KEL402
Revised June 1, 2009

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# A Tale of Two Hedge Funds:
## Magnetar and Peloton

*"It was the best of times, it was the worst of times . . ."*
—Charles Dickens

## What a Year

Magnetar Capital had returned 25 percent in 2007—only its third year in business. This return was achieved with significantly lower risk than the S&P 500. Investors were happy; assets under management were among the largest of any hedge fund manager and growing.

On the other hand, the team at Magnetar recognized that investors can have short memories. Magnetar needed to consistently generate new ideas in order to meet investor return objectives. Formerly well-respected hedge funds such as Peloton, Thornburg, and Carlyle Capital were closing at a record pace due to illiquidity. Even the world's largest banks were not immune to a crisis, as Bear Stearns and Lehman Brothers had proven. Magnetar's diversification, low leverage, and capital call restrictions offered additional stability, but could not in themselves be relied upon to produce future success.

Magnetar employed approximately two hundred of some of the smartest investment professionals in the world. It was the job of Alec Litowitz, chairman and chief investment officer, to provide guidance to his team, evaluate and prioritize (and allocate resources to) their ideas, and generate new ideas of his own. Although Litowitz preferred to limit exposure by separating risk capital across multiple businesses and trades, he knew that much of Magnetar's returns in 2007 had come from one brilliant trading strategy. This strategy was based on the view that certain tranches of CDOs (collateralized debt obligations) were systematically mispriced (see **Exhibit 1**). Magnetar made dozens of bets across multiple securities in order to capitalize on this observation. At the same time, the firm undertook comparatively little risk. According to the *Wall Street Journal*, "Mortgage analysts note that Magnetar's trading strategy wasn't all luck—it would have benefited whether the subprime market held up or collapsed."[1]

Recent turmoil in the markets had caused new mispricings—and therefore new investment opportunities. Magnetar would seek to locate and prioritize them.

[1] Serena Ng and Carrick Mollenkamp, "A Fund Behind Astronomical Losses," *Wall Street Journal*, January 14, 2008.

## What a Nightmare

An ocean away, Ron Beller was contemplating some very different issues than was Alec Litowitz. Beller's firm, Peloton Partners LLP (also founded in 2005), had been one of the top-performing hedge funds in 2007, returning in excess of 80 percent. In late January 2008 Beller accepted two prestigious awards at a black-tie EuroHedge ceremony. A month later, his firm was bankrupt (see **Exhibit 2**).

Beller shorted the U.S. housing market before the subprime crisis hit, and was paid handsomely for his bet. After the crisis began, however, he believed that panicking investors were throwing out the proverbial baby with the bath water. Beller felt that prices for highly rated mortgage securities were being unfairly punished, so he decided to go long AAA-rated securities backed by Alt-A mortgage loans (between prime and subprime). As was common at Peloton, he levered up the investments at an average of 9x.

The trade moved against Beller in a big way on February 14, 2008, when UBS disclosed that the bank owned $21.2 billion of high-rated Alt-A securities and the market speculated that UBS would need to sell those securities in a hurry.[2] Over the next two weeks, Alt-A backed AAA securities dropped by 10 to 15 percent. Beller did what any fund manager would do: he lined up additional funding from investors, liquidated positions where possible to raise cash, and tried to persuade his banks to delay their margin calls. Unfortunately, the banks were not providing any bids on his securities. Banks were also unwilling to delay margin calls at a time when they too were dealing with enormous losses from their own mortgage-related holdings. Investors, meanwhile, would only guarantee the new money if the banks agreed to delay the margin calls. It was a perfect storm. The firm ran out of liquidity, lost $17 billion, and was forced to close.

## Magnetar's Structured Finance Arbitrage Trade

Magnetar had made more than $1 billion in profit by noticing that the equity tranche of CDOs and CDO-derivative instruments were relatively mispriced. It took advantage of this anomaly by purchasing CDO equity and buying credit default swap (CDS) protection on tranches that were considered less risky.

Magnetar performed its own calculation of risk for each tranche of security and compared that with the return that the tranche offered. By conducting such an analysis, investors could find a glaring irregularity: two classes of securities had very similar risks but significantly different yields. More importantly, this mispricing was occurring across multiple ABS CDOs (see pages 4 and 5). Successful investors developed a long/short strategy to take advantage of the anomaly. Using this strategy, they could replicate the same basic trade many times across many securities. Further, they could put large sums of money to work while having little effect on market prices, undertaking little risk, and locking in a return that was nearly certain. This was the type of trade about which hedge funds dream.

Specifically, astute investors noticed that the equity and mezzanine tranches of ABS CDOs had very different yields. This did not seem to make sense. After all, an ABS CDO simply

[2] Jody Shenn, "Alt-A Mortgage Securities Tumble, Signaling Losses," Bloomberg News, February 28, 2008.

consisted of slim mezzanine tranches of multiple ABS notes, which were then packaged together and sold in different tranches. It was unlikely that holders of the mezzanine tranche would get paid off while the equity holders would not. Either both securities would be paid, or neither would be paid. Since the risk was similar, the yield should also be similar. Instead, due to illiquidity in the equity tranche and the market's misunderstanding of correlation across tranches, the yield of the equity tranche was often much higher than that of the mezzanine tranche.

Successful investors such as Magnetar capitalized on this observation by buying CDS protection on the mezzanine tranche and going long the equity tranche. In some cases, the market was so spooked by the equity tranche that few buyers existed and the entire CDO deal was at risk of not getting funded. As the *Wall Street Journal* reported, "In all, roughly $30 billion of these constellation CDOs were issued from mid-2006 to mid-2007, with Magnetar as their lynchpin investor."[3]

Magnetar did not need to form a view on absolute prices; it only needed to realize that the two tranches were *relatively* mispriced. Trades could be structured to generate cash on an ongoing basis because the current yields flowing in from the equity long positions were so much higher than the current yields being paid on the mezzanine short positions. Meanwhile, in the event of high defaults, the principal balance on the mezzanine shorts would be higher than that of the equity longs, so the strategy would have a large payoff if prices of the overall underlying collateral took a turn for the worse. The strategy would only lose money if the equity got wiped out while the mezzanine tranche stayed intact. Magnetar reasoned that the probability of this scenario was remote.

Rating agencies based their CDO credit ratings primarily on historical data, which showed that a nationwide housing downturn was unprecedented. However, astute investors recognized that this cycle was very different from the previous ones and therefore the historical data used by the agencies could not be relied upon as the sole predictor of future events. This recognition was the catalyst for Magnetar's trade on the pricing anomalies in the ABS CDO space. Its strategy was very different from the well-publicized bearish bet on housing established during 2007 by John Paulson of Paulson & Company, who personally made $3.7 billion when the market crashed.[4] Paulson took a position on the market, whereas Magnetar focused on locating relative pricing anomalies that should profit no matter what happened in the market. Strategies such as Magnetar's are consistent with the objectives of many hedge funds: to earn returns that are uncorrelated with the market.

## The 2007–2008 Financial Crisis

In the aftermath of the 2001 recession, concerns about deflation and the economy caused the Federal Reserve to bring interest rates to forty-year lows. These low interest rates were partially responsible for the housing bubble. Because they significantly lowered a borrower's monthly home payment, borrowers often bought larger houses than they could afford. "Teaser rates" would sometimes increase after a short initial period. Other loans were based on variable rates rather than the fixed rates of traditional home mortgages. Consumers often brushed aside fears that rates would increase because they believed the housing market could only increase in value.

[3] Ng and Mollenkamp, "Fund Behind Astronomical Losses."

