings targets by something like a billion dollars in the summer of 2001. This was a mystery to me. I could not figure out how they then managed to produce third-quarter earnings that after a whole bunch of supposedly one-time charges actually met Wall Street expectations. It came out in the trial that what happened was they had reversed an enormous amount of reserves from the California energy crisis to cover this huge gap.

So no matter how much work you do, there is always a new piece of information that you can find out. ●

**Bethany McLean** graduated from Williams College in 1992 with a double major in mathematics and English. From 1992 to 1995, she worked as an investment banking analyst at Goldman Sachs, spending two years in the Mergers and Acquisitions Department and one year in Real Estate Principal Investing. In 1995, she joined Fortune Magazine as a reporter. Her March 2001 story “Is Enron Overpriced?” has been recognized as one of the first pieces that asked questions about Enron’s financial statements. In the fall of 2003, *The Smartest Guys in the Room*, the book she co-authored with Peter Elkind about Enron’s rise and fall, was released. The book was subsequently made into a documentary film, which was nominated for an Academy Award in 2006. Ms. McLean is currently a senior writer at Fortune, and covers a wide range of topics, with recent stories ranging from the controversy at Overstock.com to Sallie Mae.

# Intelligence Gathering Using The CIA Model

**Jim Roth,** The Langley Group | March 9, 2006

I recognize the irony of my discussion of due diligence before sophisticated investors. My first commercial due diligence project resulted in my leaving a very good career with the CIA to go with a sure thing that turned out to be Enron.

I am going to address the art of intelligence collection. I will start with background on the CIA's intelligence collection model and then discuss how some of those techniques can be applied to due diligence on hedge funds.

The CIA model involves a number of roles and skill sets that include a case officer, the person in the field whose expertise is in establishing networks of clandestine sources and exploiting them for information through a variety of different methods that include interrogation, which is coercive; debriefings, which involve cooperative interviewees; and elicitation, where the sources are not aware that they are being targeted subtly for information. (Elicitation is the most common method of getting information, one that's used by intelligence operatives at every diplomatic cocktail party.)

There is also the reports officer, who is based in Washington and is a substantive expert, usually covering a specific issue such as the Russian military or state-sponsored terrorism. They interact very closely with Washington policy makers on their areas of expertise. They keep up with imminent policy decisions to identify gaps, uncertainties, and contradictions in the information that is available to policy makers. Then they take that data and translate it into what we call intelligence collection requirements, which go out to case officers all over the world.

Then of course there is the policy maker, who is the ultimate consumer of intelligence. It is fair to say that probably 95% of the information that policy makers use comes from a combination of diplomatic reporting and open-source reporting. But they recognize that much of that information represents the "party line"—what foreign governments want us to think, and often it is deliberately misleading. I am sure, for example, that the Secretary of State still receives regular diplomatic cables that say a North Korean official has once again assured us that North Korea is not in fact interested in building a nuclear program. That is spin. It is not true. Policy makers consequently rely on intelligence, both to fill in gaps in the information and to cut through the spin. So, even though intelligence makes up a small part of the whole package, it is crucial to making a well-informed decision.

> Intelligence collection, in its simplest form, consists of three basic elements, whether it is in the government world or in the private sector.

When that cycle I have described works well—and I am aware that the CIA intelligence collection cycle does not always work well—it is a very interactive and very dynamic process. It involves case officers from all over the world sending in intelligence information and policy makers reading it on a daily basis, having it influence their decisions, and giving feedback to reports officers to refine their collection requirements. It is a very dynamic, continuous cycle.

It occurred to me when I was reading the Greenwich Roundtable's Due Diligence guidelines on hedge funds that you are all really replicating the functions I just described in the CIA's intelligence collection model. I thought it would be of some interest to talk about the finer points of these roles as they may relate to your due diligence efforts.

Intelligence collection, in its simplest form, consists of three basic elements, whether it is in the government world or in the private sector. Those basic elements include:

- Finding people who have insights that are important to making an informed decision;

- Getting them to speak to you candidly, which is not easy to do; and
- Using the resulting information to draw accurate conclusions.

In applying this to due diligence for investors, I am going to make a distinction between interviewing hedge fund managers and interviewing third parties *about* hedge fund managers. In interviewing hedge fund managers, or anyone who is the subject of the due diligence that you are doing, it is important to approach the interview questions very strategically. Coming up with the right due diligence issues to address is only half of the trick. It is just as important to figure out *how* to ask the questions. There are many ways to ask any given question, and it is important to put time into thinking about the most effective way to phrase the question for a given audience.

Offering a deliberately *wrong* opinion can yield even more useful information, mostly because most people just can not let a wrong opinion go unchallenged.

For example, instead of asking a hedge fund manager: "How confident are you about maintaining consistent returns with your strategy going forward?" You might consider asking: "If your strategy were to suffer diminished returns, what would be the most likely cause?" You are tackling the same issue, but asking about it in an entirely different way that elicits a very different response.

