Fixed income strategies in the spotlight

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Investors used to perceive the fixed income world as the sleepy backwater of hedge fund investing. That perception has certainly changed in recent times. Today, fixed income hedge funds represent more than 10% of the assets invested in the hedge fund industry and many of the issues that capture the headlines today emanated from fixed income. This gives us a good reason to investigate how hedge funds tackle these markets. This article explores the different types of strategies in the fixed income universe and how these have taken centre stage in 2007.

Strategy overview

According to statistics compiled by HFR, the hedge fund universe grew to USD1.8 trillion in assets in the 3rd Quarter of 2007. Of that universe, fixed income managers represent approx. 10% of the assets. However, fixed income hedge funds are not a homogenous group. Many of the strategies pursued by fixed income hedge fund managers differ widely from one another due to the existence of various niche markets in the universe.

HFR distinguishes between five main categories, namely distressed, fixed income arbitrage, high yield, MBS arbitrage and fixed income diversified. It is notable that distressed managers take the largest slice of the assets with over USD96b allocated to this strategy. This is particularly telling, since the amount of distressed debt in the mar-

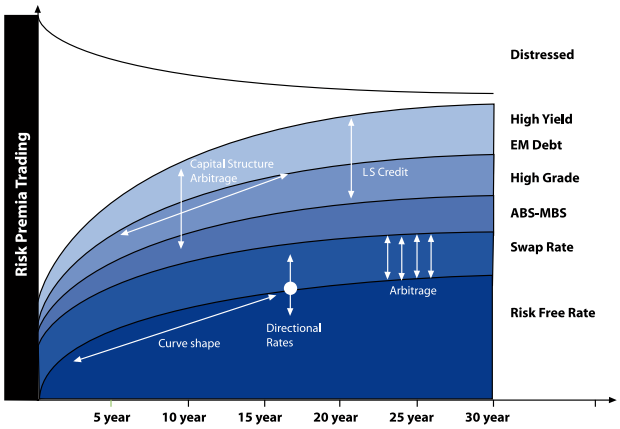
ket was very limited up until this summer. Clearly, these managers have been investing in other things rather than pure distressed debt. Another way to distinguish different fixed income strategies is to differentiate between term structure and risk premia trading, which we explore further below.

Table 1 I Fixed income assets as a % of the total hedge fund universe

Strategy	Assets as a percentage of total universe
Distressed	5.35%
Fixed Income Arbitrage	2.77%
MBS Arbitrage	1.84%
High Yield	1.51%
Fixed Income Diversified	1.40%

Source: HFR

Figure 1 I Fixed income universe



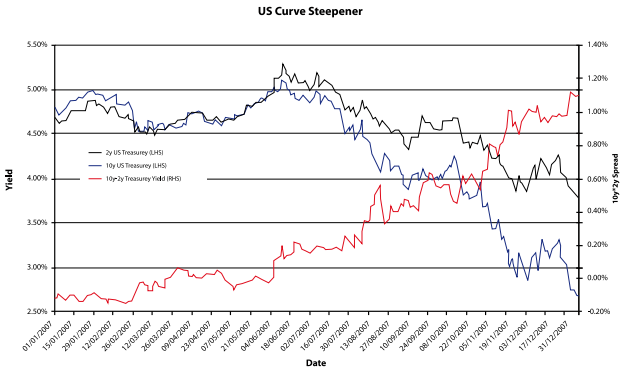
Source: HC Research

Term structure trading

Every fixed income instrument has a certain maturity date attached to it. Term structure trading involves trading of fixed income securities with different maturities while excluding a credit risk component. The most common example of a fixed income security without a credit risk component is a bond issued by a highly rated sovereign issuer such as Japanese JGBs, German Bunds or US Treasuries.[1] By connecting the dots (yields) along the maturities of all traded securities one can construct the yield curve. Fixed income arbitrage and MBS arbitrage managers typically operate in this space taking relative value positions between securities. They take views on the slope of the curve or the direction of interest rates, but also trade the difference between Treasuries and swaps (the swap spread), or between Treasuries and mortgages (the mortgage basis).