[4] Andrew Clark, "The $3.7bn King of New York," *The Guardian*, April 19, 2008.

Millions of Americans became homeowners for the first time, as homeownership reached an all-time high of 70 percent.[5] Moreover, the housing boom was only one part of a broader increase in leverage across the economy that had been ongoing for thirty years (see **Exhibit 3**).

Beyond pure interest rate effects, however, lending practices became extremely loose. Lenders granted loans with no money down and no proof of income. These practices did not result from banks becoming more generous or consumers more creditworthy. Financial innovation was largely to blame, in the form of CDOs. Despite all the benefits CDOs offered, they created a principal-agent problem. Banks are the most capable entities for assessing a borrower's risk and determining a fair interest rate. However, when banks can securitize all of their loans within a few months and transfer most of the risk to someone else, their economic incentive changes. The new focus becomes making as many loans as possible in order to collect origination fees. The bankers who granted the original home loans were likely more concerned with their annual bonuses (which were based on fee income) than the ultimate performance of the loan.

While large investment banks originated some loans themselves, many home loans were originated by small regional banks, which then sold the loans to major investment banks. The investment banks then securitized the loans into CDOs, which were sold to investors. Still, the investment banks held large inventories of loans and CDOs for three reasons. First, the securitization procedure took time, so loans in the process of being securitized were owned by banks temporarily. Second, banks held inventories because their trading divisions made markets in the security. Finally, when an investment bank created a CDO, it often kept a small "holdback" amount. These three forms of exposure led to investment banking losses of $300 billion between July 2007 and July 2008. Some predict the total will rise to $1 trillion before the carnage is over.[6]

## The CDO Market

A CDO is a general term that describes securities backed by a pool of fixed-income assets. These assets can be bank loans (CLOs), bonds (CBOs), residential mortgages (residential mortgage-backed securities, or RMBSs), and many others. A CDO is a subset of asset-backed securities (ABS), which is a general term for a security backed by assets such as mortgages, credit card receivables, auto loans, or other debt.

To create a CDO, a bank or other entity transfers the underlying assets ("the collateral") to a special purpose vehicle (SPV) that is a separate legal entity from the issuer. The SPV then issues securities backed with cash flows generated by assets in the collateral pool. This general process is called securitization. The securities are separated into tranches, which differ primarily in the priority of their rights to the cash flows coming from the asset pool. The senior tranche has first priority, the mezzanine second, and the equity third. The allocation of cash flows to specific

[5] Roger M. Showley, "Working Families See Little Hope For Homes," *San Diego Union-Tribune*, March 23, 2006, http://www.signonsandiego.com/news/business/20060323-9999-1b23owners.html.

[6] Peter Goodman, "Uncomfortable Answers to Questions on the Economy," *New York Times*, July 22, 2008.

securities is called a "waterfall" (see **Exhibits 4** and **5**). A waterfall is specified in the CDO's indenture[7] and governs both principal and interest payments.

One may observe that the creation of a CDO is a complex and costly process. Professionals such as bankers, lawyers, rating agencies, accountants, trustees, fund managers, and insurers all charge considerable fees to create and manage a CDO. In other words, the cash coming from the collateral is greater than the sum of the cash paid to all security holders. Professional fees to create and manage the CDO make up the difference.

CDOs are designed to offer asset exposure precisely tailored to the risk that investors desire, and they provide liquidity because they trade daily on the secondary market. This liquidity enables, for example, a finance minister from the Chinese government to gain exposure to the U.S. mortgage market and to buy or sell that exposure at will. However, because CDOs are more complex securities than corporate bonds, they are designed to pay slightly higher interest rates than correspondingly rated corporate bonds.

CDOs enable a bank that specializes in making loans to homeowners to make more loans than its capital would otherwise allow, because the bank can sell its loans to a third party. The bank can therefore originate more loans and take in more origination fees. As a result, consumers have more access to capital, banks can make more loans, and investors a world away can not only access the consumer loan market but also invest with precisely the level of risk they desire.

*The Structured Credit Handbook* provides an explanation of investors' nearly insatiable appetite for CDOs:

> *Demand for [fixed income] assets is heavily bifurcated, with the demand concentrated at the two ends of the safety spectrum . . . Prior to the securitization boom, the universe of fixed-income instruments issued tended to cluster around the BBB rating, offering neither complete safety nor sizzling returns. For example, the number of AA- and AAA-rated companies is quite small, as is debt issuance of companies rated B or lower. Structured credit technology has evolved essentially in order to match investors' demands with the available profile of fixed-income assets. By issuing CDOs from portfolios of bonds or loans rated A, BBB, or BB, financial intermediaries can create a larger pool of AAA-rated securities and a small unrated or low-rated bucket where almost all the risk is concentrated.*[8]

CDOs have been around for more than twenty years, but their popularity skyrocketed during the late 1990s. CDO issuance nearly doubled in 2005 and then again in 2006, when it topped $500 billion for the first time. "Structured finance" groups at large investment banks (the division responsible for issuing and managing CDOs) became one of the fastest-growing areas on Wall Street. These divisions, along with the investment banking trading desks that made markets in CDOs, contributed to highly successful results for the banking sector during the 2003–2007 boom. Many CDOs became quite liquid due to their size, investor breadth, and rating agency coverage.

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[7] An indenture is "the legal agreement between the firm issuing the bond and the bondholders, providing the specific terms of the loan agreement." http://www.financeglossary.net.

[8] Arvind Rajan, Glen McDermott, and Ratul Roy, *The Structured Credit Handbook* (Hoboken, NJ: John Wiley & Sons, 2007), 2.

## Rating Agencies

Rating agencies helped bring liquidity to the CDO market. They analyzed each tranche of a CDO and assigned ratings accordingly. Equity tranches were often unrated. The rating agencies had limited manpower and needed to gauge the risk on literally thousands of new CDO securities. The agencies also specialized in using historical models to predict risk. Although CDOs had been around for a long time, they did not exist in a significant number until recently. Historical models therefore couldn't possibly capture the full picture. Still, the underlying collateral could be assessed with a strong degree of confidence. After all, banks have been making home loans for hundreds of years. The rating agencies simply had to allocate risk to the appropriate tranche and understand how the loans in the collateral base were correlated with each other—an easy task in theory perhaps, but not in practice.

## Correlation

The most difficult part of valuing a CDO tranche is determining correlation. If loans are uncorrelated, defaults will occur evenly over time and asset diversification can solve most problems. For instance, a housing crisis in California will be isolated from one in New York, so the CDO simply needs to diversify the geographic makeup of its assets in order to offer stable returns. With low correlation, an AAA-rated senior tranche should be safe and the interest rate attached to this tranche should be close to the rate for AAA-rated corporate bonds, or even U.S. treasuries. High correlation, however, creates non-diversifiable risk, in which case the senior tranche has a reasonable likelihood of becoming impaired. Correlation does not affect the price of the CDO in total because the expected value of each individual loan remains the same. Correlation does, however, affect the relative price of each tranche: any increase in the yield of a senior tranche (to compensate for additional correlation) will be offset by a decrease in the yield of the junior tranches.[9]

If a security related to the housing market contained geographically diverse collateral, it was generally assumed to have low correlation. This is because there had not been a nationwide housing crisis in recent history and local downturns had been isolated. As the *Wall Street Journal* reported, "Upbeat mortgage specialists kept repeating that home prices never fall on a national basis or that the Fed could save the market by slashing interest rates."[10] Because of the market's confidence in this assumption, senior tranches typically received very high debt ratings—often AAA—and correspondingly paid low interest rates.