Also, in interviewing subjects of due diligence, I think it is useful to make it evident right up front that you have done your homework, but without showing your whole hand. One of the ways that you can do that is to ask questions that you already know the answers to and determine, based on the subsequent discussion, whether the answers track with your knowledge and how forthcoming they are.

As an example, I recently worked with an investor who was considering a private equity investment in an established venture that was seeking an increase in capitalization. The initial secondary research surfaced a trail of litigation involving the principal. It really was not a major concern initially because it was a very litigious sector; but subsequent intelligence on very select pieces of the litigation yielded additional concerns about the principal's cavalier attitude toward compliance with court orders and disregard for smaller counterparties—stuff that was not on the public record.

Even then, the investor was willing to give the principal the benefit of the doubt, if he had responded candidly about those issues and had reasonable explanations. In any case, in a follow up interview with him, the questions were structured very carefully to give him the opportunity to voluntarily acknowledge these issues up front. Instead, the principal very consciously decided to mislead, not realizing until later in the interview the extent of the investor's knowledge of the non-public details of the litigation. The way it ended up was the investor pulled out of the deal, not so much because of the litigation, but because of his lack of candor and credibility.

Acquiring information on third parties can sometimes benefit from a slightly different approach. Third parties are sometimes reticent to talk. I think that is especially true when they are not familiar with the due diligence process—when they have not been through it before in any way. That is a challenge that is easily overcome with good preparation and a degree of subtlety, which leads to the subject of elicitation, which can be used regardless of who you are talking to.

It would require hours of discussion to do the subject of elicitation justice. It boils down to handling a contact not as a formal interview, but more as an informal conversation. One of the ways to support that approach is to accumulate background information on each source prospect in advance of the discussion, even if they are not the subject of the due diligence. Get to know that person, find out things that you have in common, and look for ways to build rapport. If I am calling somebody in Cleveland, I am probably going to look in the newspaper to see how the Browns or the Indians are doing, and I am going weave that into the conversation.

One way to think about this is that no two interviews should be handled in the same way. Even if you are addressing the exact same questions with two people, you are still going to approach it in a slightly different way. Going into the interview, it is important to consider each individual's experience, expertise, personal interests, age, gender, and level of sophistication, and to tailor the conversation accordingly to promote candor.

On the subject of elicitation, it is important to keep in mind that some of the best information really comes without ever asking a direct question. For example, volunteering your own opinions often elicits a more detailed response than a direct question does. To take that one step further, offering a deliberately *wrong* opinion can yield even more useful information, mostly because most people just can not let a wrong opinion go unchallenged. It is just human nature, and you might as well take advantage of that.

Just as important as collecting information is evaluating the credibility of the information, which is an art form unto itself. Intelligence from human sources is often subjective and contradictory. Because of that, two people can often take the same exact raw source information and come to entirely different conclusions.

For that reason, I have always thought that real sophistication in intelligence collection comes not from the information collection itself, but rather from the ability to vet the information and to accurately analyze its significance.

I have always thought that real sophistication in intelligence collection comes not from the information collection itself, but rather from the ability to vet the information and to accurately analyze its significance.

Here are a few considerations regarding the evaluation of information. I know there is widespread interest in techniques to detect deception—kind of the human lie detector thing—and that is a useful technique, as long as you know how to use it. But you also have to understand the limitations. In my experience, it is generally easier for people who are not as familiar with it to identify verbal indicators of deception rather than physical ones. Some of the things you might look for on that front are ambiguous or incomplete answers, defensiveness, deflection of questions, answering something other than what was asked, and excessive use of qualifiers. In other words, all the things that you see in your average presidential debate!

But again, it is important to recognize what that tells you, even if you are good at it. All it really tells you is that there is some potential deception there. It does not tell you *why* somebody is lying. It does not tell you the *significance* of the lie. And it does not tell you the *true answer* to the question. Those things require good intelligence collection.

Because of that, a more important skill is the ability to assess source bias. All sources have some sort of personal bias that is going to color their insights. This does not mean that the information should be discounted, but simply that you need to consider how the bias influences the data before you reach conclusions. Evaluating the level and nature of a source's bias requires understanding his or her access to information and relationship to the subject of the inquiry. You need to understand whether or not there might be some self-serving motive for talking to you, and whether or not they are being candid.

People who are genuinely candid about something tend to offer substantiation for their views with very little prompting. If you are talking to somebody over a period of time and they offer you a lot of opinions, even strong ones, but they are not backing them up voluntarily with facts or without a lot of prodding, there is probably not a lot of credibility there. That is just the way it works.

Ironically, sometimes the most useful information, especially on subjective issues, comes from sources that do have a strong predisposition about something, but provide opinions that conflict with their personal interests. I worked with an investor who was evaluating a private equity fund, and in the course of doing some intelligence collection I spoke with a long-time business partner of the fund's principals, who conceded that even though the fund had been very successful from the beginning, the long-term prospects were questionable because of its narrow market niche and a limited window for the type of asset acquisition in question. The point in this particular case is that I would be inclined to assign a very high level of credibility to that opinion, not simply because of his intimate access to the information, but also because his opinion really went against his own personal interests.