Directional rates managers take a global macro type approach, where their trading decisions are influenced by monetary policy and inflation expectations. The volatile interest rate environment of 2007 is particularly suitable for these types of managers. As an example, the US yield curve was inverted from the beginning of 2006, meaning that the yield for longer maturities was below the yield of shorter maturities. In fact, by the end of 2006, the difference between the 2-year and 10-year yield was -0.2%. This relationship changed dramatically as problems in the financial markets started to develop. A typical directional trade with a macro backdrop is to put on a 'curve steepener'. A trader takes a long position in the 2-year Treasury and a short position in the 10-year Treasury.[2] The rationale is that during times of market turbulence, investors will try to find a safe haven and invest in US Treasuries, with a bias towards shorter term assets. The result is a «bull steepening» of the yield curve. Traders who put on this trade in June 2007 made a handsome profit over the summer and the following months as the spread widened to over 100 bps in December (see Figure 2). These returns are particularly attractive in a difficult environment where other hedge funds are struggling.

Figure 2 I Example of a directional rates trade – US Curve Steepener



Source: Bloomberg & HC Research

Risk premia trading

If we go up the ladder of the risk spectrum, the probability of default becomes a much more dominant factor. Investors want to be compensated for this extra risk and require a risk premium. The riskier the credit, the higher the risk premium. Hedge fund managers in this part of the fixed universe go long a risky asset and hedge out part of the risk by going short another instrument. This is referred to as

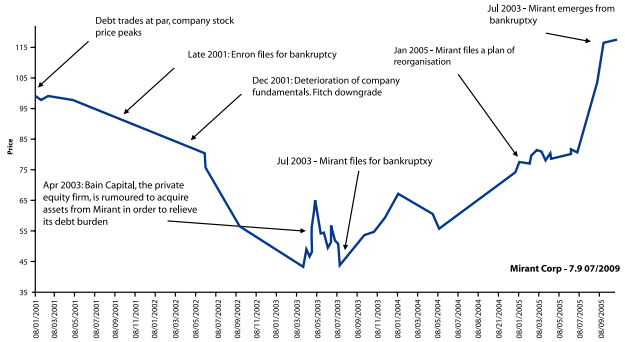
1 Of course, some people argue that even these securities are considered to have a component of credit risk. After all, sovereign issuers have defaulted throughout history. However, most are generally considered to represent the 'risk-free rate'.

2 Since the duration on a 2-year bond is not the same as a 10-year bond, the trade is put on with different notional amounts in order to make the trade duration neutral.

risk premia trading, which is the realm of credit managers. Within credit, however, there are many niche markets that trade in very different ways. The most common is corporate credit, which includes high grade and high yield debt. Other niches are emerging markets debt, ABS credit (e.g. subprime) and CMBS credit. At the most risky end of the credit spectrum are distressed managers. These funds typically invest in securities that are in distress, and the associated companies are going through a period of restructuring. Institutional investors are not holding this paper since it is non-performing debt that has been severely downgraded. But more often than not, this paper actually represents a buying opportunity with potentially very large payouts.

A good example of this is Mirant, a utility company based in the US. The company filed for bankruptcy in 2003 as a result of deteriorating company fundamentals that started with Enron's bankruptcy in late 2001. For reference, we have plotted the price development of Mirant 7.9% bonds due in July 2009 (see Figure 3). As company fundamentals deteriorate, the price of the bond sinks from par to 40 cents to the dollar. Interestingly, all the price deterioration happens before the Chapter 11 filing, since this is when all the bad news is coming out. After the company has filed for bankruptcy, the price of the bond improves throughout the restructuring process, and by the time Mirant emerges from bankruptcy it is trading at a premium to par, as the bondholders get converted into equity. Distressed investors try to step into these securities at the bottom, exactly at a point when pension funds and insurance companies are forced to sell. In recent times the number of these opportunities has been very limited given the low default environment we have been in, but looking forward, we expect defaults to pick up significantly in the US, and with it the opportunity set for distressed managers.