## CDO Market Evolution

Although the market for new CDO origination was essentially dead by mid-2008, hedge funds considered whether it would resurface. After all, CDOs provided liquidity and unique access to risk that investors would continue to seek. It would take some time for banks to work through their existing backlog of underwritten but unsold new-issue leveraged loans, but they had

[9] Todd Buys, Karina Hirai, Wendy Kam, Charles Lalanne, and Kazuhiro Shibata, "Correlation of Risky Assets and the Effect on CDO Pricing in the Credit Crunch of 2007," student paper, Kellogg School of Management, June 5, 2008.
[10] Gregory Zuckerman, "Trader Made Billions on Subprime," *Wall Street Journal*, January 15, 2008.

made significant progress over the past year: the original backlog of $338 billion was now down to $105 billion (see **Exhibit 6**). Once this backlog was clear, would CDO origination slowly ramp up again? What strategies should hedge funds use to be ahead of the market?

While some funds thought that the market for new CDO origination would soon return, others had doubts. Many CDO investors, especially hedge funds, relied on leverage to earn their targeted absolute returns. For instance, in 2006 and the first half of 2007, an investor might have purchased the senior tranche of a CDO even though it only yielded fifty basis points above the London Interbank Offered Rate (LIBOR). However, the investor would then have leveraged the investment 25x in order to earn a return commensurate with the equity tranche, or 1,250 basis points above LIBOR. Because of this practice, some investors feared that the CDO origination market would not return until investment banks provided their hedge fund clients with ample and cheap debt funding, as was the case before the summer of 2007—a practice that might not return for a considerable time.

## Bank Debt and the Cov-Lite Craze

The market for corporate bank debt was similar to the housing bubble in at least one respect: frothy credit markets and a push for financial innovation spawned lending practices that strayed widely from historical norms. Fueled by the LBO (leveraged buyout) boom, covenant-lite corporate bank debt allowed companies to operate with no maintenance covenants[11] for leverage (debt/EBITDA) or interest coverage (EBITDA/cash interest) ratios. Sponsors (LBO firms) demanded loose terms by playing lenders against each other and by using their clout as enormous fee generators for the bank. By mid-2007 covenant-lite deals had ballooned and were increasingly considered the norm (see **Exhibit 7**). As in the residential mortgage market, securitization also played a major role.

Lenders knew they could pass off large portions of weak covenant-lite loans by syndicating them into CLOs (collateralized loan obligations). These CLOs were bought by third parties who often did not bother to do the same level of diligence as would a bank that intended to hold the loan to maturity. Investors often analyzed loan information at a summary level only, instead of reviewing each loan individually. This practice masked the problems of the worst loans, many of which were LBO-backed covenant-lite deals. Rating agencies often gave investors a false sense of security and helped them to justify performing scant due diligence. A study by Fitch indicates that covenant-lite loans were nearly 50 percent more prevalent in CLOs than in the market as a whole.[12]

Further complicating matters, PIK toggles enabled a company simply to add additional debt instead of paying interest in cash. "Equity cures" were also permitted, so in cases where a company did have maintenance covenants, a technical default could be "cured" by a small equity

[11] Maintenance covenants are specified in a loan indenture and measured quarterly on an LTM (last twelve months) basis. The leverage covenant typically specifies a certain ratio of debt to LTM EBITDA above which the company cannot go. The coverage covenant specifies a certain ratio of LTM EBITDA to LTM cash interest below which the company cannot go. Most bank loans contained covenants such as these before 2006 and the first half of 2007.

[12] Fitch Ratings, "CLOs More Concentrated in Shareholder-Friendly and Covenant-Light Loans," December 21, 2006.

contribution that would be added to bank-defined EBITDA.[13] As the *Wall Street Journal* reported, "Bankers began marketing debt deals for companies that . . . didn't have comfortable cash flow. There was Chrysler, burning cash rather than producing it. And there was First Data Corp., whose post-takeover cash flow would barely cover interest payments and capital spending."[14]

The downturn rippled throughout the financial industry starting in mid-2007. It put a premium on liquidity and drove down the prices of leveraged securities in general and leveraged bank loans in particular. Bank loans were hit particularly hard because of the large inventory held by investment banks, which needed to liquidate investment holdings in order to improve their balance sheets.

The bank loan market bottomed during February 2008 (see **Exhibit 8**), before coming back somewhat by the summer of 2008. **Exhibit 9** shows that in order to justify bank debt valuations, an investor needed to assume that default rates would hit levels not seen since the Great Depression and stay there until maturity of the loans. With this in mind, some investors increased their exposure to the bank loan market. Non-traditional players such as private equity firms entered the market, often purchasing loans in large private transactions directly from banks rather than on the open market. The Blackstone Group reported that it achieved a 20 percent return on a $7.8 billion investment in leveraged loans that it made in Q2 2008.[15]

Instead of investing in the overall bank loan market, some hedge funds were more intrigued with covenant-lite loans. Although new cov-lite loans were unlikely to be brought to market, many existing cov-lite loans were heavily traded. Cov-lite loans, it was thought, would have limited near-term defaults because companies would keep operating until they ran out of cash. However, once those defaults ultimately occurred, the question is whether recovery rates would be significantly lower than the historical average of 82 percent (see **Exhibit 10**). Since cov-lite loans did not exist in large numbers until 2005 and there have been no defaults of cov-lite loans in the past, it is difficult for investors to know what recovery rates to use in their valuations. Cov-lite loans trade at a discount to cov-heavy (traditional) loans, and this spread continues to widen (see **Exhibit 11**). Funds who bet that there would be a flight to quality away from cov-lite loans have profited handsomely. The exhibit also shows that, paradoxically, cov-lite loans have lower nominal coupons than cov-heavy loans. This is because lending practices were very loose during 2006 and the first half of 2007, when most of the cov-lite deals were originated.

Although the spread widened, investors still profited by taking a position that the spread would widen further. As of August 11, 2008, B-rated cov-lite loans traded at prices 336 basis points below cov-heavy loans. To analyze whether the spread should widen even more, one must make assumptions about future default rates and recovery rates (see **Exhibit 12**).

Some funds believed that the best way to play cov-lite bank debt was through a relative value trade. One can look at the yields on secured cov-lite bank loans and compare them with the yields on unsecured bonds of the same company. If the two yields are close, a long secured bank

[13] EBITDA (earnings before interest, taxes, depreciation, and amortization) is not a standardized term defined by generally accepted accounting principles (GAAP). However, it is a common measure of cash flow used by banks to determine whether a borrowing company is in compliance with its covenants. A common "maintenance" covenant states that total debt cannot exceed a specified multiple of the company's last twelve months of EBITDA.

[14] Greg Ip and Jon Hilsenrath, "Debt Bomb: Inside the 'Subprime' Mortgage Debacle," *Wall Street Journal*, August 7, 2007.

[15] Pierre Paulden and Jason Kelly, "Blackstone Gains 20 Percent Buying $7.8 Billion of LBO Loans," *Bloomberg News*, August 6, 2008.

loan/short unsecured bond trading opportunity may exist because bank debt will typically recover more than bonds in a bankruptcy. As companies become more risky, the spread between bonds and secured bank debt of the same company should widen (see **Exhibit 13**). In such capital structure arbitrage trades, investors are betting on the difference in recovery rates among various securities. Default rates will be identical because the two securities are issued by the same company.