In reaching accurate conclusions about any issue that involves significant due diligence or intelligence collection, there is really no substitute for speaking with a wide range of sources who can provide insights from a lot of different perspectives. ●

**Jim Roth** served for nearly 15 years with the CIA in a variety of international assignments in the Middle East, Europe, and the South Pacific. He is now CEO of The Langley Group, which provides customized research and analytical services to hedge funds, investment banks, and private equity firms managing at least $1 billion in assets. The Langley Group, whose services support sound and well-informed investment decision-making, has offices in Washington and Europe.

# Taking Steps To Mitigate The Probabilities Of A Systemic Event

**Dino Kos,** Federal Reserve Bank of New York | Oct. 4, 2005

Let me start with three interrelated concepts: liquidity, leverage, and risk appetite. Liquidity is how easily one can get in or out of positions without moving the price. Leverage refers to the ability to control large dollar amounts of an asset with a comparatively small amount of capital. Leverage can be achieved through borrowing money or by transacting in instruments with "embedded" leverage. Finally there is risk appetite or the willingness of investors to take on risky positions.

These are all difficult concepts because they cannot be observed or measured with precision—and yet crucially important for market participants and policy makers. And these concepts interact with and at times reinforce each other. For example, we can only infer risk appetite and even then we often use other indicators such as the degree of leverage (to the extent we can measure it) to tell us about risk appetite.

These three factors often coalesce during the "up" part of the cycle. The three become self-reinforcing: risk appetite rises, encourages more leverage, more trading, and enhances liquidity. The presence of liquidity, in turn, provides confidence to investors and risk appetites rise to a new level as the cycle continues. Unfortunately once the cycle peaks, those same dynamics can work in the opposite direction. Losses lead to risk aversion, a reduction of leverage and positions, and a decrease in liquidity as dealers and investors protect their balance sheets by reducing risk.

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These days it is impossible to talk about the broad topic without addressing the role of hedge funds in markets. Hedge funds and other speculators are often "blamed" whenever there are large and sudden price movements. Some commentators view the unwinding of leveraged positions as accelerating those price moves, whether that liquidation is voluntary or involuntary. Many of those observers, implicitly or explicitly, conclude that leveraged speculators are a destabilizing force because on the upside their trading can push prices above some notion of equilibrium and, on the downside, they may accelerate falling prices because of forced liquidations to meet margin calls.

Is there validity to this claim? Unfortunately there is very little evidence and academics have only begun to conduct analysis in this area. One of the Federal Reserve's economists took a stab at this recently by analyzing the behavior of leverage speculators in the interest rate swaps market. He asked whether such trading was stabilizing or destabilizing. His conclusion was that most of the time this trading is stabilizing. Why? In the vast majority of instances the evidence suggests that hedge funds add to the efficiency of the marketplace. When an asset price or relationship gets out of line, hedge funds step in and pull it back into line. Such trading in turn also adds to the liquidity of the marketplace.

Even during some periods of distress hedge funds can play a constructive role. The summer of 2003 may have been such a period. The bond market sold-off hard in late June and all of July; there was a lot of turmoil in the mortgage-backed securities (MBS) and volatility rose sharply. According to some of the analysis, hedge funds stepped into the breach and started selling volatility. That helped to stabilize the situation.

On the other hand, the same Fed researcher found that leveraged trading, in isolated instances, can have destabilizing effects. The problem is that those very few instances are, by definition, at the most inopportune times: when there is some exogenous shock where the speculators incur losses, and that forces them to start to liquidate positions. The fall of 1998 is such an example, when hedge funds did not have the "dry powder" to step into the breach, and instead were liquidating along with other investors and dealers. In this example they were an accelerant.

Two factors seem to be relevant: Is there some shock that affects the market and that affects positions? And how much leverage is in the system? These two factors together may well determine whether we have a problem or not.

In a worse-case scenario, a tightening of financial conditions leads to higher borrowing costs for consumers and businesses. In short, a Wall Street event has become a Main Street event.

A friend once made an analogy to kindling and a spark. If there is both a spark and kindling, there will be fire. On the other hand, if there a spark but no kindling, there will be no fire. In markets, think of leverage as the kindling and some event or shock as the spark. If the market is over-levered (however measured), that may well determine whether we have a problem or not.

Another way of looking at this is to think about the outcomes at the tails of the distribution. Traders and risk managers talk about "tail" events. By definition, at least in my view, we can not anticipate the specific events that will trigger those outcomes. But the combination of a tail event and leverage, which can lead to a reduction of liquidity, can create stress in financial markets and impair balance sheets. In a worse-case scenario, a tightening of financial conditions leads to higher borrowing costs for consumers and businesses. In short, a Wall Street event has become a Main Street event.