Figure 3 I Example of a company going through a bankruptcy process



Source: Bloomberg & HC Research

Risk & return drivers

Fixed income arbitrage managers often take advantage of very small discrepancies caused by flows in the market. For example, pension funds and insurance companies have to match their assets and liabilities and rebalance the duration of their portfolios at certain times during the year. This effect is particularly prevalent in Japan at their year-end in March. Moves in interest rates cause mortgage players to change positions in order to hedge out prepayment risks and convexity. Inflation expectations and monetary policy drive hedge funds to express directional views on interest rates. A flight to quality usually takes the form of buying the most liquid instrument available in the market. Fixed income managers identify this behaviour and put on arbitrage positions after the dislocation happens. Generally, the trading frequency of fixed income and MBS arbitrage managers tends to be quite high, and since the arbitrage is typically small the leverage applied is high.

Risks to the strategy are severe and ongoing dislocations in the market, to the extent that normal relationships diverge, the hedge fund finds an entry point and then the market dislocates even further. Since the applied leverage tends to be high, the effects can be dramatic as was the case in 1998. Another risk is that leverage providers suddenly cut off credit lines, leading to a forced portfolio liquidation at the worst possible time.

The main return drivers for credit managers come from two sources – carry and capital gains. By being long the risky asset, a credit manager earns the corresponding coupon on that asset. For some managers, this component represents the bulk of the returns. This is particularly the case for Asset-Based Lending managers.[3] For a credit manager with a balanced book of longs and shorts, the carry component takes a lesser role and capital gains in the long and short book drive performance.

During the last credit crisis in 2002, spreads blew out to unprecedented levels. During the following years, there was a significant compression of credit spreads, across ratings and niche asset classes, and credit managers made large gains by simply holding the debt and capturing the risk premium. This strategy works well as long as liquidity is ample. However, in the middle of 2007 liquidity evaporated, and the spread compression cycle ended violently. The market suddenly realised it was not getting paid for the risks it was taking. Spread compression tends to happen

3 See swissHEDGE Q4 2006, which was entirely dedicated to Asset-Based Lending.

gradually over time. In contrast, as demonstrated by recent history, spread widening typically happens very sudden. This is a risk to the strategy, since spread widening is hard to predict. Further risks are liquidity risk leading to wide bid-offer spreads and the risk of default of a specific credit. Credit managers have a moderate trading frequency with low to medium amounts of leverage. ABL managers typically apply a buy-and-hold strategy with minimal amounts of leverage.

Table 2 I Summary of fixed income strategies

Strategy	Term Structure Trading	Risk Premia Trading	Trading Frequency	Leverage
FI Arb	X		High	High
ABS & MBS	X		Moderate	Medium-High
L/S Credit		X	Moderate	Medium
Distressed		X	Low	Low
FI EM Debt/Rates		X	Moderate	Low-Medium
ABL		X	Low	Low

Source: HC Research

The 2007 Liquidity Crisis - How did we get here and where do we go from now?

2007 will probably go down in financial history as the year of the sub-prime crisis. In reality, sub-prime is only one component of a wider problem within the credit markets. While many markets melted down in a matter of weeks over the summer of 2007, the seeds of the crisis were already sown in the years before as a result of the flawed structure of the credit markets. Investors were induced to take ever more (misunderstood) risks at ever tighter spreads, underwriters were happy to pass on these risks through the securitisation machine, originators of loans had very little skin in the game and were even incentivized to set ever weaker underwriting standards. Last but not least, the rating agencies were playing a big role by setting unduly favourable ratings and getting paid for it by the same people who requested them. All this has lead to a full-blown liquidity crisis that has affected all aspects of the fixed income universe. This is not necessarily a bad thing for fixed income hedge fund returns, as we will see going forward.