Exhibit 13 includes all companies that have (1) first lien cov-lite bank debt, (2) unsecured bonds, (3) easily accessible prices, and (4) bank debt that will mature prior to bonds. Companies on the right side of the line represent long bank debt/short bond opportunities. This position is especially compelling for companies that also have low absolute interest rates (NRG Holdco and Hawker Beechcraft). Companies on the left side represent the reverse strategy. Investors could also follow a related strategy by analyzing second-lien bank debt and unsecured bonds in the same company. In a bankruptcy, second-lien debt is paid off before unsecured bonds up to the point at which the collateral value is recovered (see **Exhibit 14**). After that point, second-lien debt has the same priority as other unsecured creditors. Therefore, in normal circumstances, second-lien debt should have a lower yield than unsecured bonds.

This anomaly and many others exist because large holders of bank debt (including many troubled banks that have large investment banking arms) have been forced to sell bank debt for regulatory or liquidity reasons. Bonds, on the other hand, are less frequently held by banks, so the bond market has consequently not experienced the same forced selling pressure that the secured bank debt market has seen. What can hedge funds do to exploit this opportunity? What are the risks they face if they make the wrong bet? How can they best set up trades to hedge their exposure? What is the catalyst that will bring the market back to normal levels? Hedge funds that can accurately answer these questions stand to gain handsomely.

## **Exhibit 1:** A Fund Behind Astronomical Losses (Abridged)

The trading strategy of a little-known hedge fund run by an astronomy buff contributed to billions in losses on Wall Street, even as the fund itself profited from the subprime-mortgage crisis.

Even as it helped to spawn CDOs that would later wrack Wall Street with painful losses, Magnetar, which has around $9 billion in assets, itself made a tidy profit. Its funds returned 25 percent across a range of stock and debt strategies last year, thanks largely to the way it hedged these trades.

In this case, Magnetar swooped in on securities that it believed could become troubled but were paying big returns. CDOs are sliced based on risk, with the riskiest pieces having the highest yield but the greatest chance of losing value. Less-risky pieces have lower yields and some pieces were once considered so safe that they paid only a bit more than a U.S. Treasury bond.

Magnetar helped to spawn CDOs by buying the riskiest slices of the instruments, which paid returns of around 20 percent during good times, according to people familiar with its strategy. Back in 2006, when Magnetar began investing, these were the slices Wall Street found hardest to sell because they would be the first to lose money if subprime defaults rose. . . . Magnetar then hedged its holdings by betting against the less-risky slices of some of these same securities as well as other CDOs, according to people familiar with its strategy. While it lost money on many of the risky slices it bought, it made far more when its hedges paid off as the market collapsed in the second half of last year.

Magnetar hedged itself by buying credit default swaps that act as a form of protection—similar to an insurance policy—against losses on the CDOs. It isn't clear which CDOs it hedged against, but these swaps broadly soared in value when the CDOs dived last year.

Mortgage analysts note that Magnetar's trading strategy wasn't all luck—it would have benefited whether the subprime market held up or collapsed.

*Source:* Serena Ng and Carrick Mollenkamp, "A Fund Behind Astronomical Losses," *Wall Street Journal*, January 14, 2008.

## **Exhibit 2:** Peloton Flew High, Fell Fast (Abridged)

When hedge-fund chief Ron Beller's investments in U.S. mortgages turned against him, he got a rude awakening to Wall Street's unsentimental ways. Bankers who had vied for his business reeled in credit lines and seized the fund's assets. In a matter of days, Peloton Partners LLP, once one of the world's best-performing hedge-fund operators, lost some $17 billion. In its sheer speed, Peloton's demise offers an illustration of the delicate relationships upon which the financial industry is built, and the breakneck pace at which they have been unraveling.

There is a widespread weakness in the hedge-fund business: highflying managers sometimes fail to fully factor in broader risks, such as what happens when troubled banks pull back the borrowed money many funds need to make their investments. Peloton was particularly susceptible because it borrowed heavily to boost returns. For every dollar of client money, Peloton had borrowed at least another nine dollars to buy some bonds.

. . . In mid-February, Messrs. Beller's and Grant's investments took a hit when Swiss bank UBS AG said it had marked down the value of highly rated mortgage securities similar to those that Peloton held.

Peloton had $750 million in cash and believed its funding from banks was secure. That provided a level of comfort to Messrs. Beller and Grant that Peloton could cover banker demands, known as margin calls, to put up more collateral as the value of its investments fell.

But by Monday, Feb. 25, further sharp drops had left Peloton scraping for cash to meet margin calls from lenders, including UBS and Lehman Brothers Holdings Inc. When Peloton traders tried to sell securities to raise money, brokers were unwilling to bid, according to people familiar with the situation.

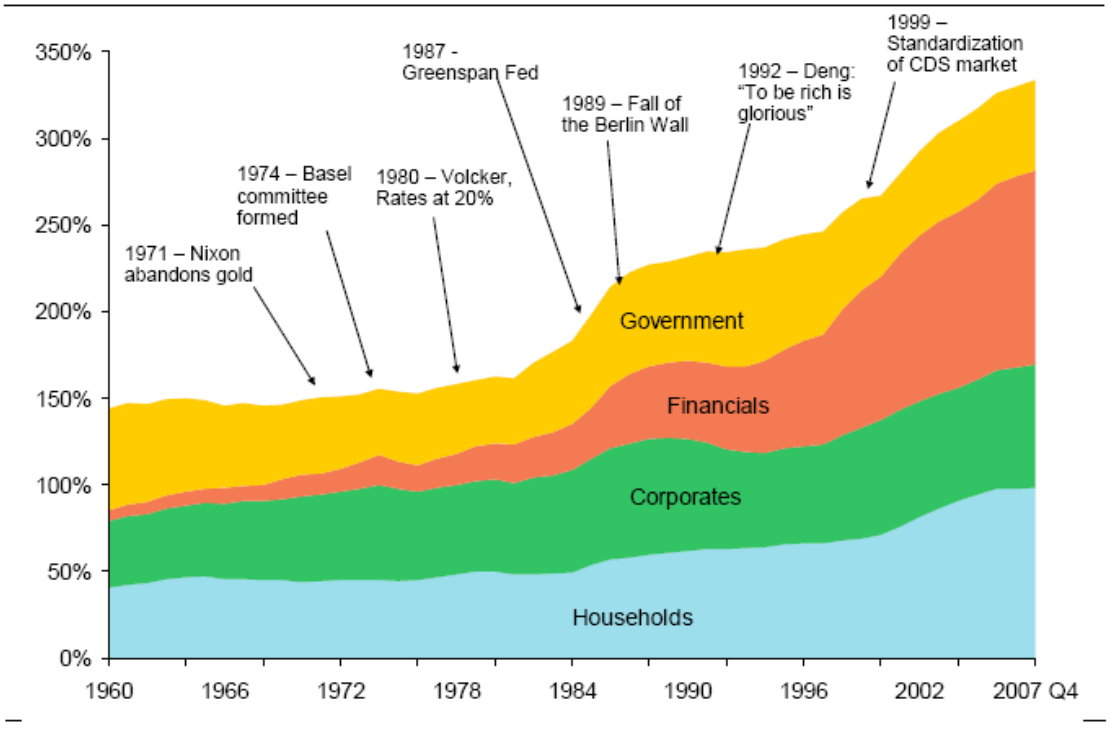
Mr. Beller and his team worked around the clock to assemble a rescue plan, persuading investors to provide a $600 million loan. But the financial lifeline, which included some twenty-five parties, depended on Peloton's banks agreeing to postpone certain margin calls. Some banks were reluctant to sign off on such an unusual deal at a time when they were dialing back risk amid the financial crisis. On Wednesday morning, Feb. 27, yet another sharp drop in Peloton's mortgage investments killed a rescue. Mr. Beller at one point collapsed on a couch in distress.