If you accept my hypothesis that the exogenous events that trigger tail events (the spark) cannot be anticipated ex ante, then that really puts even more onus to try and identify whether there is an excess amount of leverage in the system (the kindling). The higher the leverage, the more the system is at risk. If that is the case, then we have to ask ourselves a very mundane question: How good are we at measuring how much leverage is in the system? Unfortunately, we are not very good at it. Analysts in private sectors banks try, as do those of us in the public sector. It is a very difficult thing to do.

Let's start with the major institutions. We are good at collecting information from commercial banks. We have been using data collection for many years; we hold on-site examinations. We can measure balance sheet leverage. We are not as good at measuring the embedded leverage in some of the more complex derivatives that banks hold. Once we move beyond banks, the quality and quantity of information begins to trails off. Broker-dealers are supervised by the SEC, but the proprietary risks are usually booked elsewhere with a holding company or an affiliate. There, too, you have the problem of the embedded leverage and complex structures, and even if you had the data, interpretation would still be a problem.

One proxy for leverage that some analysts use for the largest banks and securities firms is the net open repo position for the 22 primary dealers, a number collected and published by the Federal Reserve. A chart of the net repo position of the 22 primary dealers, going back to about 1998, shows a clear upward slope and suggests that there is a lot of leverage that is being built up in that community because they are extending their net borrowings.

However, dealers also borrow securities through other means than reverse repo and those borrowings are economically and functionally the same, but for accounting reasons they are called something else. Adjusting for this, the trend is not quite as ominous as it seems to be. However, this is a very crude proxy for leverage and does not cover the desks where most dealers take risk, including the far more complex instruments with nonlinear payoffs. Therefore the reassurance that the adjusted number provides should be very small.

Once you get beyond broker-dealers, the degree of transparency drops off still more. We know much less about insurance companies even as they become increasingly more important in the derivatives markets. Part of the problem is structural. There is no federal regulator that oversees the industry and collects uniform data in a prescribed form. Instead, the insurance industry is regulated by the 50 states.

And then, if you go further out, you ultimately arrive at hedge funds—a $1 trillion industry about which we have even less data about. Informal surveys are a help but have important limitations about depth, scope, and timeliness.

If we really wanted to measure leverage accurately, it would require a Herculean effort. We would have to collect information from a range of financial institutions inside and outside of this country because the dollar financial market extends far beyond our borders. In addition, we would have to get all of those institutions to value all of their securities and derivative positions uniformly and report those positions to some central locale. I am ready to be proved wrong but that is not something that I believe is attainable in the near term.

If we cannot quite measure leverage in the way that is satisfactory, then what can the public sector do to understand the dynamics of leverage in the financial system? What steps can be taken to mitigate the probabilities of some systemic event?

If we cannot quite measure leverage in the way that is satisfactory, then what can the public sector do to understand the dynamics of leverage in the financial system?

Some observers suggest regulating hedge funds, though often for other reasons (e.g., customer protection). This would not be my starting point. There are some drawbacks to regulating the sector and those costs may exceed the benefits. In addition, clever lawyers will always be able to work around static regulations. One can envision these firms taking down the shingle bearing the name "hedge fund," putting up a new shingle calling themselves another name, and essentially carrying on as they were, perhaps with higher legal and compliance costs. Alternatively they can simply move to a different jurisdiction, unless we can get the entire globe to follow suit. But this again does not seem likely in the medium term. Even if hedge funds were regulated, the activities hedge funds now perform would migrate to other parts of the financial system. Therefore the risks from speculative activity would move elsewhere but would not be eliminated.

Instead I would start with the core of the financial system—major banks, investment banks, insurance companies, and some others perhaps—and encourage them to maintain a well-capitalized structure that can absorb unexpected losses. Second, encourage them to have robust risk management systems that measure market liquidity and counterparty risk. Third, assure that they are using not only traditional value-at-risk methodologies, but also conduct stress testing that presumes outsized, adverse, and end-of-the-world kinds of scenarios. The unwieldy named Counterparty Risk Management Policy Group II, which Gerald Corrigan chaired, had some very good suggestions including urging the largest institutions to raise the bar on risk management.

Vulnerabilities can also have their genesis when a market grows so quickly that it becomes large and integral without shedding the manual and sometimes sloppy practices that characterize most newly created markets. Those kinds of sloppy practices can take hold and become entrenched. In such cases no single firm believes that it can do the "right thing" because if others do not, then they may be disadvantaged. That is a collective action problem that probably roughly describes where we are with the current state-of-play with credit derivatives.

Credit derivative volume has risen exponentially and the notional amount outstanding of credit derivatives exceeds corporate bonds. The back office infrastructure has not kept up with the front office; we have lengthy backlogs with confirmations. There are problems with some hedge funds assigning their obligations of credit default swaps without advising the original counterparty. So in that instance, there is even uncertainty about who one's counterparty is.

