



# Hedge fund investing in distressed securities

## Capturing the unique value created by corporate and economic turnarounds

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- Current stressed/distressed market environment offers ample trading opportunities for hedge funds
- The implicit value of distressed securities is often significantly higher than the prevailing market price
- Investing early is better than late

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## Executive summary

The sharp correction in the US subprime market in mid-2007 was the catalyst for what has been a near perfect storm in global credit markets. Competing fears of recession, default, inflation and the possible collapse of a large financial institution and subsequent fire-sale of their loan book helped chase liquidity from the market and lead to a substantial re-pricing of all forms of credit risk.

Distressed securities are primarily debt securities which originate from companies that are in the process of reorganisation or liquidation under local bankruptcy law, or companies engaged in other extraordinary transactions such as balance sheet restructurings. Distressed securities typically trade at a yield-to-maturity of more than 1,000 bps over US Treasuries (UST) or below 80 cents on the dollar. Looking at the US high yield market today approximately USD 200 billion, or 28%, would be considered distressed, up from only USD 8 bn a year ago. Trading in distressed securities is highly inefficient, partly because of forced selling. A hedge fund specialising in credit is often able to purchase securities at a substantial discount to its intrinsic value.

In this paper, we briefly examine the historical growth and the cyclical nature of credit markets. Then we focus on recent developments and provide an overview of distressed hedge fund investing. Finally, we touch on the likely outcome of the current credit crisis and discuss how hedge funds can profit. We base our analysis on the US high yield and leveraged loan market which, despite the growth of other market sectors in recent years, remains the largest and most actively traded distressed securities market.

Currently, the leveraged loan market trades below its previous cyclical lows whereas the high yield market is in better shape. Hence, at current prices, the loan markets offer a more compelling opportunity. We examined the previous bear market in 2002 to estimate the best time to enter the distressed market and found compelling evidence that investing early, before the bottom, offers more upside than investing late. Therefore, we recommend increasing allocations in anticipation of a J-curve like recovery. It is not necessary to pick the bottom of the market to generate above-average returns.

Readers should also keep in mind that distressed managers do not solely play the credit market cycle. While they tend to perform better during bull markets (by harvesting their 'investment seeds') they can also make money in downturns, for example with outright shorts and hedges. Additionally, turbulent markets often deliver pricing opportunities that will improve future performance.

## Growth of the credit market

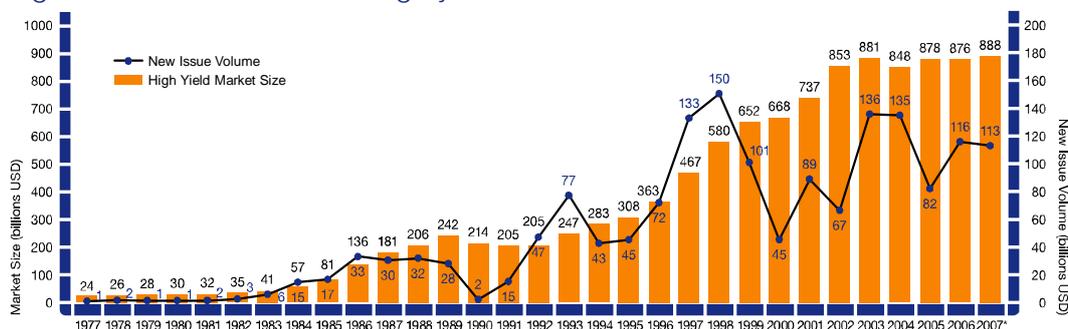
For the purpose of this report, we concentrated on the two largest corporate debt markets: high yield bonds and leveraged loans (bank debt of non-investment grade companies). While some distressed funds also include structured credit products (such as mortgage backed securities), trade claims, leases, receivables vendor financing and other debt-like instruments, most managers focus on loans and high yield bonds.

Since the vast majority of managers solely invest in the US, we will not cover European or Asian distressed topics. In the US, the bankruptcy process is consistent and well established whereas in Europe and Asia each country is different and laws are often ambiguous.

In the US a distressed opportunity typically arises when a company, unable to meet all its debts, files for Chapter 11 (reorganisation) or Chapter 7 (liquidation) bankruptcy. Chapter 7 involves shutting a company's doors and parcelling out its assets to its creditors. Chapter 11 gives the company legal protection to continue operating while working out a repayment plan, known as a plan for reorganisation, with a committee of its major creditors.

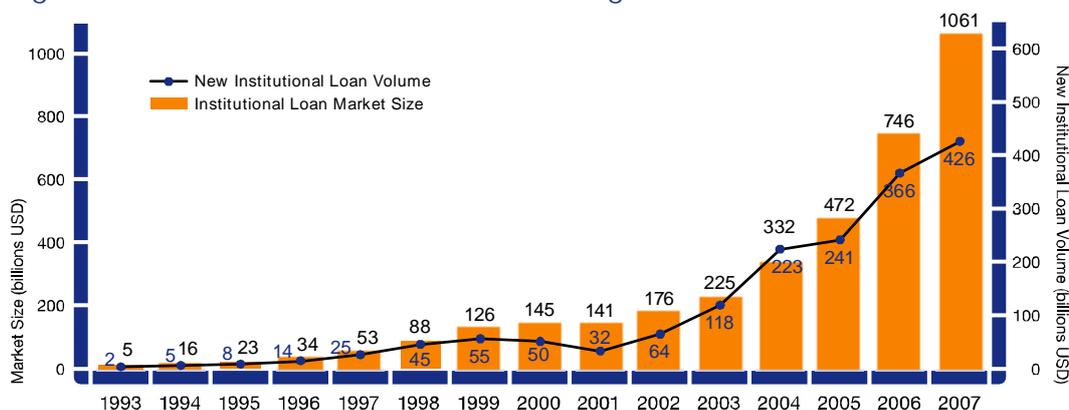
At the end of 2007, the high yield market was worth USD 888 bn and the leveraged loan market USD 1,061 bn. While the high yield market has not grown since 2002, the loan market has grown rapidly during the last few years and last year overtook the high yield market for the first time.

Figure 1: Growth of the US high yield market 1977 – 2007



Source: Credit Suisse. \*As at 31 December 2007. Includes non-investment grade USD-denominated straight corporate debt. Floating rate and convertible bonds and preferred stocks are not included.

Figure 2: Growth of the US institutional leveraged loan market 1989 – 2007



Source: Credit Suisse. As at 31 December 2007. Includes USD-denominated grade fully-drawn term loans.

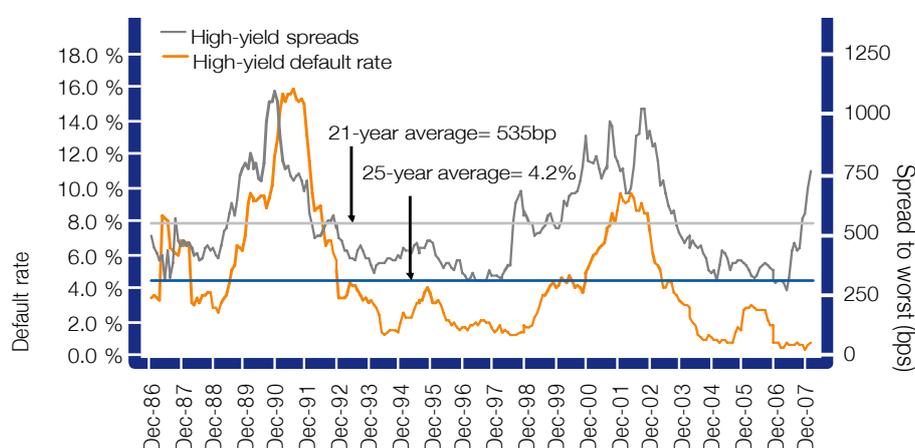
The rapid growth of the loan market during the last few years has occurred on the back of a boom in large leveraged buyout deals, often financed by issuing leveraged loans. At the height of the credit boom last summer, over 30% of all M&A deals in the US were announced by private equity firms.

## The credit cycle

Credit markets are cyclical and generally follow the economic cycle. As can be seen in the figure below, there were two significant bear markets in credit before and during the last two US recessions (1989/90 and 2001/2002). The default rate always lags the credit spreads (credit risk spreads over US Treasuries (UST), spreads to worst, STW) as the market prices in the estimated default rates for the subsequent 18-24 months. Historically, spreads have been a leading indicator of economic weakness and widened before the economic downturn was evident.

When the economy is healthy, as it was from 2003-2006, default rates decline and risk spreads tighten. This environment is supportive for long credit strategies as investors benefit from rising bond prices and falling credit spreads in addition to the current income from coupon payments. When spreads widen, as in the late 1980s, 2001/2002 and H2 2007/YTD 2008, credit risk is re-priced and while the current default rate is still low, higher future default rates are priced in. Credit spreads are sensitive to liquidity which is a leading indicator to equities and the economy. Therefore leveraged loans are usually the first to correct, followed by high yield bonds and eventually equity markets. Please keep in mind that high yield bonds, as any fixed income investment, exhibit an inverse relationship between price and yield.