Mr. Beller and his team made one final effort to sell Peloton's portfolio, including to other hedge funds, working late into Wednesday night. By 4 a.m. Thursday morning, Mr. Beller threw in the towel and went home, exhausted.

The next day, lenders seized Peloton's assets, bringing a chaotic end to the fund. Mr. Beller later likened the situation to the final scene in Quentin Tarantino's movie "Reservoir Dogs," when several actors, guns trained on each other, simultaneously blow each other away.

*Source:* Carrick Mollenkamp and Gregory Zuckerman, "Peloton Flew High, Fell Fast; Winning Hedge Fund Lost on Bets as Credit Crunch Moved at Breakneck Speed," *Wall Street Journal*, May 12, 2008.

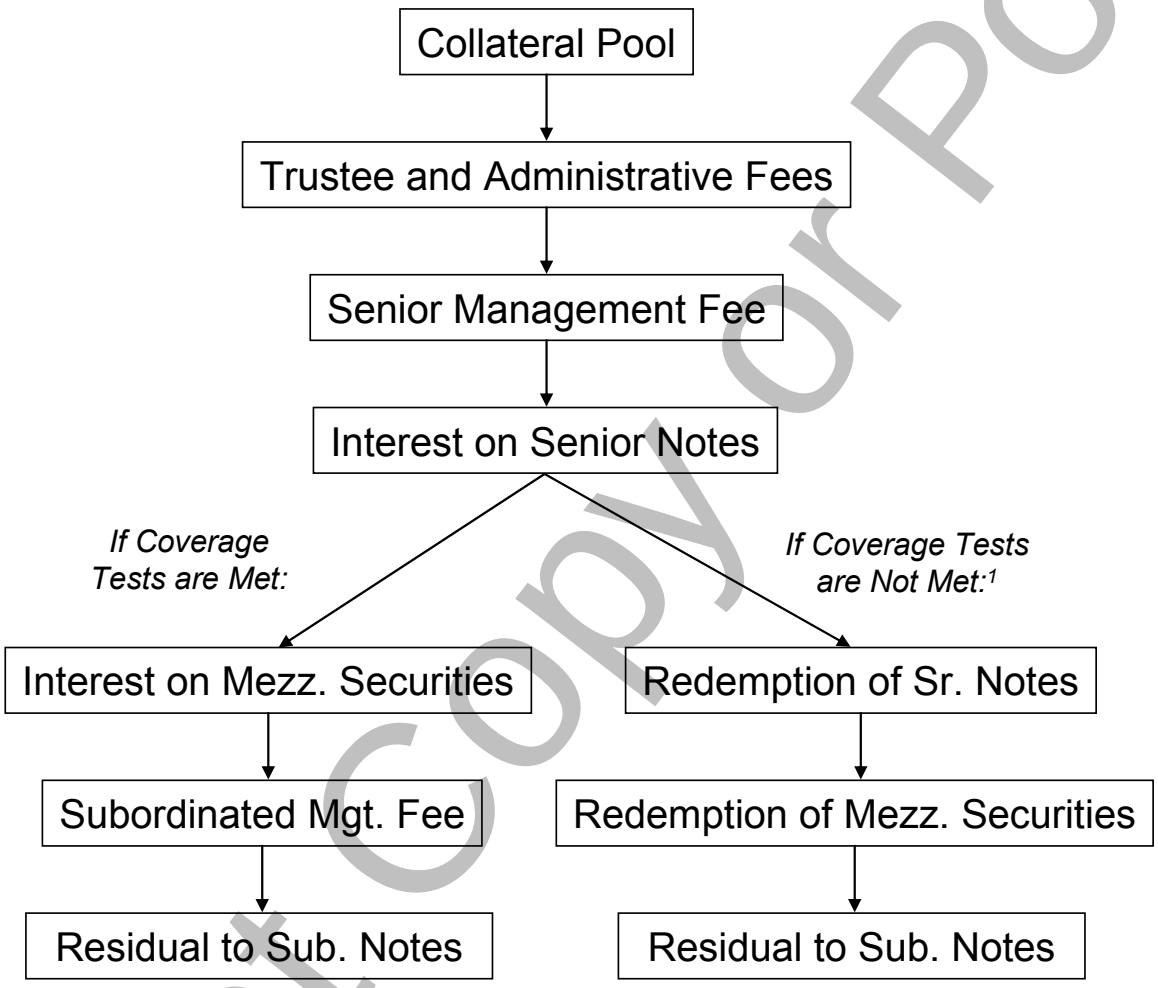
**Exhibit 3:** U.S. Credit Market Debt/GDP




**Source:** Morgan Stanley, Federal Reserve
*Financials consists of government-sponsored enterprises, agency- and GSE-backed mortgage pools, and private financial institutions

*Source:* Neil McLeish (Morgan Stanley), "A Summer Rally, But Still a Bear Market," July 2008.

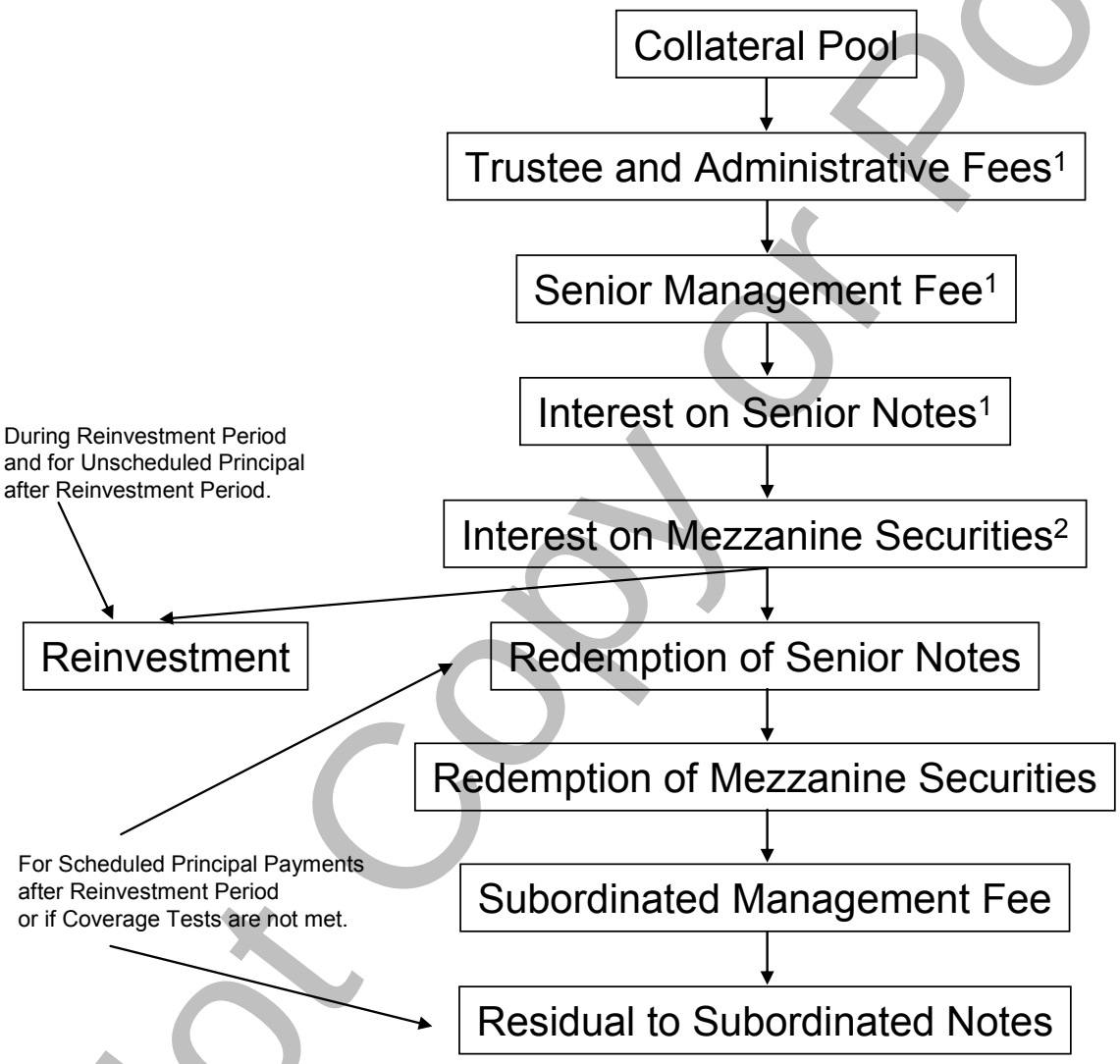
**Exhibit 4:** Interest Waterfall of a Sample CDO