**Dino Kos** is now a managing director at Morgan Stanley Investment Management in Hong Kong. At the time of this roundtable, he was executive vice president of the markets group at the Federal Reserve Bank of New York and also the manager of the System Open Market Account for the Federal Open Market Committee. The Markets Group oversees domestic open market and foreign exchange trading operations and the provisions of account services to foreign central banks. He held various roles at the Federal Reserve Bank of New York over 22 years including positions in foreign exchange, credit analysis, and bank supervision. He also took a two-year leave of absence in 1989 to work in the Secretariat of the Basel Committee on Banking/Supervision at the Bank for International Settlements.

Mr. Kos earned a B.A. degree in economics from the State University of New York at Albany and holds a MBA in finance from New York University.

The New York Fed recently hosted a meeting with 14 major banks and investment houses along with their regulators, specifically encouraging them to come up with a time frame and a set of solutions for how to deal with this. This is a good example of where the public sector and the private sector can work together to improve how the market functions and therefore also increase resiliency.

I do not believe it is the role of the public sector to outlaw the ability to make losses; that is an integral part of our economy. I do think that we can do some things that can reduce the probability that a financial event will become an event in the real economy. And if we think over the past 20 years, perhaps there has been some progress on that score. Capitalization at the major banks has improved dramatically and there has been some improvement in risk management.

I do not believe it is the role of the public sector to outlaw the ability to make losses; that is an integral part of our economy.

During that time, we have been through not only the events of 1998, but also the 1987 crash; the early 1990s credit crunch; the various emerging markets crises; Sept. 11; the bursting of the tech and telecom bubble; the corporate governance crisis that included Enron and WorldCom; and two Gulf Wars. During that time the U.S. has had two brief and shallow recessions and since 1990 no major bank or other large financial institution has collapsed. That's the good news.

The bad news is that the system is evolving, sometimes in opaque and counterintuitive ways; the risks change and we cannot presume that tomorrow's risks will be the same as yesterday's risks. That puts a premium on trying to understand what the risks are, the extent of leverage in the system, and plan how we react if there is a problem while continuing to enhance the robustness of the system so it can absorb shocks.

These are my own views and I am not speaking on behalf of the Federal Reserve Bank of New York or of the Federal Reserve System. ●

# Flying High On Assets That Are Under The Radar

**Jerry Cudzil,** DiMaio Ahmad Capital LLC | June 15, 2006

I would start out by breaking down this year's credit and market environments into two segments. The first is Jan. 3 to May 10 and the second is May 10 until June 15. In the former period, the Dow Jones Industrial Average was up 7% and the S&P 500 was up 4%. The Chicago Board of Options Exchange Volatility Index (VIX) was trading in a tight range and investment-grade credit and high-yield indices were performing very well—higher by approximately 5% on the year. In the May 10 to June 13 period, we have had destruction in the equity market. Indexes are down roughly 8% since then and we have had an increase in the VIX of 100%, basically wiping out returns in investment-grade credit and most of the returns in the high-yield market.

An increase in credit spreads played an obvious role. Credit and volatility are linked, and you have had 100% increase in volatility and a subsequent widening of credit spreads. That makes perfect sense but you have to look to the root of that and ask yourself what happened.

May 10 was the date of the last Fed rate hike and uncertainty was injected into the marketplace. A quote from the minutes: "The committee judged that some further policy firming may yet be needed to adjust inflation risks, but emphasizes that the extent or timing will depend importantly upon the outlook as implied by incoming information."

What that means, basically, is that the Fed's more data-dependent, that there is more volatility in the marketplace, and that is more volatility in the risk-free rate. If there is an increase in volatility in the risk-free rate, there will be a subsequent increase in volatility in the risky rate.

You can argue whether or not that was caused by Fed Chairman Ben Bernanke or whether it is that time in the cycle anyway. But all that means is that volatility has been brought into the marketplace and it's probably here to stay for the near-to-intermediate term. What needs to be done is to differentiate asset classes.

> But all that means is that volatility has been brought into the marketplace and it's probably here to stay for the near-to-intermediate term.

A study by Bank of America charted returns and the correlation of hedge funds relative to the volatility index. As of May, what you had is an increase in the correlation of returns as volatility decreased. Why does that happen? There has been a blurring of the lines and as those lines get blurred, the correlation of the returns gets linked, and you have a lot of investors chasing the same returns. Basically what we have here is volatility decreasing and correlations increasing.

Conversely, if you look at what has happened in the marketplace today, volatility has spiked by100%. I believe it can and has been proven that the correlation of returns increases in extreme environments (both higher and lower volatility environments.)

So that is a long-winded introduction into why uncorrelated investments make sense. The area of uncorrelated investments, in which I think there is opportunity, is aviation finance. To understand the opportunity that exists, I think it would be beneficial to briefly explain where we are in aviation finance and how we got here. After that I will highlight the opportunities and risks I see today.

Today, you have an appreciation of asset prices in the aviation space. However, what has not changed is that asset-rich and credit-poor companies need access to capital.