Figure 3: Default rate versus high yield spreads

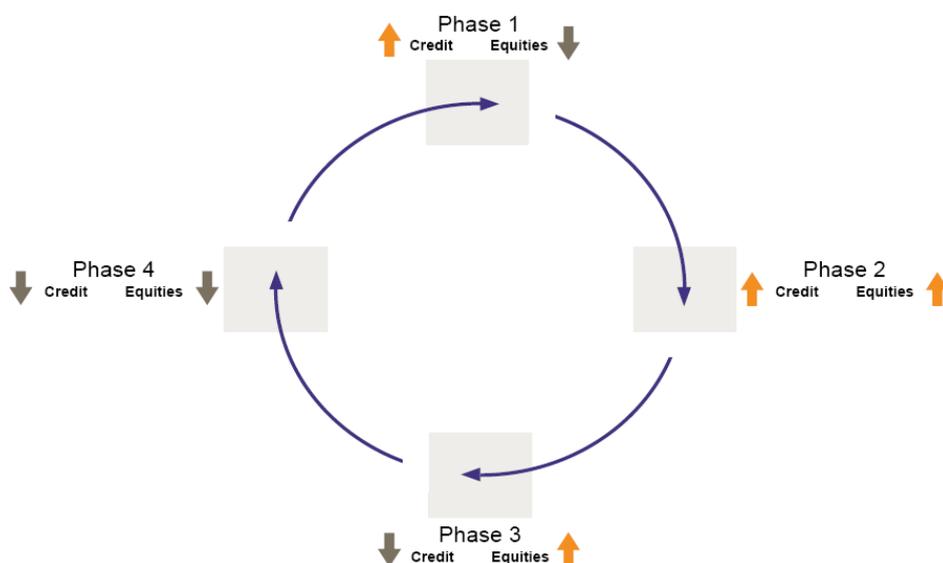


Source: JPMorgan, Default Monitor March 2008. January 1987 to March 2007.

As at 31 March 2008, STW are at 794 bps. This is still some way below the previous two peaks of around 1,000 bps, but significantly higher than last summer. The average default rate has been 4.2% and average credit spreads 535 bps since 1987. It is important to keep in mind that spreads do not follow the economic cycle exactly. For example during 2002 spreads widened as the economy was recovering, primarily due to accounting fraud (Enron, WorldCom) and larger issues of corporate disclosures. Usually, spreads peak at the end of a recession or closely thereafter (e.g. 1980, 1991).

It is also worthwhile to compare the credit cycle to equities. Both are risky asset classes and exhibit sensitivity to the economy. However, they can be in different stages with respect to risk appetite. The next graph shows the four different phases of the credit market cycle.

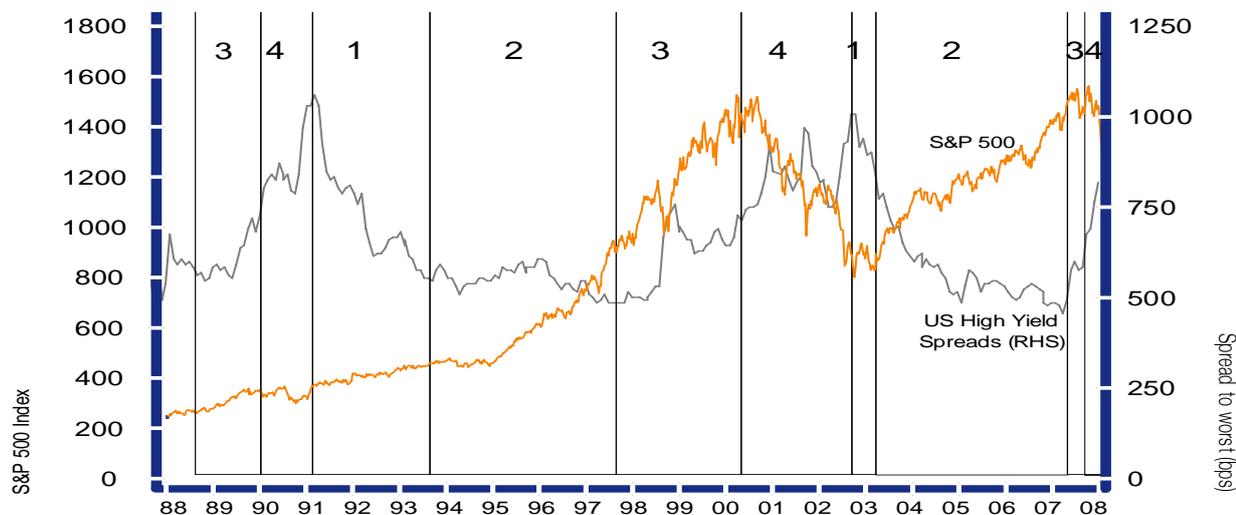
Figure 4: The credit/equity cycle (prices)



Source: Citi Investment Research/Datastream, Man Investments.

- Phase 1: Credit spreads tighten (i.e. credit markets rise) while equity markets still fall: Most interesting phase to be long distressed or credit risk in general as STW quickly come in. Balance sheets are being repaired and troubled companies restructured. In this situation credit outperforms equities.
- Phase 2: Credit spreads continue to tighten while equity markets are rising: Everybody is happy and volatility across all asset classes is low or declining.
- Phase 3: Credit spreads are rising (i.e. credit markets fall) while equity markets still rise: Late stage of the equity bull market as credit enters the emerging bear market. In this phase, corporate debt starts growing faster than profits and volatility is increasing. During the current cycle, this phase lasted only four months as equities peaked in October 2007 while credit markets began their decline in July.
- Phase 4: Both equity and credit are in a bear market (current phase): This phase is bad for all risky asset classes. During this phase, investors can slowly build up exposure in the credit markets before phase 1 begins again. Entering the markets in this phase can yield the best future returns but requires patience as initial returns are often negative (J-curve or U curve).

Figure 5: US equities and high yield spreads (with phases indicated)



Source: Citi Investment Research. January 1988 to 27 February 2008.

We think that this framework, although simplistic, is extremely helpful in demonstrating the cyclical nature of equity and credit markets. Moreover, an understanding of where we are in this cycle will help forecast future trends. Late phase 4 and early phase 1 are the best periods to invest. Since we are in phase 4, we think that it is an appropriate time to begin slowly building exposure in credit markets. Of course, nobody knows how long this phase will last and it is possible that credit spreads will widen a few hundred basis points more. The important finding is that credit markets lead equity markets, i.e. they usually recover before equity markets do. Currently, credit markets price in a higher probability of a recession than equity markets. Morgan Stanley estimates that if credit pricing is correct, equities have to undergo a further correction of 10-15% from mid March levels.

## Recent developments (Summer 2007 until March 2008)

The slowdown in the US housing market in early 2007 had a spill over effect on to structured products that bundled US home loans. This crisis in US subprime lending triggered a wave of selling in the credit markets in July and August 2007. Almost overnight, investors lost their appetite for risk and banks were left with hundreds of billions of unsold loans on their balance sheets. As investors were increasingly pricing in a serious downturn in the US, risk appetite diminished further and all but the best credits were re-priced. Rating agencies, which were blamed for being too generous with subprime-related securities, quickly downgraded large quantities of lower quality paper.

Structured credit products, such as CDOs (Collateralised Debt Obligations), became hard to value as market liquidity disappeared almost completely. During November and December general credit risk was re-priced as it became apparent that the problem had spread from Wall Street to Main Street. Forced liquidations were the driving force in the first quarter of 2008 as credit markets became trapped in a negative spiral. The need to reduce risk forced investors to sell assets into an illiquid market. Those fire sales drove prices down further which, in turn, prompted more investors to reduce risk. As a result, loan demand was acutely reduced. This precipitated a supply/demand mismatch resulting in the current credit crunch.

The leveraged loan market has experienced unprecedented volatility and price declines in a very short period of time. This has been the result of a number of factors including an overhang of new issuances, the

disappearance of CLOs (Collateralised Loan Obligations) and declining LIBOR rates (the loans' interest rates are tied to LIBOR). With an assumed recovery rate of 70%, leveraged loans currently trade at prices that reflect default levels not previously experienced in the market. Due to technical factors, some loans even trade below their recovery value.

Figure 6: Market has re-priced risk in leveraged companies



Source: Underlying manager of RMF Investment Management, a wholly owned subsidiary of Man Group plc/adjusted by Man Investments Research.

Unlike previous credit downturns, leveraged loans have corrected more sharply than more liquid, higher volatility assets such as high yield bond and equities. This indicates that the current correction is driven primarily by liquidity concerns unlike the historical pattern of volatility led corrections where more volatile assets would adjust to a greater extent than less volatile assets. Hence, while high yield spreads are narrower than 2002 levels, loans are currently wider.

The three key factors that have changed since the credit crunch of 1989-90 are disintermediation, availability of derivatives and the rapid increase in liquidity from 2003-2006. These factors meant financial markets reacted much faster and in a more exaggerated fashion to stressful events. In the loan market, for example, prices dropped much quicker than in previous corrections.