1) If coverage tests are not met, and to the extent not corrected with principal proceeds, the remaining interest proceeds will be used to redeem the most senior notes to bring the structure back into compliance with the coverage tests. Interest on the mezzanine securities may be deferred and compounded if cash flow is not available to pay current interest due.

*Source:* Sivan Mahadevan (Morgan Stanley), "Structured Credit Insights," April 30, 2008.

**Exhibit 5:** Principal Waterfall of a Sample CDO




1) To the extent not paid by interest proceeds.
2) To the extent senior note coverage tests are met and to the extent not already paid by interest proceeds. If coverage tests are not met, the remaining principal proceeds will be used to redeem the most senior notes to bring the structure back into compliance with the coverage tests. Interest on the mezzanine securities may be deferred and compounded if cash flow is not available to pay current interest due.

*Source:* Sivan Mahadevan (Morgan Stanley), "Structured Credit Insights," April 30, 2008.

## **Exhibit 6:** LBO-Related Leveraged Loans

**Estimated new-issue backlog has declined since the start of the year**

| | Volumes in billions ($) | | | |
|---|---|---|---|---|
| | Total | Pro rata | Institutional Loans | Bonds |
| **Original Pipeline-June 2007** | **338.0** | | **227.4** | **110.6** |
| 2007 Completed Pipeline | 55.0 | | 33.0 | 22.0 |
| 2007 Cancelled | 51.0 | | 34.9 | 16.1 |
| **End of 2007 Pipeline** | **232.0** | | **159.5** | **72.5** |
| 2008 Completed Pipeline | 29.4 | | 17.3 | 12.1 |
| 2008 Estimated private sales | 15.0 | | 15.0 | |
| 2008 Cancelled/Uncertain | 35.0 | | 22.2 | 12.8 |
| Remaining Pipeline | 152.7 | 35.0 | 70.0 | 47.7 |
| **Remaining Pipeline excluding pro rata** | **117.7** | | | |
| **Hexion/Huntsman** | **11.9** | | **6.0** | **6.0** |
| **Pipeline excluding Huntsman** | **105.8** | **35.0** | **64.0** | **41.7** |

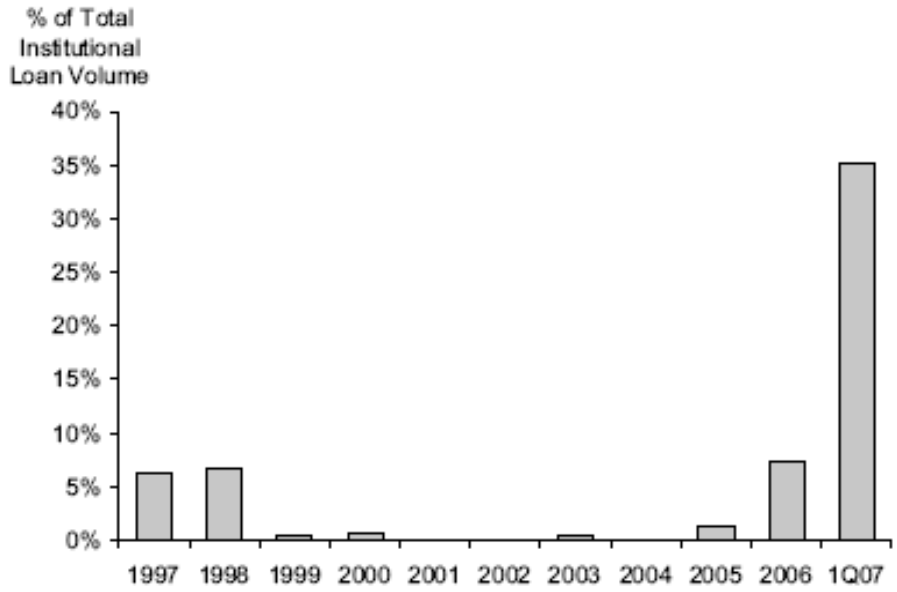
Note: All information is based on public news and analyst estimates.

Source: JPMorgan.

*Note:* This backlog tracks LBO-related leveraged loans on deals that have been underwritten by major investment banks but have not yet closed.

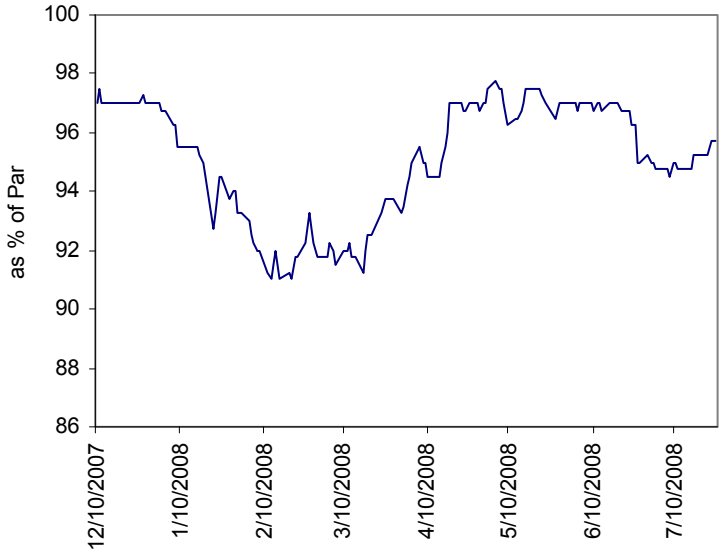
*Source:* Peter Acciavatti (JP Morgan), "Midyear 2008 High Yield and Leveraged Loan Outlook and Strategy," June 28, 2008.

**Exhibit 7:** Explosion in Covenant-Lite Loan Issuance




*Source:* Morgan Stanley, "Focusing on Recoveries," April 11, 2007.