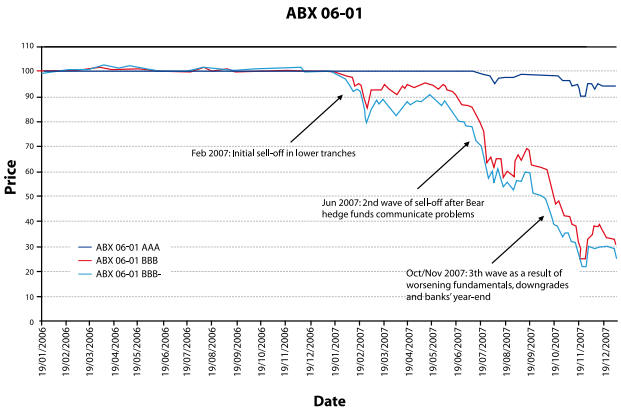
To put the crisis in perspective, it may be worthwhile to go back in time and analyse how it all started. The widely publicized problems in sub-prime mortgages in the US emanated from lax underwriting standards and were particularly prevalent in mortgages originated from 2005 onwards. In the first half of 2006, investment banks started making markets in credit derivatives on asset-backed securities. This allowed hedge funds to take views on the demise of sub-prime securities issued in the before-mentioned period. At the same time a new index was created - the ABX index – which is based on 20 underlying sub-prime ABS deals.[4]

In February 2007, the market suddenly awoke to the worsening performance of sub-prime mortgages after the remittance report - published every 25th of the month - showed that delinquencies were picking up at a rapid pace. The lower rated tranches of the ABX index went into a tailspin and sold off by roughly 20 points. Although slightly counter intuitive, the index recovered modestly in the months after.

After the relative calm in March, April and May, the index took another nosedive in June after two Bear Stearns hedge funds announced they were in trouble. The manager had invested in highly rated tranches of CDO[5] of ABS (see the separate text for a digression on CDOs of ABS) and levered these by an estimated 10-20 times. As a result of margin calls, the fund had to sell large amounts of securities at a time when the market was not able to digest this paper. Pricing these instruments suddenly became completely ambiguous.

In July the market lost confidence in anything that had to do with structured credit (read: CDOs). The market also lost