## Introduction to the credit/distressed universe

The credit/distressed universe primarily consists of debt securities of companies that are in the process of reorganisation or liquidation under local bankruptcy law, or companies engaged in other extraordinary transactions such as balance sheet restructurings. Companies can become distressed for any number of reasons such as:

- Too much leverage on their balance sheet
- Liquidity problems
- Credit downgrades
- Poor operating performances that require reorganisation
- Accounting irregularities
- Inadequate cash flows
- Competitive pressure

Trading in distressed securities is highly inefficient, partly because of forced selling. When a security defaults or is downgraded, investors such as high yield mutual funds, endowments, CLOs and any other investor whose mandates does not permit them to hold such securities are frequently obliged to sell them, often at a discount. The leveraged loan market, for example, has recently witnessed forced selling due to CLO liquidations. Some of

these vehicles had to unwind positions when prices dropped below USD 90 to remain in compliance with their investment guidelines.

The implicit value of distressed securities is often significantly higher than the prevailing market price. Furthermore, sellers may react emotionally in anticipation of a potential bankruptcy and overlook or ignore the company's true worth. In addition, distressed investing requires a highly specialised skill set – most investors do not have the skills or the information required to properly assess the value of a distressed company or its likely evolution through the bankruptcy process. Those that do can generate outsized returns.

Distressed debt investors require strong negotiating skills, asset valuation skills and industry expertise. They typically come from a legal background, in which they have had exposure to the bankruptcy process, particularly in the US. In addition, sourcing of and access to distressed deals is often only possible if one has a large network in this particular investment field.

## Distressed securities

The distressed securities universe is huge and includes all kinds of securities of below investment grade debt. The investments may include high yield bonds, below par/distressed bank loans, debtor-in-possession loans<sup>1</sup>, second lien notes, seller paper<sup>2</sup>, trade claims/receivables, 'busted' convertibles<sup>3</sup> and municipals, credit default swaps, credit default indices, preferred stock as well as common stock, rights/warrants, equity 'stubs'<sup>4</sup>, PIPES<sup>5</sup>, collateralised debt, bond and loan obligations, futures, options, swaps and indices, bridge and mezzanine loans, bonds including both corporate and municipal, real estate assets including leasehold interests, among others.

The structured credit universe is a different category altogether. It has only been in existence for the last six to seven years and has so far been considered by only a handful of hedge fund managers, as the proper valuation and risks of the structures is fairly complex making it more difficult to analyse arbitrage opportunities.

Distressed debt instruments trade at a yield-to-maturity of more than 1,000 bps over US Treasuries or prices below 80 cents of a dollar. As of 31 March 2008 approximately USD 200 bn of the USD 888 bn US high yield market could be considered distressed, up from only USD 8 bn a year ago.

## Distressed hedge fund investing

Hedge fund managers focussing on distressed securities tend to perform best during bull markets as they then harvest profits from the 'investment seeds' sown during previous economic downturns and recessions. In that sense, distressed hedge fund investing has some similarities to private equity investments, where it also takes considerable time until profits are returned. Nevertheless, even in a good economy there can be bargains. The auto and airline sector, for example, offered ample opportunities during 2004-2006 even though the economy was strong. Distressed investing is largely a bottom-up strategy where returns depend less on the overall credit market cycle than on company or sector-specific factors.

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<sup>1</sup> Debtor-in-possession loans: loans of a company that continues to operate while under the Chapter 11 bankruptcy process.

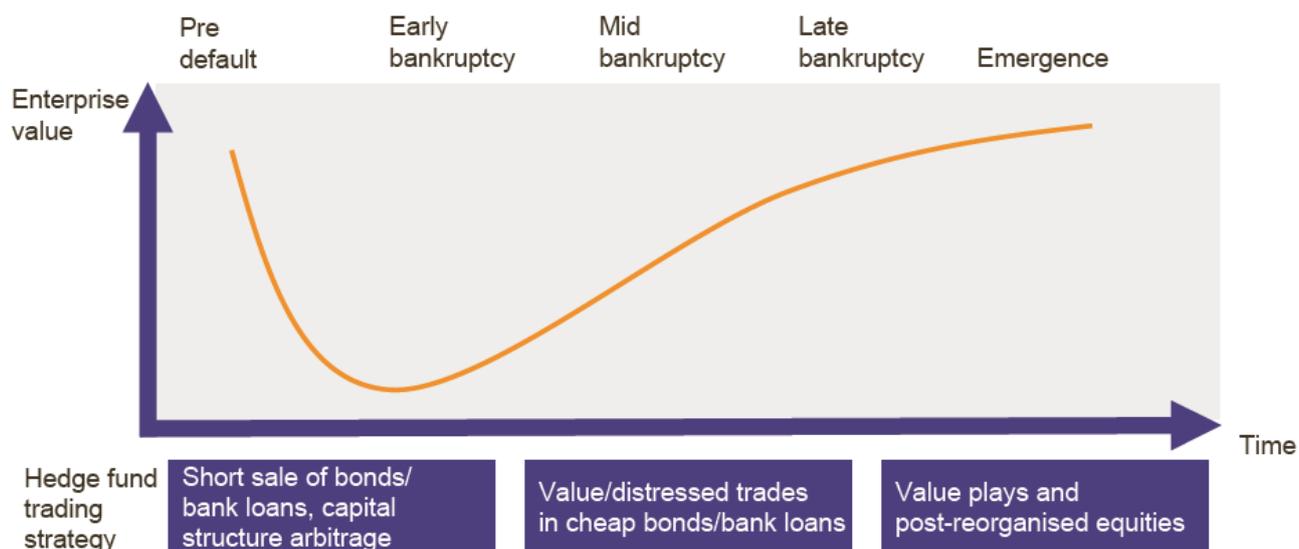
<sup>2</sup> Seller paper: Notes issued by companies, filling the gap in the capital structure after traditional financing sources have been exhausted. Unlike third party financing, terms for seller papers are privately negotiated and thus bear an intrinsic risk.

<sup>3</sup> Busted convertible: convertible trading well below its conversion value.

<sup>4</sup> Equity stubs: Stocks in a company that are over-leveraged as a result of recapitalisation. They are very speculative and risky, but have an unlimited potential if the company manages a turnaround.

<sup>5</sup> PIPES: private investment in public equity, i.e. a private company's or other qualified investor's purchase of stock in a company at a discount to the current market value per share for the purpose of raising capital.

Figure 7: Distressed hedge funds find value across the full credit cycle



Source: RMF Investment Management, a wholly owned subsidiary of Man Group plc. Schematic illustration.

As the figure above shows, the lifecycle of a troubled company can be broadly divided into five different stages: pre-default, early, mid and late bankruptcy as well as emergence.

A company in the pre-default stage is in the process of restructuring its balance sheet, often due to poor risk management. In the early bankruptcy stage, the affected company tries to negotiate an out-of-court exchange offer with its creditors. In such a case the company usually offers an equity stake in exchange for an extension of the debt maturities or even a reduction of debt.

During the mid-bankruptcy stage, the company decreases leverage, thereby stabilising its balance sheet. Hedge fund managers often purchase pre-structured debt at this stage.

In the late bankruptcy stage, companies have almost recovered and hedge funds purchase post-restructured debt. The final emergence stage refers to the strong recovery of a company.

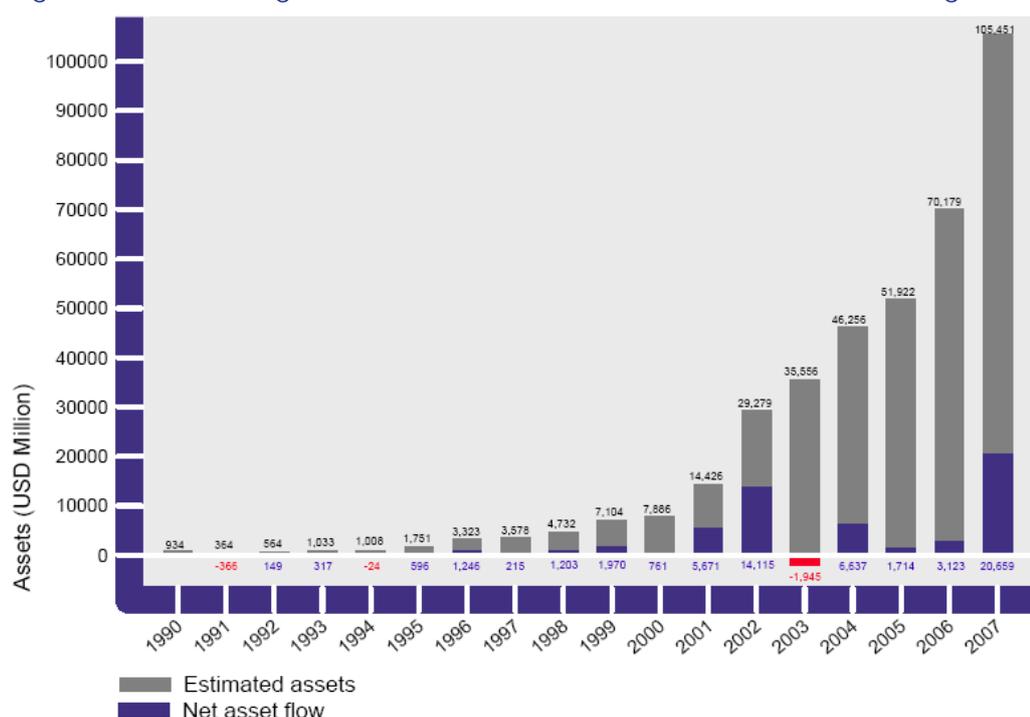
The majority of strategies employed by distressed hedge fund managers involve investments in 'below investment grade' securities. This means that successful strategy and security identification largely depends on the individual manager's industry knowledge, bottom-up securities selection expertise and the correct identification and/or diversification of risks associated with securities. Successful credit/distressed trading thus requires in-depth knowledge in the following areas:

- Understanding the true risk and values involved
- Legal background
- Previous exposure to the bankruptcy process
- Restructuring expertise
- Negotiation skills
- Correct valuation
- Large network to source/access distressed deals

## Distressed universe

Distressed hedge funds only make up a small portion of the total hedge fund universe. According to Hedge Fund Research, 5.64% of the entire hedge fund universe was managed by distressed hedge funds as at December 2007. Nevertheless, figure 8 below shows that assets managed by distressed hedge funds have grown rapidly since 2002, when the credit cycle had its last peak.

Figure 8: Estimated growth of assets / net asset flow of distressed hedge funds 1990 – 2007



Source: Hedge Fund Research, Inc. Data as at end December 2007.

Looking at the whole of 2007, 9.42% of total net hedge fund asset inflow went into distressed hedge funds. This figure is expected to increase quite a bit in 2008, as several hedge fund managers have already indicated that they are planning to launch a dedicated credit/distressed fund in order to benefit from the current market turmoil. As investors are flocking to funds that specialise in distressed debt, competition might dampen returns if pickings are too slim.

## Investment strategy

Most of the distressed hedge fund managers apply both a top down and bottom up approach for their investment process. The top down approach looks at the development of macro themes whereby potential investment ideas are originated in a number of different ways, including:

- Monitoring market behaviour and price movements of specific securities
- Networking with contacts in a variety of industries
- Networking with contacts on the buy and sell side
- Monitoring news and other events
- Reviewing industry journals, research reports and publications

During this process, hedge fund analysts try to anticipate specific industries undergoing a) rapid change, b) cyclical recession or c) regulatory adversity in order to determine potentially attractive investment opportunities in their target industries.

Once these target industries have been identified, a bottom up approach is executed on a company level, whereby fundamental research is carried out. Hedge fund analysts thus:

- Assess, through quantitative and qualitative analysis, the company's fundamental business, its creditworthiness, and its competitive strengths and weaknesses, including its current market share, margins and future growth prospects
- Analyse historical trends
- Develop and maintain a framework for detailed financial modelling
- Review the capital structure along with a complete analysis of the covenants in its debt instruments
- Search for positive catalysts for debt and equity appreciation/refinancing opportunities/ free cash flow generation
- Examine bankruptcy and potential regulatory, tax and legal issues that may subject the company to additional risks
- Review public documents and available research reports
- Maintain dialogue with management, industry participants, analysts and consultants

Only when both the top down and bottom up analysis have been carried out can the hedge fund manager move on to the investment execution. This includes understanding the market/trading dynamics, creating positions at a discount to asset value as well as optimising the risk/return profile within the capital structure. Different to other hedge fund strategies, distressed hedge funds do not tend to use leverage.

Once a portfolio has been set up, its positions are reviewed on a regular basis as part of the risk management process. Beside standard risk management measures such as Value-at-Risk (VaR) calculations and review of price movements of each security in the portfolio versus expectations, risk management for distressed hedge fund investing also covers the following aspects:

- Arbitrage risk models that analyse individual relationships among securities
- Diversification through sector and position limits
- Leverage limitations
- Credit information: market share, historical margins and future growth prospects
- Quantify tail risk in portfolio
- Analyse cost and effectiveness of various hedging instruments
- Liquidity analysis – how long does it take to liquidate a position

## Sub-strategies within distressed hedge fund investing

Some distressed hedge fund strategies can overlap with private equity strategies. However, there is a key difference between the two. While private equity investors usually work with the management on a day-to-day basis, hedge funds are less involved in the operative leadership of company. Instead, they concentrate on trading opportunities surrounding the company's outstanding stock and bond securities.

### Active versus passive

Hedge fund managers focussing on the distressed universe can be categorised as active or passive. Active managers are more situation specific and thus show a lower correlation to the overall credit market. Active managers can be further split into 'control' and 'non-control'. 'Active control' managers – as the name suggests – get more involved in the daily business of their target company, meaning that they can also take a seat in the board or work on site with the company, working closely with the management. Active control managers thus acquire control and block positions – usually more than one third of the impaired asset class – in order to have an appropriate influence. 'Active non-control' managers on the other hand do not lead restructurings, even though they own a large enough chunk of the company's shares. As active distressed hedge fund managers receive company inside information they are restricted with regards to trading. Hence, they cannot sell their positions until the bankruptcy process is complete. Also, active managers find opportunities in all credit environments whereas passive funds are more cyclical.

Passive managers are more trading oriented, benefit from cyclical opportunities and tend to focus on large caps. As they only rely on public information, they are not restricted with regards to trading positions. They usually base their analysis on liquidation break-through analysis and apply shorting as well as relative value trades, mainly in the high yield sector. Their performance tends to have a higher correlation to credit markets than their active counterparts. Furthermore, while active managers typically focus on a long-only strategy with a few short positions for hedging purposes, passive distressed managers tend to apply both long and short positions. Table 1 below shows the differences between active and passive distressed hedge fund strategies.

Table 1: Active versus passive distressed approach

Active		Passive
Control	Non-control	
<ul style="list-style-type: none"> <li>Requires 1/3 to block and 1/2 to control: may require partners</li> <li>Heavy lifting, private equity style investing, restricted</li> <li>Exit: 2-3 years</li> <li>Mid/small cap focus</li> <li>Opportunities: all credit environments</li> </ul>	<ul style="list-style-type: none"> <li>Senior secured/senior unsecured</li> <li>Influence process, sometimes restricted</li> <li>Exit: 1-2 years</li> <li>Mid/small cap focus</li> <li>Opportunities: all credit environments</li> </ul>	<ul style="list-style-type: none"> <li>Invest in undervalued securities trading at distressed levels</li> <li>Trading oriented; long, short and capital arbitrage</li> <li>Exit: 6-12 months</li> <li>Large cap focus</li> <li>Opportunities: cyclical</li> </ul>

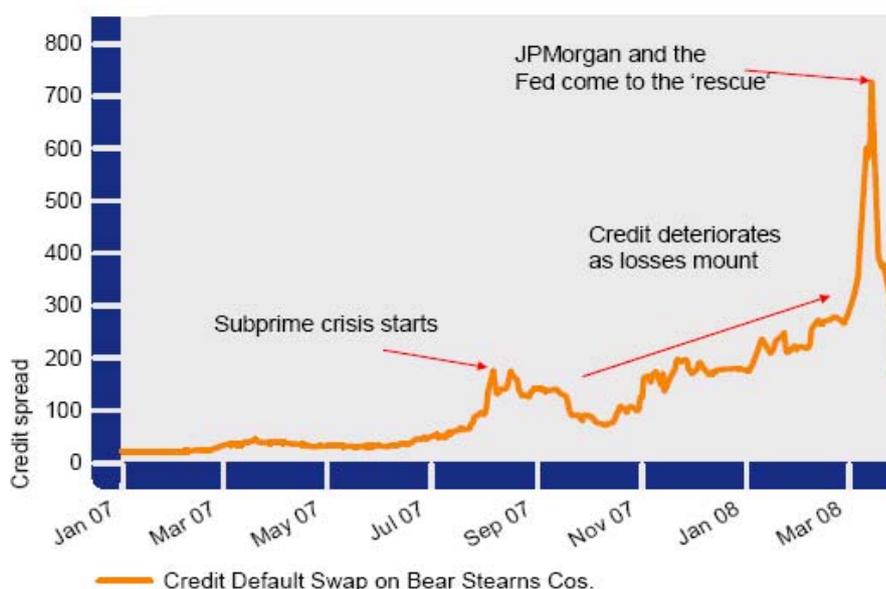
Source: RMF Investment Management, a whole owned subsidiary of Man Group plc.

There are several sub-strategies within distressed hedge fund investing. We have tried to come up with some clear distinctions, but please note that these categories are only one way of dividing up the distressed hedge fund universe and are not exhaustive.

## Outright short

An outright short is a strategy where the manager expresses a bearish view on the credit fundamentals of a company. Often, this is implemented by buying Credit Default Swaps (CDS). CDS are derivatives that gain in value when the credit deteriorates, i.e. the likelihood of bankruptcy increases. As the name implies, outright short are single-legged, unhedged trades that are employed opportunistically. During Q4 2007 and Q1 2008 some managers have bought CDS on banks and profited handsomely. Bear Stearns, for example, was perceived to suffer most from a liquidity dry-up as the US fifth largest investment bank relied heavily on short term refinancing. During March 2008, Bear Stearns almost collapsed and had to be rescued by JP Morgan and the Fed.