Aviation finance has undergone an evolution that has been probably 20-plus years in the making. If you look at aviation finance from the 1990s, you had single plane financings (basically single plane, single tranche credit), which were pretty illiquid securities. There were a couple of events in the marketplace that led to the evolution of the structure of aviation finance. It eventually evolved into multi-plane financings but still single tranche, and then that evolved into what is called enhanced equipment trust certificates. These securities are multi-planes and multi-credit tranche securities. The height of that issuance took place in 2001.

Prior to Sept. 11, the aviation industry was already facing a slowdown. Sept. 11 caused the slowdown to take place at an accelerated pace.

Today, you have an appreciation of asset prices in the aviation space. However, what has not changed is that asset-rich and credit-poor companies need access to capital. As long as that combination exists, there are going to be opportunities in aviation finance. More important, these returns are largely uncorrelated.

So, what is exciting about aviation finance and why do these investments make sense? There are three reasons these investments make a significant amount of sense. The first is that often you have multiple claims as a debt holder when you invest in these securities. You have the value of the underlying collateral and the claim back to the airline. Sometimes there will be other claims, which I will highlight later.

The second is the returns on a levered and an unlevered basis make a ridiculous amount of sense, especially given the volatility around these assets and around these returns. The perfect example of that is if you look at the compression that has taken place between some of the aviation securities in the marketplace, which essentially are unchanged. Some have actually appreciated 20 basis points (bps) to 30 bps in some sub-tranches, which is 30% to 40% tighter.

What you have had is a broader understanding of these assets and an increased ability to leverage these investments. I would not recommend running a 10x or 20x levered aviation finance fund, but if you run a 3x to 4x levered aviation finance fund, you can essentially generate low volatility, steady returns that are uncorrelated to the market and have collateral value supporting you.

The third and most exciting point about why aviation finance makes sense or why collateral makes sense is that the market continues to miscalculate the gap-to-recovery and under-appreciates asset value. The market continues to under-appreciate collateral value. With gap-to-recovery you obviously have the underlying collateral value because you are secured. If you look at the discrepancy of the difference in prices between the secured investments and the unsecured investments, where recovery is significantly different, you can actually isolate that unsecured component. Then, all you have is collateral value risk. And the opportunity is created if you understand the collateral value and what drives that collateral. I believe that opportunity has not gone away and there is going to be significant opportunity in the future.

What are the key ingredients for successful investments? You have to understand the liquidity of the collateral. Aviation is a global industry with global demands. Load factors are at all-time highs, even pre-Sept. 11. Planes are full. If you have tried to book a flight you know the difficulty of getting a seat. Therefore, there is demand for collateral. There are delays in the production lines. What that means is existing collateral is tough to get, which means there is support for these values especially when referring to the most liquid and the most transferable.

The second thing you have to understand is the strategic importance of the collateral assets to the airline itself. Let us say it is a plane that is not so desirable or not so liquid, but an airline really needs this collateral. What that means is maybe it will fly this particular aircraft on its Asia routes and that is where it generates all its profits. The airline does not have the flexibility to take that plane and try to negotiate with you. You are in a much stronger position than you otherwise would be (i.e. some other airline that generates its profits domestically and really has a small pan-Asia route or small international route.)

The third thing you have to understand is your negotiating leverage or the structural features of the deal. A lot of these deals have structural enhancements that make these structures very attractive. What you have are senior deals or sub-tranche deals that give you the right to take control of the collateral. What you can do then is put yourself in the position to control the process—to control either a liquidation or a renegotiation with an airline or a transfer of assets.

An airline can not operate without its spare parts. If it files for Chapter 11 and needs to do some maintenance, it needs spare parts to operate their airline. So you are in a very strong position with that airline.

There are two investments I would like to highlight. One is a domestic carrier that is backed by regional jets. This position was out of favor in the marketplace. It is secured by 50-seat regional jets, and airlines are moving toward 70- to 90-seaters. If values are moving lower and you understand that, why would you invest in this? You never want to make an investment in a poor asset with a weak airline. But if you have a strong airline, you will be able to dip down in collateral a little bit. What you have here is a strong airline with a little bit of weaker collateral.

On top of that, the aircraft in this deal are leased. These are all structured transactions, and instead of a mortgage, this is a lease. So attached to the lease is what's called a stipulated loss value. So now you have collateral value, plus your stipulated loss, plus the claim back to the airline. So in this transaction, there is a par recovery in just about any kind of disaster scenario you can come up with. These bonds currently yield about 9% as an unleveraged return. If you were to lever this return, you can obtain about 10x leverage. We do not employ that kind of leverage and I would not recommend it. The bottom line, however, is if you employed even a fraction of that—if you employed 3x leverage—you can get to a 20% levered return on a par asset. These are the kinds of investments available, if you dig into the marketplace, understand the structure of the deals, and you understand the claims you have. You can actually differentiate yourself because there's not a lot of volatility around these returns if you understand that you have a par recovery.