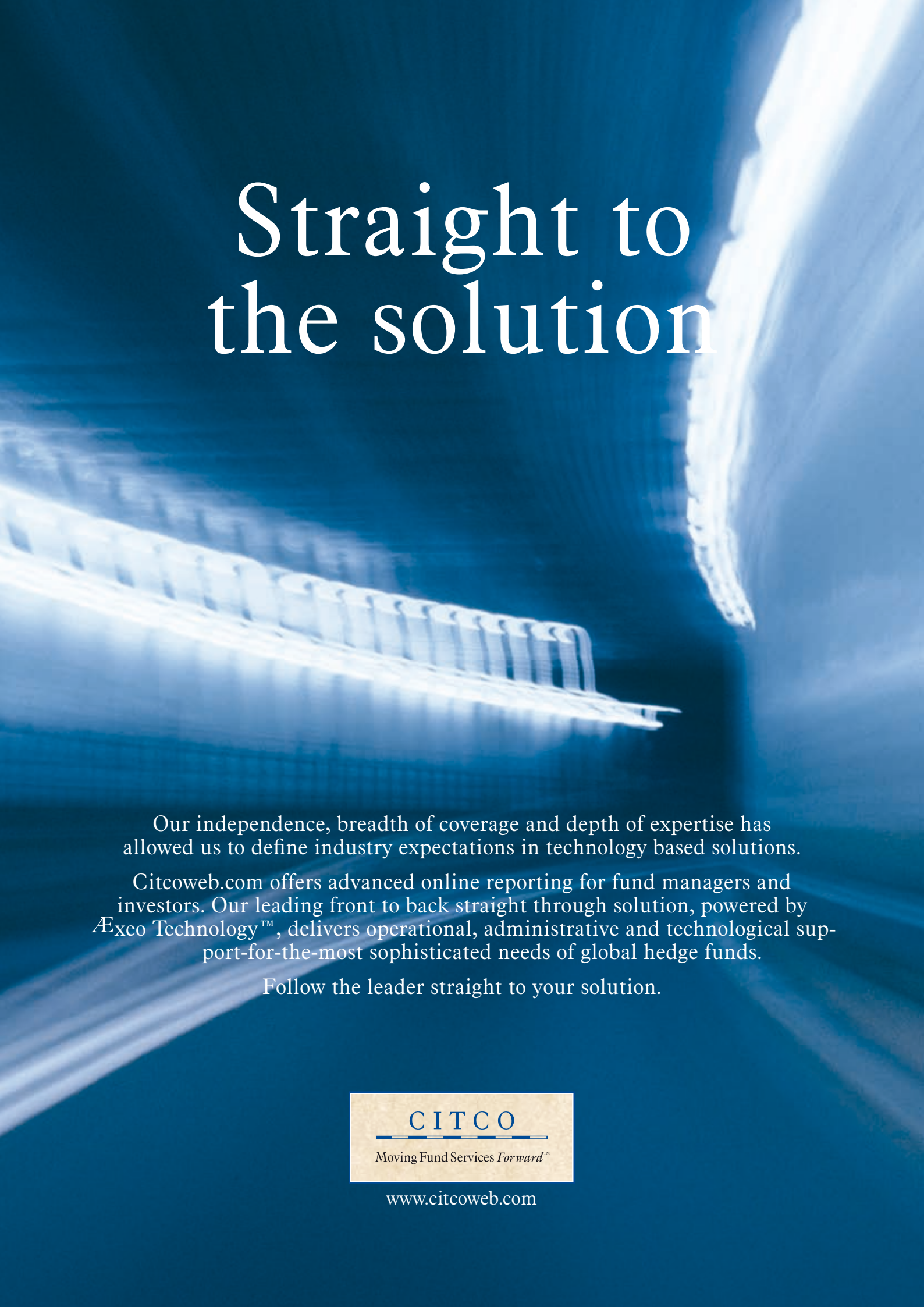
Figure 4 I ABX 06-01 tranche prices



Source: MarkIt & HC Research

4 ABS – Asset Backed Security. A new index is created every 6 months, leading to the ABX 06-01 index, ABX 06-02, ABX 07-01, etc.

5 CDO – Collateralised Debt Obligation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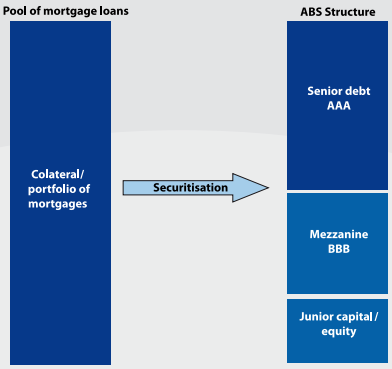
An excursion into CDOs of ABS pricing

A typical ABS deal consists of a large homogeneous pool of mortgages supporting the structure. This pool generates cash flows on a monthly basis due to interest, principal repayment and prepayments. The junior tranches support the tranches higher up in the capital structure, i.e. the first loss is absorbed by the equity tranche, then by the BBB tranche, etc. (see Figure 5). If the deal performs poorly, certain triggers are set off, after which cash flows are diverted from the junior pieces directly to the most senior piece. Losses in the AAA piece are therefore quite unusual.

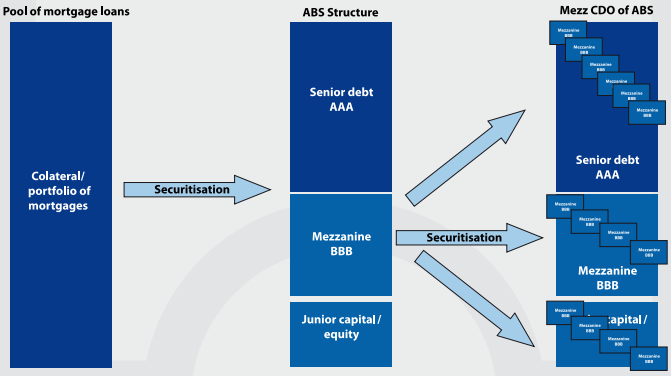
Figure 5 I ABS deal with a pool underlying subprime mortgages



Source: HC Research

A CDO of ABS takes the securitization process another step further. It will buy tranches from a number of different ABS deals, pool those together, and tranche them out again. In this way, one can create a AAA tranche out of a pool of underlying BBB ABS tranches (see figure 6). The structure will look very similar to the first example of a single ABS deal, but the dynamics of the transaction are very different:

Figure 6 I CDO of ABS deal with a pool of underlying BBB ABS tranches



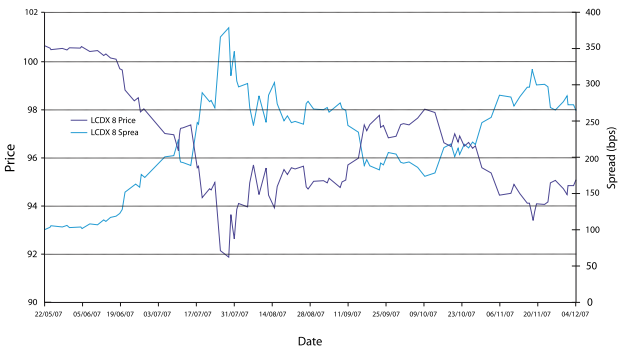
Source: HC Research

The rating agencies helped in the process of creating these CDOs and were putting not only default assumptions into their models but also assumptions on the correlation of defaults of different borrowers. Making these assumptions on a single ABS transaction is already difficult; doing it for a CDO of ABS is even harder. Since the quality of the loans originated in late 2005 and 2006 was so poor, the typical BBB tranche will most likely be impaired in the future. This is also evidenced by the pricing of the ABX BBB index today. For example the ABX 06-02 is currently trading at interest-only levels. Now what happens to a CDO if suddenly all underlying BBB tranches are trading as if they were to default? Arguably, the whole structure needs to be repriced and this also includes the higher rated tranches such as the AAA and AA pieces. This is where the Bear Stearns hedge funds got into trouble. As the AAA pieces sold off by a modest 5 points, losses were exacerbated by the use of leverage.

confidence in the meaning of the AAA rating. The immediate result of this was that the credit markets froze and the sub-prime problem turned into a wider liquidity problem. Suddenly, we went from an environment of high leverage, low risk premia, high risk appetite and weak underwriting standards to the exact opposite. No more deals were being priced as demand had dried up and obscure infrequently traded assets became increasingly hard to price.

Previously, demand for credit product from CLO[6] investors kept spreads in the credit markets tight and were giving a big boost to private equity deals, which were using cheap credit to finance their deals. Typically, CLO managers use warehouses to build up assets before they issue the CLO. The investment banks extend credit lines to finance these warehouses. Since the market had frozen, many of the banks decided to cut the warehouse lines, leading to a massive liquidation of leveraged loans, which according to the LCDX index dropped by an unprecedented 8 points before recovering somewhat (see Figure 7). The result is that loans sold off more than high yield bonds, even though loans are more senior in the capital structure than bonds and therefore less risky. A lot of hedge funds with a negative view on the credit markets had taken a defensive stance and invested in solid leveraged loan names, hedging it out with for example a short on the CDX HY[7] with a hedge ratio of 3:1. Everyone who had applied this strategy found out it had under-hedged its portfolio. The mismatch in pricing between High Yield and Leveraged Loans continued into August.

Figure 7 I LCDX Leveraged Loan Index

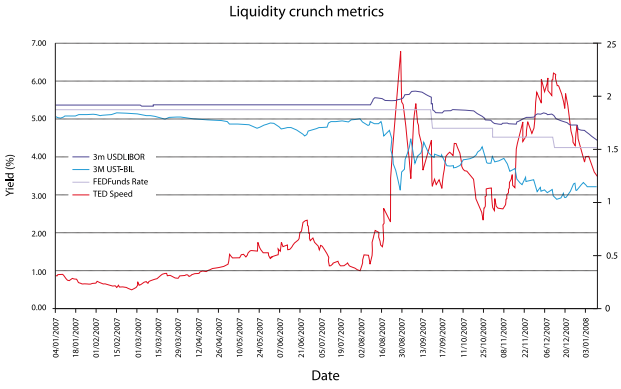


Source: MarkIt & HC Research

Although the disappearance of CLO demand had a dramatic and negative impact on the credit markets, the loss of confidence in AAA instruments had far wider implications. In an opaque corner of the financial markets, banks had been offloading balance sheet exposures through so-called conduits. These off balance sheet vehicles buy long term asset-backed securities and fund it through the issuance of short-term paper, ABCP.[8] The market was estimated to be USD1.2 trillion in size. Money-market funds are typically the buyers of this ABCP paper, which is considered to be very safe. But the repricing of AAA CDO of ABS changed things.