Figure 9: Senior 5 yr CDS on Bear Stearns



Source: Bloomberg. Performance in USD. January 2007 to 27 March 2008.

## Long/short

Long/short managers typically go long securities of companies that are undervalued and where they expect that the company's fortune will improve. For short positions managers sell securities of companies where fundamentals are expected to deteriorate. Positions are often taken inter-company within the same sector. Depending on the market cycle and the managers' view positions can be more or less long biased. This approach is very similar to long/short equity with the difference that debt securities are used.

## Capital structure arbitrage

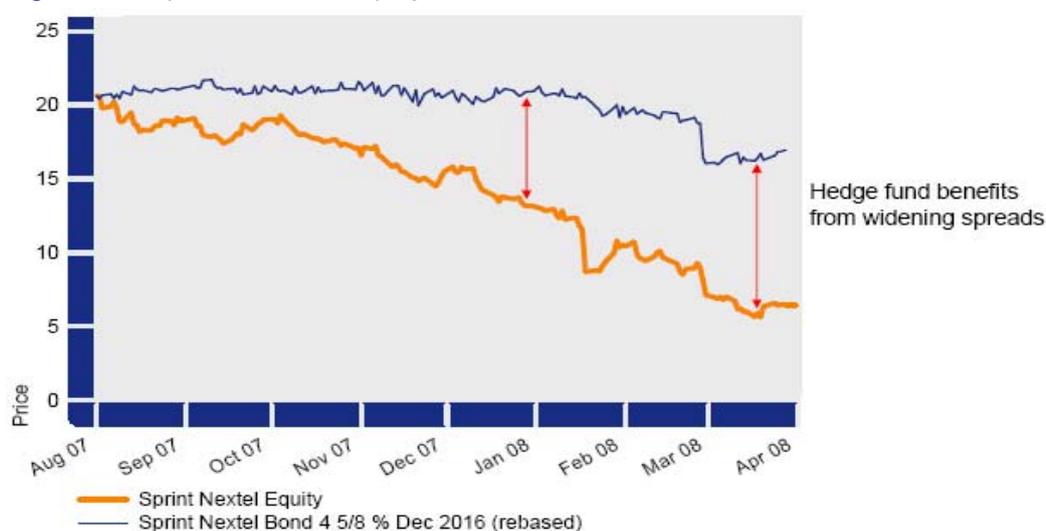
Managers focussing on capital structure arbitrage analyse the mispricings between securities of the same issuer and generate profits by taking a long position in the security that is higher in the capital structure and a short position in the security that is lower in the capital structure or vice versa.

Examples include buying senior secured debt and shorting junior subordinated debt or buying bonds and shorting the common stock. Both the senior secured debt and the bond enjoy a higher standing in the bankruptcy process than either junior debt or common equity.

As a result, when the distressed situation occurs or progresses, senior secured debt should appreciate in value relative to the junior subordinated debt. Furthermore, the price spread between the bond and common stock should increase. In such a situation, the distressed hedge fund manager closes out the positions and locks in the profit that occurs from the increase in the spread.

The next figure shows Sprint Nextel, one of the largest telecommunications companies in the US. Sprint has several operational issues such as negative free cash flow, declining market share, a possible violation of its bank covenants and bad subscriber debt. Some managers have bought bonds and shorted the equity of Sprint. This trade benefits if the equity declines more than the bonds, which is usually the case when a company's fundamentals worsen.

Figure 10: Sprint Nextel - equity versus bond



Source: Bloomberg. Performance in USD. 1 August to 28 March 2008.

In order to evaluate potential mispricings, managers need to analyse the capital structure of individual companies by looking at the average yield, recovery rate, coverage and leverage, whereby coverage refers to the ratio of the total enterprise value to each tranche within the company's capital structure and leverage is defined as debt/EBITDA of each company.

Furthermore, hedge fund managers need to identify the nature of claims in a target company's capital structure as well as its liabilities. They also need to develop a detailed understanding of each class of claims, including factors such as size of claims, relative seniority, composition of claims, security, liens, and guarantees as well as understand the relationship agreements among equity holders and pay attention to contingent liabilities. Moreover, several legal issues such as rights of subordinated creditors and whether off-balance sheet liabilities such as derivatives are legally enforceable in certain countries need to be cleared.

Before opening a trading position, hedge fund managers construct a series of pro forma restructuring scenarios in order to determine the degree of recovery that can reasonably be expected for the target company's various classes of creditors by applying different economic and timing assumptions.

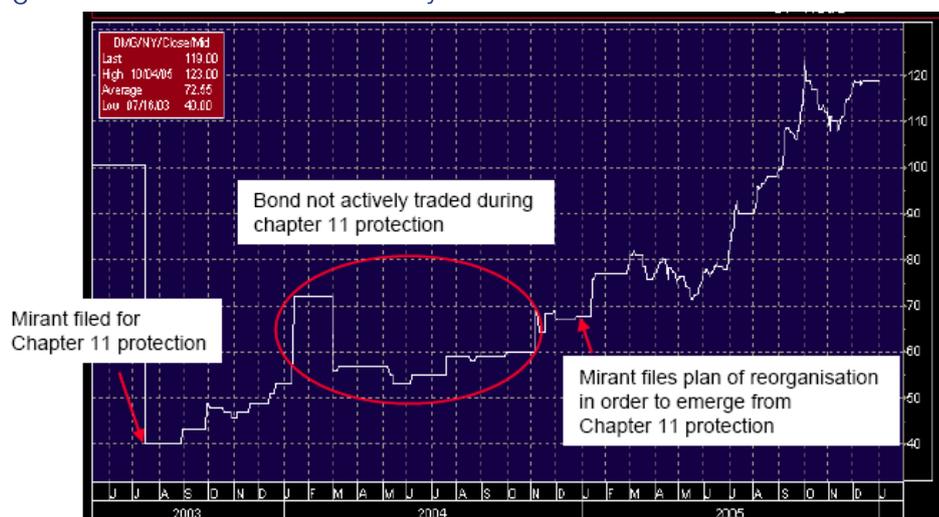
## Value/ Deep value

Managers concentrating on value/deep value trading invest in securities that are undervalued. They tend to purchase securities of a distressed company shortly before it announces its reorganisation plan to the bankruptcy court. Hedge funds investing in those companies expect that there will be a positive resolution with the company's creditors. Currently one area of interest for these investors is asbestos. Many compelling franchises are trading at depressed valuations because of investors' fear and confusion surrounding the asbestos liabilities of these companies. Examples include Owens-Illinois (glass packaging), Crown Holdings (metal can manufacturing) and W.R.Grace (refining catalysts and construction additives).

Another area of interest for distressed managers focusing on value investing is securities of companies that have just undergone a restructuring. Often the securities of these companies remain undervalued even though the company has completed the restructuring process and has new management in place. Recent examples include the airline sector, where competition and soaring costs pushed many companies to the brink and triggered a wave of consolidation. Another example is US automotive OEMS (Original Equipment Manufacturers), who are under pricing pressure in a rapidly globalising market dominated by a handful of major manufacturers, a number of which are going through financial difficulties of their own. Although many OEMS have implemented cost-led restructuring plans, they continue to face significant pressures due to declining margins and excessive debt.

During 2002 new capacity and a soft economy resulted in a US power glut. Many power and energy companies suffered. Mirant, an Atlanta based power operator, unsuccessfully attempted to renegotiate its debt and was forced to file for Chapter 11 in July 2003. The company was subsequently restructured through operations efficiency, workforce reductions and other cost saving measures. In early 2006, the company exited Chapter 11 and was successfully re-listed on the NYSE.

Figure 11: Mirant 5 ¾% bond July 2007

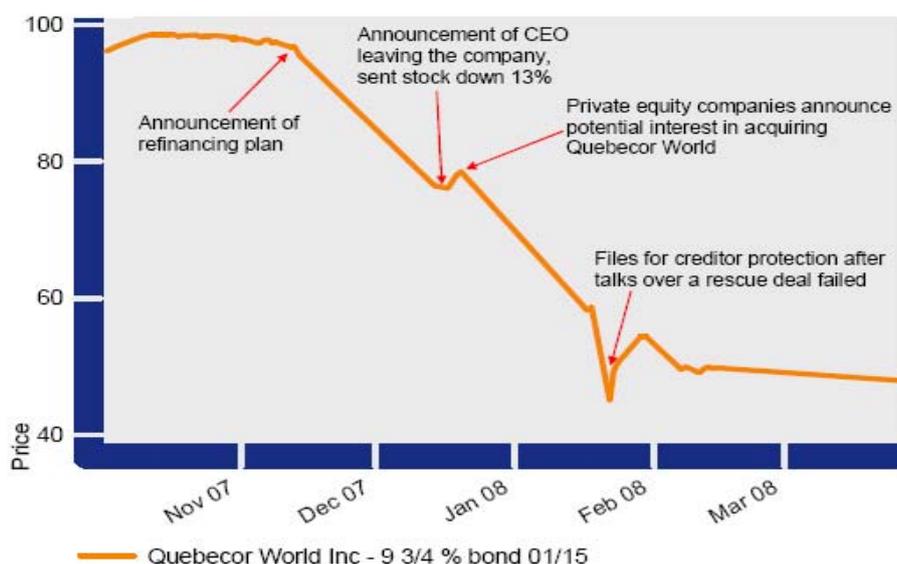


Source: Bloomberg and RMF Investment Management, a wholly owned subsidiary of Man Group plc. Performance in USD. 1 May 2003 to 31 December 2005.