The second transaction I want to highlight is a spare parts deal. Spare parts are hard to understand. Why would anybody invest in spare parts? Maybe they are scattered. How do you get a hold of them? What exactly is a spare part? But the bottom line is that you have to understand the strategic importance of the assets to the airline. An airline can not operate without its spare parts. If it files for Chapter 11 and needs to do some maintenance, it needs spare parts to operate their airline. So you are in a very strong position with that airline. You have very strong negotiating leverage. You can take these parts if the airline fails to pay you. Section 1110 of the Bankruptcy Code allows you to take control of the asset after 60 days of failure to pay.

The bottom line is we think there is a significant amount of opportunity in this space. There has been price appreciation. We actually think there is opportunity throughout the cycle if you do your homework, which is understanding the value, strategic importance, and liquidity of the collateral in the deals. There is going to be opportunity throughout the cycle in the future. ●

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# Following The Chain Of Value

**Daniel Zwirn,** D.B. Zwirn & Co. | June 15, 2006

While the recent past has been troubling to people, it really does not seem that bad when framed in the context of what 1998, September 2001, or mid-to-late 2002 looked like. That said, there is still a significant amount of liquidity everywhere in the world.

Given the pure volume of liquidity out there, you have to think about what you are going to do, how you are going to differentiate yourself, and how you are going to get to opportunities that are not reached by that liquidity. From our perspective, the way you do that is to disintermediate the intermediaries. You have to get to those opportunities on the ground. In a world where there is a huge amount of liquidity, there becomes an inverse correlation between size of opportunity and risk-adjusted return. If you can source, analyze, and service a very great number of smaller opportunities that are completely or largely privately negotiated, you can create a sustainable competitive advantage in the marketplace.

There are many strictures within the alternative investment world that frequently preclude people from pursuing such a strategy. A number of firms have very limited lock-ups in their funds. Others have very limited mandates. There is obviously logic to that because investors do not want strategy drift. Investors do not want people doing things for which they are not qualified.

Then there are also issues regarding fee structures that limit to some extent the ability of funds to become firms—for infrastructure to be built up to be able to access things that others can not. So in our mind, in trying to frame the way we approach this and other markets, we try to look far outside the alternative investment space and, in fact, into history. We reviewed firms such as Jardine Matheson or Mitsui or some of the old British merchant banks or some of the early Texans like the Richardsons, Basses, Murchisons, Hunts, or people like the Tisch family. We looked at those people and found it very, very interesting that they did not have to care whether something was equity or debt, or foreign or domestic, or real estate or corporate. They just wanted to maximize their return per unit of risk and protect their principal.

Not only do we want to be able to do anything that makes sense, but more importantly we want to not have to do that which does not make sense as soon as it becomes so. We have tried to fashion ourselves into what we refer to as a global chaser of illiquidity. Wherever a conventional hedge fund can go, particularly those with billions and billions of dollars, sitting safely behind their Bloomberg screens, that is where I would not want to be.

> We want to look at a given asset class and really break it down into a chain of value. And along that chain, really try to find wherever the choke points are in that chain.

We want to look at every conceivable permutation of industry, product, and geography, effectively creating a commercial finance business. We want to look at a given asset class and really break it down into a chain of value. And along that chain, really try to find wherever the choke points are in that chain.

What are the kinds of things that we pursue? We have a series of various liquid strategies. There are reasons to be involved in those strategies to the extent that you are going to be focused on the entire chain of value throughout all types of collateral. However, we are looking at more esoteric, illiquid strategies, things like special situation corporate lending; real estate lending; non-performing loan portfolios; and textile machinery exported to Southeast Asia from the rural South. We are looking at leasing, where for instance, we lease slot machines and heating, ventilation, and air conditioning systems to

Indian reservation gaming facilities. We are looking at aircraft—we will buy any engine or plane, anywhere, and either liquidate it, lease it out, or sell it or repackage it in some way. You can do very interesting transactions.

We also have strategies that engage in various structured finance transactions, whether it is in the ABS world or municipal world, or even within structured credit. We also do consumer finance ranging from residential mortgages to subprime auto, credit cards, utility bills, phone bills, and other consumer assets.

The point is, we want to avoid people who are overcapitalized and under resourced. Wherever there are small, little bits of disproportionate return per unit of risk, we want to be there. So how do you get there? We think there are tremendous entry barriers to pursuing those strategies, but we believe we have surmounted them. In my mind, there are three key entry barriers.

First, flexibility of mandate. There are a lot of very interesting investments to be done, but in order to execute you cannot be restricted by an investment mandate. Our job is to do whatever makes sense by industry, product, or geography. It is also our job to find out what tomorrow's illiquidity pockets are going to be and to take advantage of them. We can not predict what those are going to be so we need flexibility.

Second, duration of capital. If you are going to be a last-ditch provider of liquidity to the marketplace, you better not need last-ditch liquidity yourself. The bottom line is we never want to be forced to sell—we make our living taking advantage of those who are forced to sell. We have worked hard to avoid such a circumstance by being thoughtful about the duration of both equity and debt capital to avoid asset/liability mismatch.