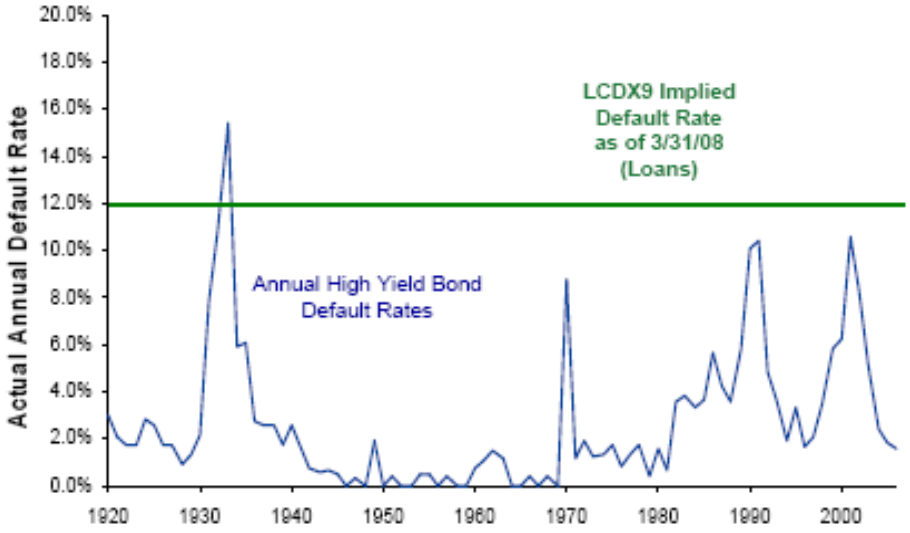
**Exhibit 8:** Bank Loan Prices During 2008




*Note:* LCDX 9 is a standardized, tradable tranche of the North American loan credit default swap index.

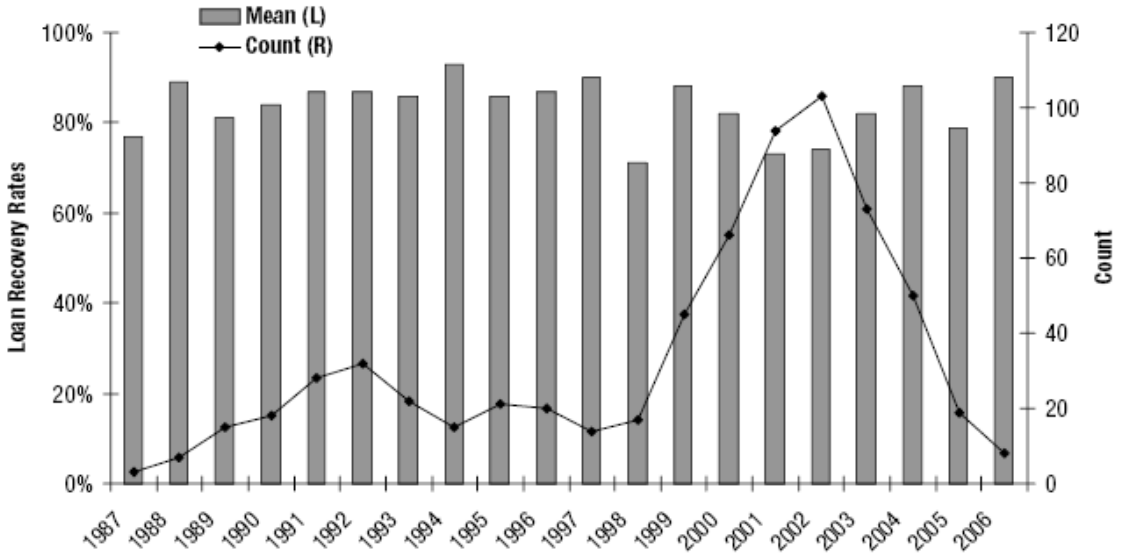
*Source:* Markit LCDX Analytics, http://www.markit.com/information/products/category/indices/lcdx/analytics.html.

**Exhibit 9:** Historical Annual Default Rates




*Source:* Kellogg student/faculty presentation by Ares Management, Spring 2008.

**Exhibit 10:** Loan Recovery Rates by Default Year

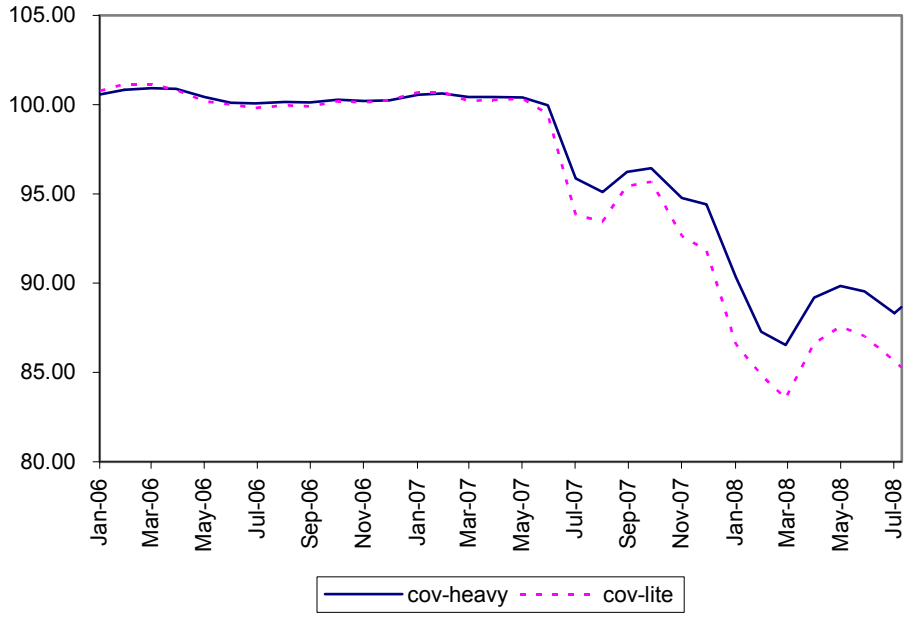



*Note:* Count means the number of loans in the sample size. Includes all defaulted loans, not just those that were classified as leveraged loans when they were originated.

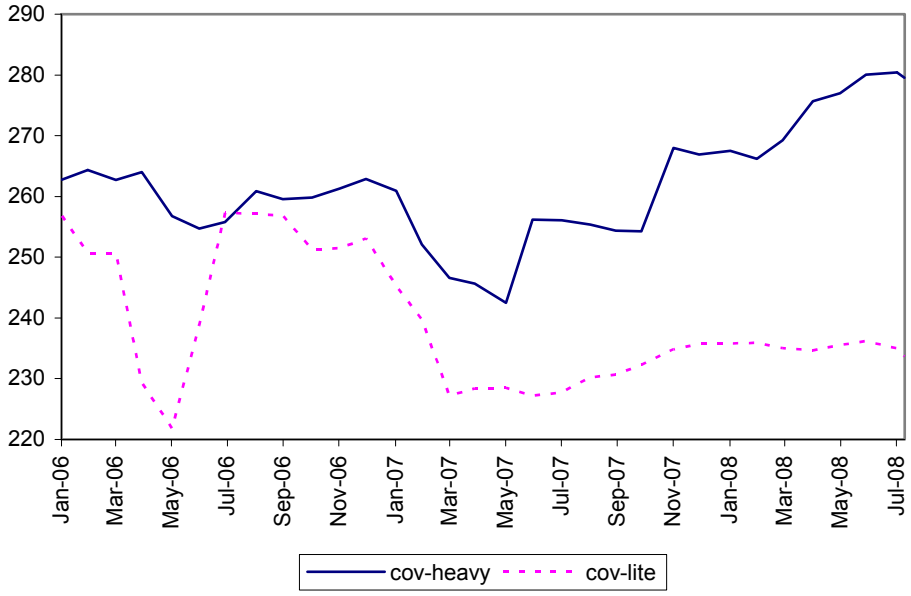
*Source:* Emery, Cantor, Keisman, and Ou, (Moody's), "Moody's Ultimate Recovery Database," April 2007.