## Rescue financing

Rescue financing typically involves lending to a company that is experiencing cash flow problems. Shortly before the company enters the bankruptcy process, a rescue financing package can prevent Chapter 11 filing. Some hedge funds have been active in this area as they are able to quickly assess the situation and the risk/return trade-off. Such deals can be interesting as the interest rates are high and there is usually some form of equity participation. Quebecor World Inc., a Canadian commercial printing and media services firm, accepted a CAD 400 m rescue financing proposal in January this year from private equity companies as well as hedge funds. The completion of the recapitalisation plan is subject to a number of conditions, including the approval of the financing plan by holders of certain debt securities. Quebecor has struggled lately in the face of growing competition from digital media.

Figure 12: Rescue financing of Quebecor World Inc.



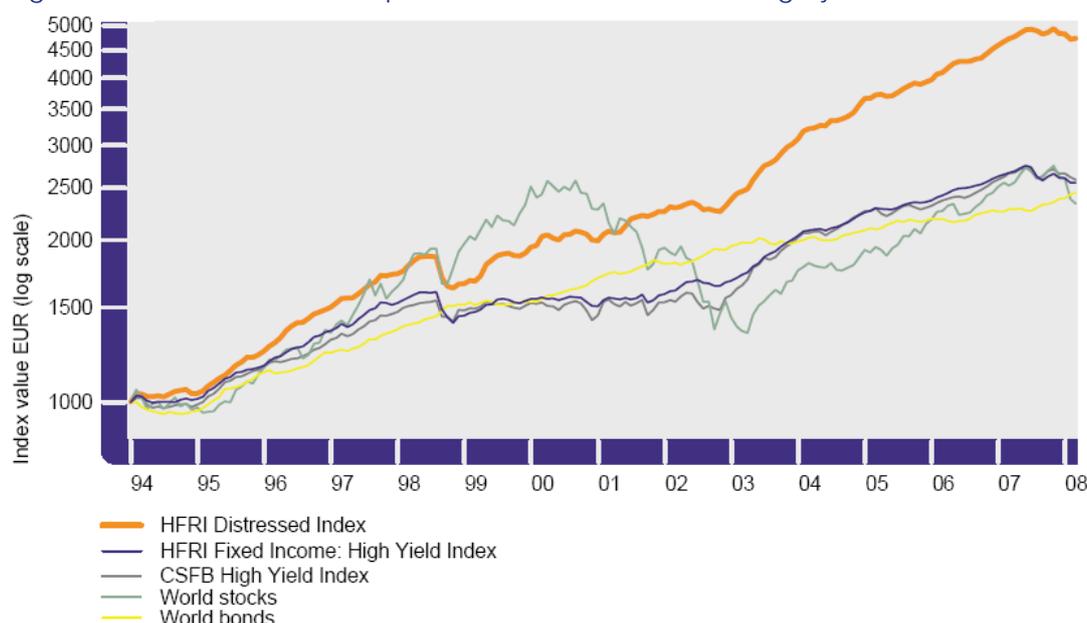
Source: Bloomberg and RMF Investment Management, a wholly owned subsidiary of Man Group plc. Performance in USD. 2 October 2007 to 28 March 2008.

## Performance characteristics of distressed hedge funds<sup>6</sup>

As mentioned earlier, distressed hedge funds can find value across the full credit cycle and their performance is mostly driven by idiosyncratic events and to a lesser degree by the overall credit market. Performance tends to be better during and after economic turnarounds when spreads tighten. This is when the profits from the successful restructuring can be reaped. As can be seen in the next figure and table, distressed hedge funds have performed well in terms of absolute as well as risk-adjusted returns. Please keep in mind that the index used is non-investable and may exhibit autocorrelation and survivorship bias. As can be seen in figure 13 below, distressed hedge funds vastly outperformed passive high yield and equity markets. This was especially true for the 2000-2002 bear market for both credit and equity.

<sup>6</sup> Please see the appendix page regarding all the indices used on the following pages.

Figure 13: Performance comparison – distressed versus high yield and world stocks/bonds



Source: Bloomberg. Performance in USD. Period analysed: 1 January 1994 to 29 February 2008.

While distressed hedge funds showed steady growth from 1994 to 2001, the significant growth of this hedge fund strategy occurred from 2002 until 2005 as the strategy capitalised on the recovering US credit markets and the US economy following the three year bear market from 2000 to 2002. Distressed hedge funds performed much better than traditional or alternative high yield indices during this period as they benefited from corporate turnarounds and successful reorganisations of companies coming out of bankruptcy during the bull market. During 2006 and 2007, distressed hedge funds benefited from company specific deals and less from the overall market movement. The table below shows the statistics underlying figure 13 above.

Table 2: HFRI Distressed versus traditional and non-traditional high yield, world stocks and bonds

1 January 1994 to 29 February 2008	HFRI Distressed Index	HFRI Fixed Income: High Yield Index	CSFB High Yield Index	World stocks	World bonds
Total return	374.16 %	155.70 %	158.91 %	133.84 %	144.94 %
Annualised return	11.61 %	6.85 %	6.95 %	6.18 %	6.53 %
Annualised volatility	5.25 %	4.49 %	5.93 %	13.30 %	3.02 %
Downside deviation	3.36 %	3.47 %	4.26 %	9.87 %	1.85 %
Sharpe ratio	1.27	0.51	0.42	0.19	0.67
Sortino ratio	2.02	0.68	0.59	0.25	1.07
Worst month	-8.50 %	-7.16 %	-6.79 %	-13.94 %	-2.01 %
Best month	5.06 %	2.98 %	5.99 %	8.09 %	3.49 %
Skewness	-1.50	-1.89	-0.79	-0.77	-0.19
Kurtosis	8.35	7.81	3.70	1.01	0.44

Source: Bloomberg. Performance in USD, calculated by Man Investments. Sharpe ratio and Sortino ratio are measures of risk-adjusted performance that indicate the level of excess return per unit of risk. Risk is expressed as standard deviation for the Sharpe ratio and as downside deviation for the Sortino ratio. Both ratios are calculated using the risk-free rate in the appropriate currency over the period analysed.

As mentioned earlier, distressed hedge funds benefit from company specific events and are thus less dependent on the overall market movement. This can be illustrated with the below correlation table. While distressed hedge funds show negative correlation to world bonds for the time period 1994 to most recent, they show some medium positive correlation to high yield indices. This is to be expected, as distressed hedge funds invest in the same securities, but following a different approach. Nevertheless, the reader should not forget that distressed hedge funds have a smaller downside deviation compared to long only investments.

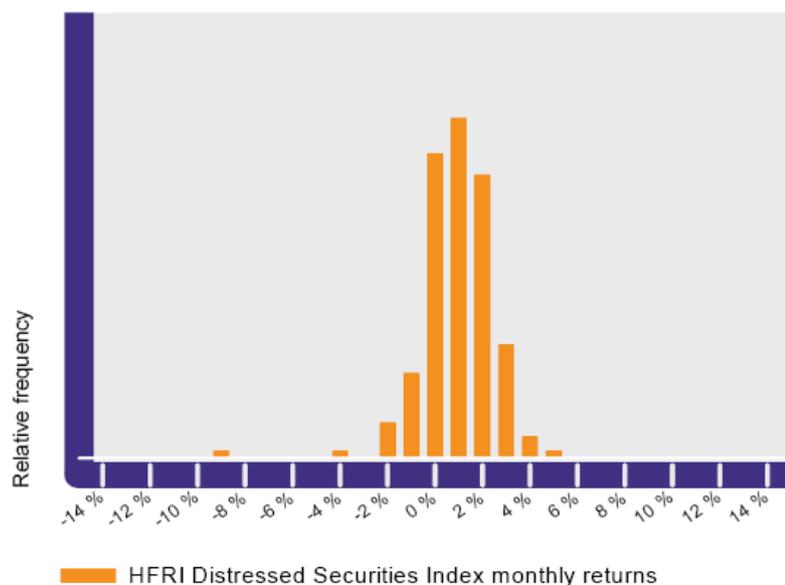
Table 3: Correlation of distressed hedge funds to other indices

Correlation 1 January 1994 to 29 February 2008	HFRI Distressed Securities Index	HFRI Fixed Income: High Yield Index	CSFB High Yield Index Value	World stocks	World bonds
World bonds	-0.11	-0.09	0.05	-0.14	1.00
World stocks	0.55	0.52	0.54	1.00	
CSFB High Yield Index	0.67	0.81	1.00		
HFRI Fixed Income: High Yield Index	0.80	1.00			
HFRI Distressed Securities Index	1.00				

Source: Bloomberg. Performance in USD, calculated by Man Investments.