Third is the question of building a purely proprietary sourcing, analytical, and servicing infrastructure, which is easier said than done. This requires a commitment to building a solid infrastructure and a broadly based multifaceted investment team. The downside of all this global illiquidity chasing, obviously, is that it takes a lot of work. Take a great investor such as Eddie Lampert. His view on the value of every stock he buys is different from that of the person from whom he is buying it. We prefer situations where both borrower and lender, or both buyer and seller, have the exact same view on value but the other guy simply needs our money. So we do not have to be smarter than anyone else, we just have to have money when they do not have it.

It does not take a genius right now to know that there are probably more residential mortgages than there should be, and the loan-to-values on those are greater than they should be, and the structures of those are frequently irresponsible…

Going back to the notion of looking within the general world of esoteric strategies or credit, let us take the residential mortgage business. It does not take a genius right now to know that there are probably more residential mortgages than there should be, and the loan-to-values on those are greater than they should be, and the structures of those are frequently irresponsible and frequently levered to interest rates.

So how do we look at that? First of all, we are going to follow that chain of value. We are going to look at raw mortgages and find folks who are not paying theirs and buy their mortgage. If we can get them to make three out of four payments, we may then be able to call them "reperformers," put them into the securitization market, effectively sell all of our risk plus probably another 15 to 20 points for good measure, and allow the securitization market to "take" those opportunities away from us.

We might also then look into the securitization markets and look at different paper, different securitized tranches that have mortgages as their underlying collateral. And again, to the extent that you are trafficking in that which is raw—the raw stuff that makes up those tranches—your ability to see where there are value discrepancies is often quite good. The liquidity in those marketplaces provided by the Wall Street intermediaries is often quite bad.

Further, you may then collect a bunch of those different securitized tranches, resecuritize them, and take out some or all of your risk and leave yourself with a return, constantly moving collateral in and out of different places where there is more or less liquidity. And in fact, you may look at some of those individual tranches and decide you can control a certain class, effectively "unlock" the securitization, get back at the original mortgages, and start at the beginning again. So we find these chains of value throughout virtually every conceivable type of collateral that you can think of. Again, at certain places in the chain there is lots of liquidity; at certain places there is none at all.

We may look at yet a different type of "degree of separation." For example, we may look at Mexican distressed residential mortgage portfolios. Through our proprietary sourcing, servicing, and analytical network, we work to understand the local marketplace. For example, someone owes me a dollar and we bought their loan for a quarter, and say their house is worth 60 cents, I might be able to come to an arrangement with that person whereby we say: "Well, why don't you pay us 50 cents over a new five-year payment plan?" And suddenly there are 10 residential mortgage companies who want to buy that loan from me, if you were willing to do the work. So again, moving collateral in and out of places where there is more or less liquidity, and then further altering that by geography can provide you abilities to see opportunities where others do not.

On the flip side of assessing opportunities, you also need to consider when to exit or avoid investments. By the nature of our mandate, as soon as something becomes suboptimal from that perspective, we do not do it. Mandate flexibility allows us to avoid strategies and investments that are unattractive and to re-enter these when they again present opportunity.

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For investors interested in chasing illiquidity, in addition to the degree to which people overcome the entry barriers that include mandate, duration, and infrastructure on the front end, I believe that people should also be thinking about how to actually have the infrastructure in the mid- and back-office to do this. To make a success of chasing illiquidity requires one to build a broad-based business.

So the long and short of it is that as you are evaluating opportunities in this space, you really have to take your fund investing hat off and put your business investing hat on, and really rip a business apart from top to bottom to make sure people are doing interesting things in the right way. ●

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Prior to that, Mr. Zwirn served as Founder/Portfolio Manager of the Special Opportunities Group of MSD Capital, LP, the private investment firm of Michael Dell. From 1997 through early 2000, Mr. Zwirn was employed at Davidson Kempner Partners, where he initiated the firm's focus on direct debt investments as well as international merger arbitrage, for which he was given a mandate to open the firm's London office. Prior to attending business school, Mr. Zwirn served as an analyst in media and communications mergers and private equity investments at Lazard Frères & Co. and Madison Dearborn Partners, respectively.

Mr. Zwirn received an MBA from the Harvard Business School in 1998, a B.S. in Economics with a triple concentration in Accounting, Finance and Corporate Control (self-designed), *cum laude*, from the University of Pennsylvania's Wharton School of Business in 1993, and a B.A.S. in Computer Science, *cum laude*, from the University of Pennsylvania's Moore School of Electrical Engineering in 1993. He is a member of The Council on Foreign Relations (Term) and The Young Presidents Organization. He also serves on the Advisory Council of The Hamilton Project at the Brookings Institution, the Leadership Council of the Robin Hood Foundation and the Board of Trustees of New York's Public Theater.