Buyers lost confidence and went on strike. Since the funding of the conduits is very short-term, a lot of paper was rolling off every week and needed to be funded in another way. Often, the only way for the bank is to take the conduit assets back on the balance sheet to avoid reputational issues. Today the market is closer to USD780b due to the rapid decline in the market. This is where the liquidity crisis and credit crunch really emerged. Banks started hoarding liquidity and stopped lending to one another. LIBOR rates spiked, Treasury Bill rates dropped dramatically, and TED spreads (spread between T-bills and LIBOR rates) blew out. This flight-to-quality effect dissipated slightly in September and October, but came back again in November as year-end liquidity issues came to the fore (see Figure 8).

Figure 8 I Money market metrics – 3m USD LIBOR, 3m US T-bill and TED Spread



Source: Bloomberg & HC Research

Outlook

The issues in the money markets continue to hold markets in their grip. Investors will need to regain their confidence but this will take time. Banks will need to start lending to each other again, normalising LIBOR rates, but even so

6 CLO – Collateralised Loan Obligation

7 The CDX HY is a credit index of reference high yield credit default swaps

8 ABCP – Asset Backed Commercial Paper

their balance sheets are bloated with loan commitments to private equity firms and with collateralized debt taken on as a result of the dysfunctional ABCP market. Central Banks have already injected a lot of liquidity into the system albeit with limited success. With the amount of capital tied up on banks' balance sheets, liquidity in all fixed income markets remains limited.

Where does this leave fixed income hedge funds? The market events during the summer of 2007 have certainly taken their toll on a number of fixed income hedge funds, however the current market environment also gives rise to a growing number of opportunities. Returns for fixed income arbitrage managers as measured by the HFRI Fixed Income Arbitrage Index slowly declined during the last few years from a 12-month rolling return of roughly 9% closer to 5% today.

These are not inspiring returns, but reflect the limited opportunity set for this type of strategy. Looking at the markets today, there are a number of very large dislocations which will normalize over time. These include the level of the TED spread, steeper yield curves, wide swap spreads and interest rate volatility which has quadrupled since the beginning of the year. In another corner of the fixed income market, municipal bonds are trading on top of Treasuries, giving no credit to the tax-benefit inherent in municipal bonds. As these relationships normalize, fixed income arbitrageurs are expected to capitalize on these opportunities. Returns of managers that take more directional views on interest rates[9] have also picked up significantly.

In credit markets, we see a similar picture emerging. A lot of price pressure has come from a lack of liquidity in the markets. As liquidity comes back, prices should revert to their fundamentals. For example, the sell-off in leveraged loans has been on a similar scale to the sell-off in high yield bonds, even though leveraged loans are secured and therefore less risky than high yield bonds. This relationship will most likely normalize in 2008, since the pricing in the leveraged loan markets has to a large extent been driven by technical factors. Looking back in time, the HFRI Fixed Income High Yield Index touched an annualized return of 20% after the last credit crisis in 2003. In the last 12 months these returns have dipped below 5%, driven by poor performance during the summer. While risk is being repriced, leverage should come down and credit spreads will widen. When credit starts trading based on fundamentals again, not technicals, returns are expected to pick up significantly, just like they did in 2002 and 2003.

9 These types of managers are generally bucketed under 'Global Macro' managers.

As we go to press, signs of an imminent recession in the US are appearing and many analysts expect the next corporate debt distressed cycle to start during 2008. In fact, both Moody's and S&P are forecasting defaults to increase more than fivefold to almost 5% up from historical lows of below 1% today. This distressed cycle will be different from previous distressed cycles with high levels of leverage, low covenant protection and a credit derivative market that has really not been tested to deal with multiple defaults. As the credit markets go through a transition from bull to bear market, distressed debt managers will be positioning themselves to capitalize on opportunities that will certainly emerge.