Performance and correlation, however, are only one aspect when analysing distressed hedge fund investing. In order to get a full understanding of this strategy, key characteristics such as skewness<sup>7</sup> and kurtosis<sup>8</sup> should also be taken into account. Figure 14 below shows the monthly distribution of the HFRI Distressed Index for the period 1994 to January 2008. For that period, the monthly return distribution of returns for the HFRI Distressed Index ranged from -8.50% to 5.06%. The return distribution indicates that distressed funds exhibit negative skewness (more negative outliers than positive ones) and positive kurtosis (fat tails).

Figure 14: Monthly distribution of HFRI Distressed Index (January 1994 to February 2008)



Source: Bloomberg. Performance in USD, calculated by Man Investments.

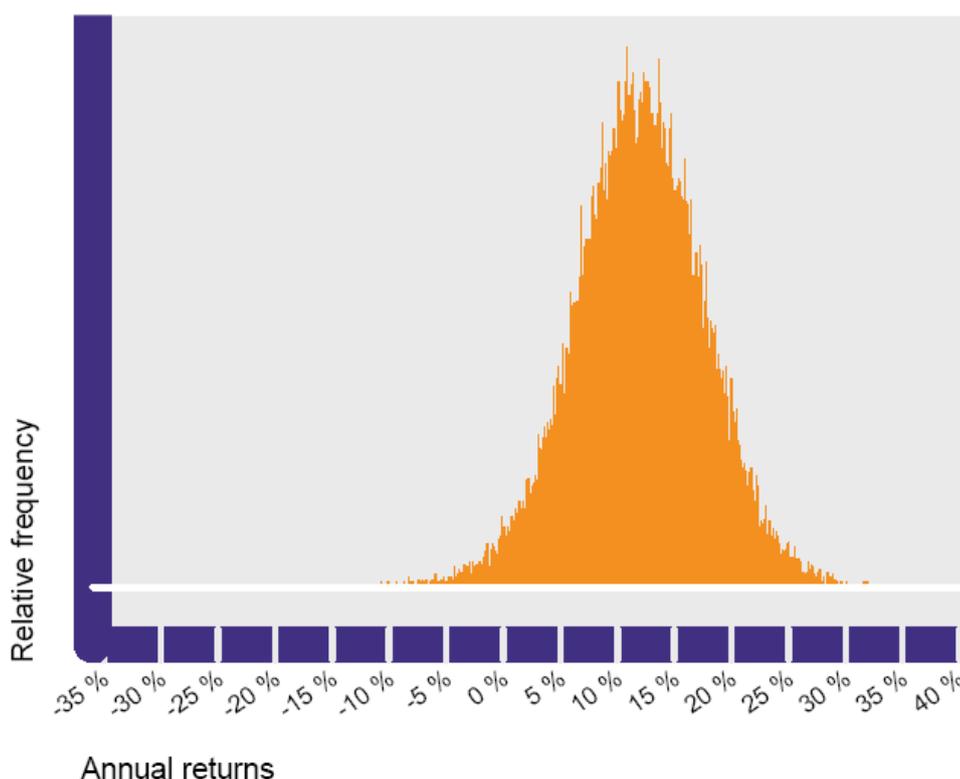
<sup>7</sup> Skewness measures the asymmetry in a distribution around its mean. A positive skew indicates that the mean of the distribution is to the right of the median and that there are more frequent large positive returns than there are large negative returns. A positive skew thus demonstrates a bias to the upside. A negative skew indicates that the mean of the distribution is to the left of the median of the distribution. This means that there are more frequent large return observations to the left of the distribution (negative returns) and there are more small- and midrange positive return observations to the right of the distribution.

<sup>8</sup> Kurtosis measures how fat the positive and the negative tails of a distribution are. A positive value of kurtosis indicates that the distribution of returns has greater probability mass in the tail of the distribution than would be expected compared to a normal distribution. A negative value of kurtosis indicates the reverse, i.e. that there is less probability mass in the tails (fewer outlier events) than a normal distribution.

The distribution above only reflects historical aggregated performance and does not capture the entire range of possible outcomes that can be reasonably expected in the future. Figure 15 below shows the results of the Monte Carlo modelling for the HFRI Distressed Index. The probability distribution indicates that the expected annual return ranges from around -10% to over 30%. It also reinforces the fact that returns are negatively skewed with fat tails.

Fat tails stem from the fact that distressed hedge funds are exposed to significant event risks such as bankruptcy, liquidation, foreclosure, creditors seizing assets, among others. As distressed hedge funds tend to invest in below investment grade securities, they are affected first in case of the above mentioned problems. On the other hand, distressed hedge funds generate higher annualised mean returns with lower risk than high yield bonds.

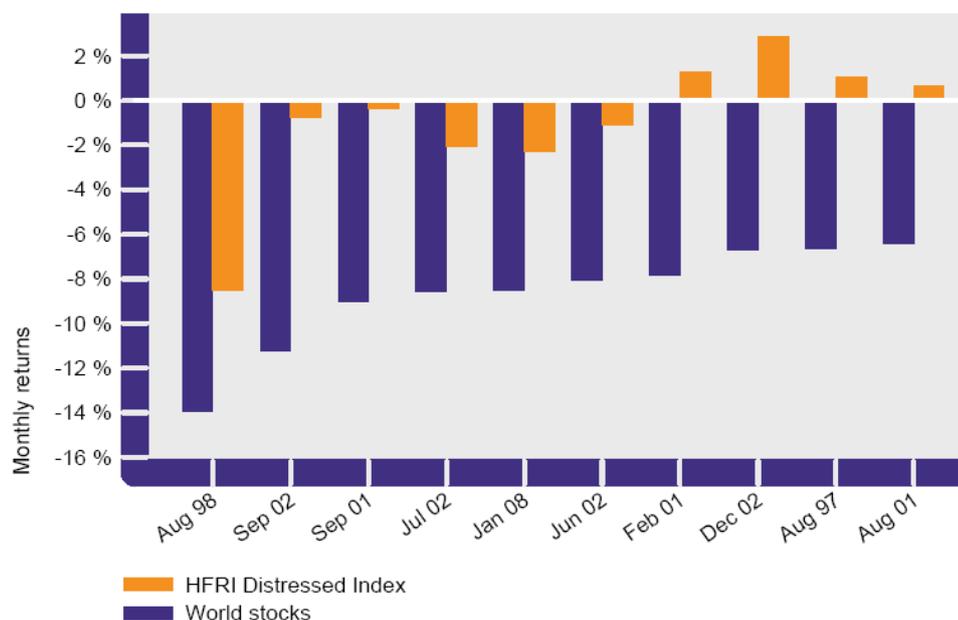
Figure 15: Probability distribution of HFRI Distressed Index



Source: Bloomberg. Performance in USD, calculated by Man Investments.

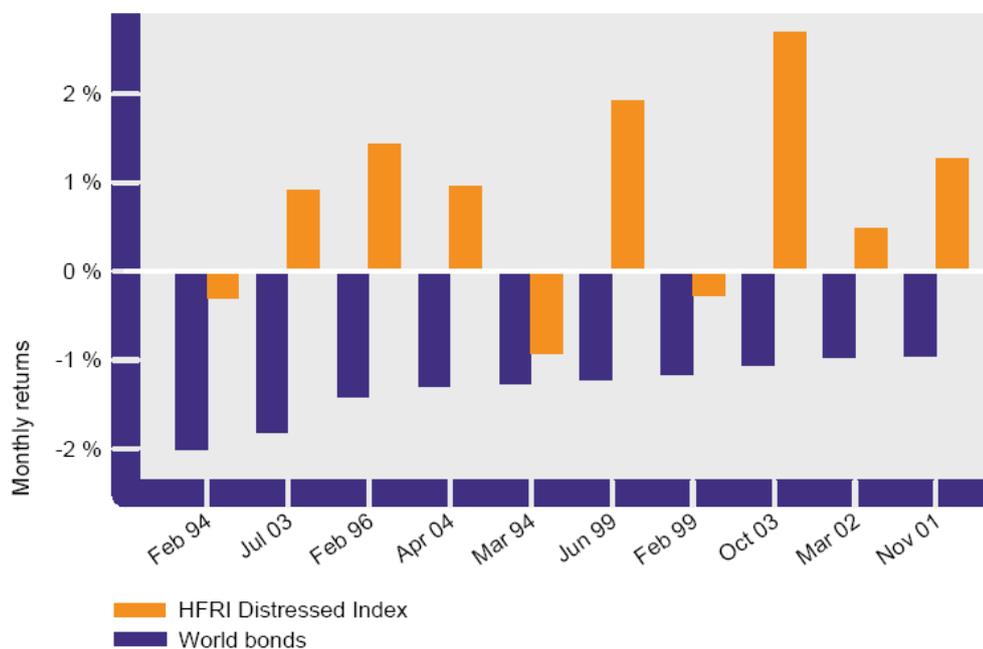
Compared to traditional investments such as stocks and bonds, distressed hedge funds provide downside protection, as their returns are mostly driven by idiosyncratic positions and to a lesser degree by market events. Both figures 16 and 17 below show that distressed hedge funds have been able to protect capital during the ten worst months for world stocks and world bonds since 1994.