## Exhibit 11:

**Average Bid Prices of B-Rated Leveraged Loans**




**Average Nominal Spread of B-Rated Leveraged Loans**




*Source:* S&P LCD, August 11, 2008, author analysis.

## **Exhibit 12:** Default Rate and Recovery Rate Discount Necessary to Justify Cov-Lite Valuations

| Difference in Recovery Rate | Annual Default Rate | | | | | |
|---|---|---|---|---|---|---|
| | 3% | 4% | 5% | 6% | 7% | 8% |
| –5% | 244 | 264 | 283 | 303 | 323 | 343 |
| –10% | 303 | 343 | 383 | 423 | 463 | 503 |
| –15% | 363 | 423 | 483 | 543 | 603 | 663 |
| –20% | 423 | 503 | 583 | 663 | 743 | 822 |
| –25% | 483 | 583 | 683 | 783 | 882 | 982 |
| –30% | 543 | 663 | 783 | 902 | 1,022 | 1,142 |
| –35% | 603 | 743 | 882 | 1,022 | 1,162 | 1,302 |
| –40% | 663 | 822 | 982 | 1,142 | 1,302 | 1,461 |
| –45% | 723 | 902 | 1,082 | 1,262 | 1,441 | 1,621 |
| –50% | 783 | 982 | 1,182 | 1,381 | 1,581 | 1,781 |

Basis point discount from non-cov-lite loans.

Assumptions: 8% discount rate

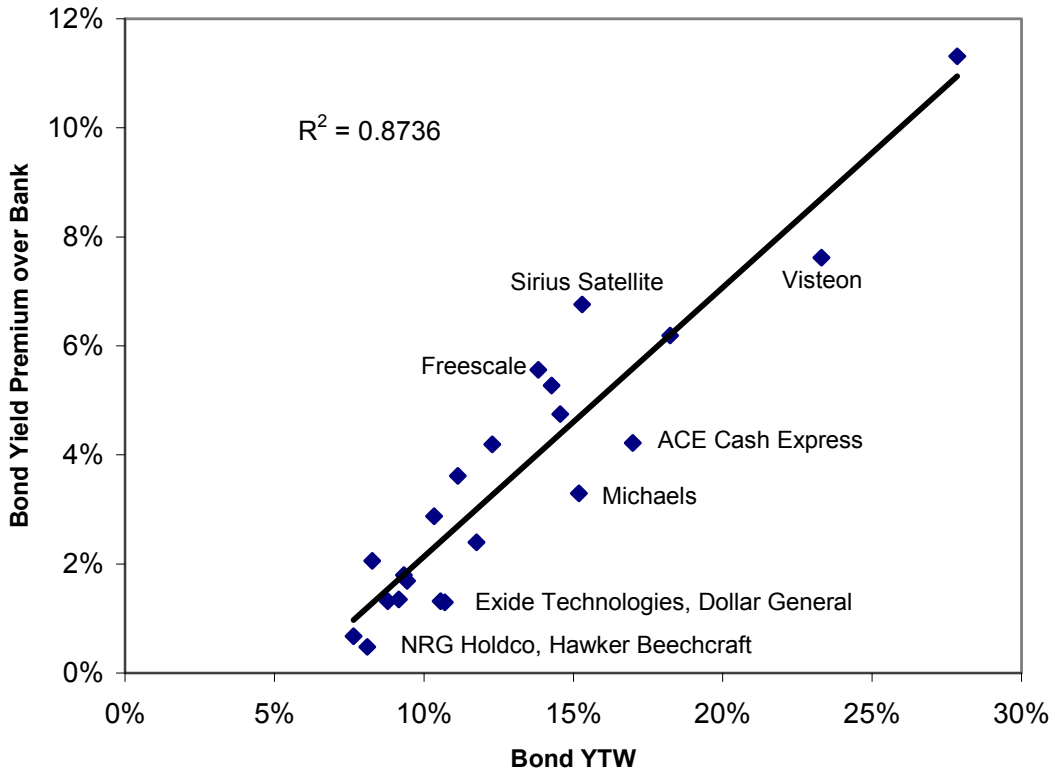
5-year loan life

46 bp avg. coupon discount for cov-lite

*Note:* Shaded combinations of default rates and recovery rate differentials are above the current 336 bps average spread between cov-lite and cov-heavy loans, indicating that a wider spread is necessary to justify assumptions.

*Source:* Stephen Carlson, "Covenant-Lite Bank Loans: What Will Be Their Implications in a Period of Significant Defaults, and Are Markets Correctly Pricing the Risk?" student paper, Kellogg School of Management, August 2008.

**Exhibit 13:** Bank vs. Bond Yield Premium on Companies with Covenant-Lite Bank Debt




*Note:* YTW = Yield to Worst. The lowest potential yield that can be received on a bond without the issuer actually defaulting. The yield to worst is calculated by making worst-case scenario assumptions on the issue by calculating the returns that would be received if provisions, including prepayment, call or sinking fund, are used by the issuer. This metric is used to evaluate the worst-case scenario for yield to help investors manage risks and ensure that specific income requirements will still be met even in the worst scenarios.

Yield to worst is calculated on all possible call dates. It is assumed that prepayment occurs if the bond has call or put provisions and the issuer can offer a lower coupon rate based on current market rates. If market rates are higher than the current yield of a bond, the yield to worst calculation will assume no prepayments are made, and yield to worst will equal the yield to maturity. The assumption is made that prevailing rates are static when making the calculation. The yield to worst will be the lowest of yield to maturity or yield to call (if the bond has prepayment provisions); yield to worst may be the same as yield to maturity but never higher. Definition from Investopedia, http://www.investopedia.com/terms/y/yieldtoworst.asp.

*Source:* Stephen Carlson, "Covenant-Lite Bank Loans: What Will Be Their Implications in a Period of Significant Defaults, and Are Markets Correctly Pricing the Risk?" student paper, Kellogg School of Management, August 2008.

## **Exhibit 14:** Leveraged Loans and Junk Bonds

LOANS

The bank loans referenced in this case are leveraged loans. A bank loan is classified as leveraged if any of the following occur:[16]

- The company to whom the loan is being made has outstanding debt rated below investment grade, meaning below Baa3/BBB– from Moody's and S&P
- The company's debt/EBITDA ratio is 3.0 times or greater
- The loan bears a coupon of +125 bps or more over LIBOR

Leveraged loans generally grant lenders collateral in all (or most) assets of a company. In some leveraged loans, there is an agreement that separates lenders into two classes: first lien and second lien. These two classes agree on contractual subordination terms of the second lien to the first lien.

Some leveraged loans may have traditional, full covenants, whereas others may be covenant-lite.

BONDS (JUNK)

(Junk) bonds are typically unsecured, and therefore have a lower claim on the assets of a company in a bankruptcy scenario. Although each bankruptcy is different and can have its own idiosyncrasies, bondholders in bankrupt companies typically receive much lower recovery rates than do holders of bank loans. The mean recovery rate for bank loans is 82 percent while the mean recovery rate for senior unsecured bonds (the most common type of bond) is 38 percent.[17]

[16] Timothy Aker (Prudential), "Leveraged Loans: Capturing Investor Attention," July 2006.
[17] Emery, Cantor, Keisman, and Ou (Moody's), "Moody's Ultimate Recovery Database," April 2007.