Figure 16: Distressed hedge funds during ten worst months for world stocks



Source: Bloomberg. Performance in USD, calculated by Man Investments.

Figure 17: Distressed hedge funds during ten worst months for world bonds



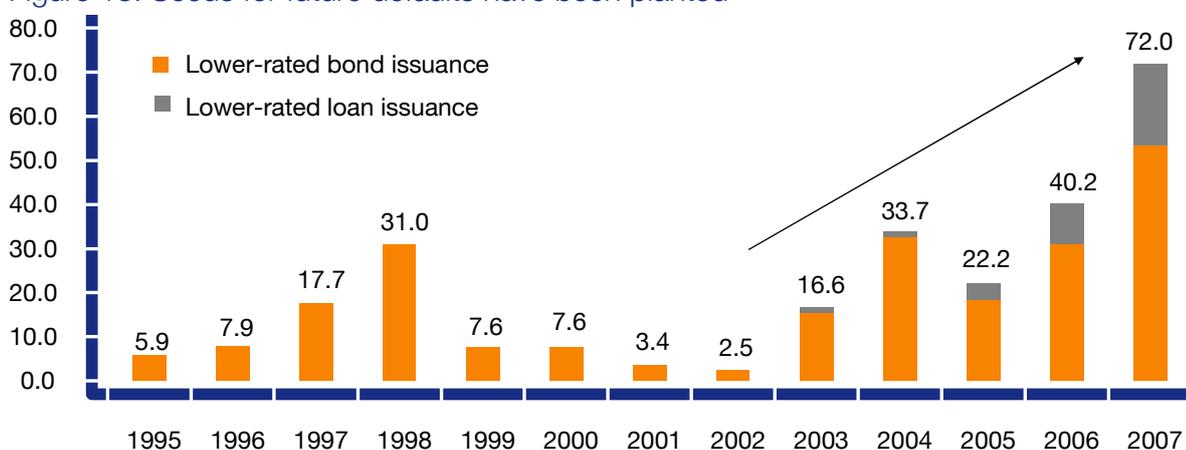
Source: Bloomberg. Performance in USD, calculated by Man Investments.

## Credit outlook – it may get worse before it gets better

During 2007, close to 50% of all new high yield issues were rated B- or below. Given the recent market turmoil and the resultant closure of the credit markets, we expect to see a significant increase in the number of companies going into default as they will no longer be able to refinance. The situation is further exacerbated by the strong possibility of a recession in the US. This will greatly improve the opportunity set for distressed managers.

In a study conducted by Ed Altman, 23.4% of bonds rated B (by S&P) defaulted over the four years ended September 2007. For bonds rated CCC, the default rate for the same time period increased significantly to 49%. This is notable as nearly 25% of issuance was rated lower quality over the period. Due to the massive growth of the credit markets and the fact that lending standards were extremely loose over the last few years, the opportunities are likely to be unprecedented in size.

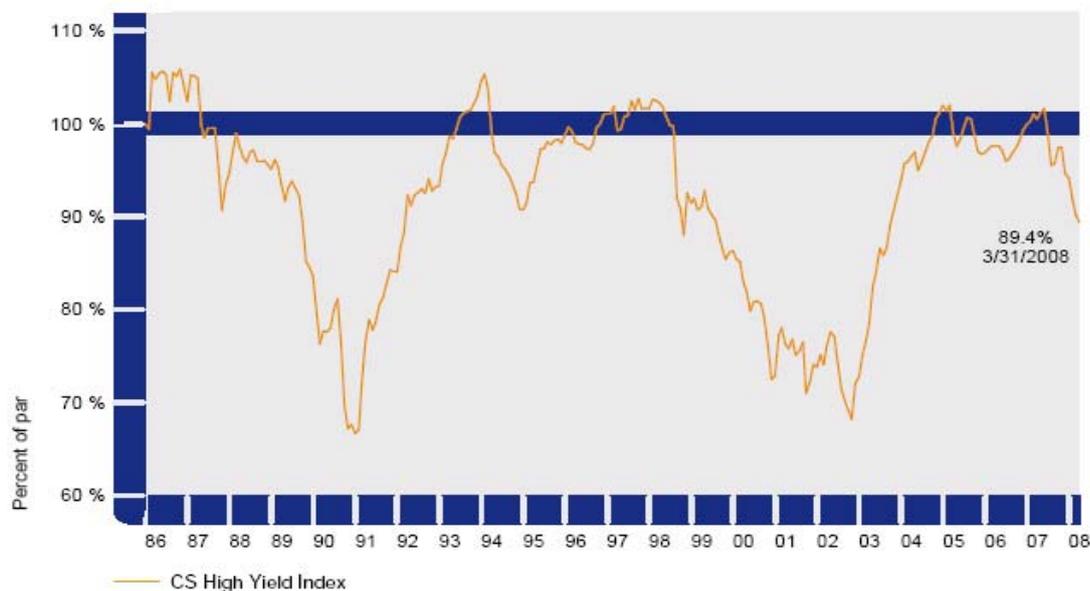
Figure 18: Seeds for future defaults have been planted



Source: JPMorgan, High Yield Weekly Update, 22 February 2008.

If the US economy is slipping into a recession, we believe default rates of 6-7% are likely in 2009. Presently, at 794 bps STW, the high yield market is pricing in a greater than 50% probability of this outcome. According to JP Morgan, current spreads reflect a 5.4% default rate. For reference, historical average default rate are about 4%. The current average price of a high yield bond is 89.38% of par. In the last two bottoms for the credit markets (1991 and 2002), this figure was just below 70%, as seen in the figure. During both periods the US was in a recession, which is where it seems to be heading now. Therefore, historical guidance indicates that there is still some downside left before markets reverse. However, if markets rebound quickly, we may not have as many compelling distressed opportunities but rather a recovery opportunity.

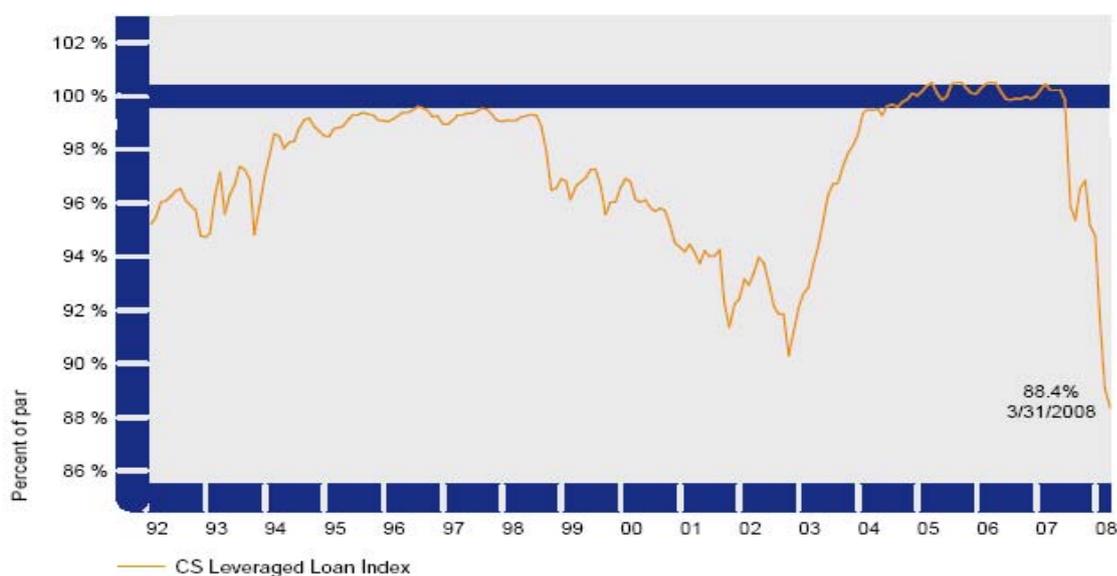
Figure 19: Average price of the CS High Yield Index 1986 – 31 March 2008



Source: Credit Suisse.

Prices in the loan market have already reached, or even overshot, their 2002 lows. As previously mentioned this is due to lower liquidity and forced selling. Opportunities in the leveraged loan markets are plentiful. Given the sharp drop in loan prices over the past several months, with most issues currently trading in the mid to high 80s, loans are priced at deeply recessionary levels. Some estimates point to an implied default rate three times higher than during the savings & loan crisis in the early 1990s which is widely considered to be the worst credit crisis in the last 30 years. Hence, loans currently offer a more compelling investment opportunity compared to bonds.

Figure 20: Average price of the CS Leveraged Loan Index 1992 – 31 March 2008

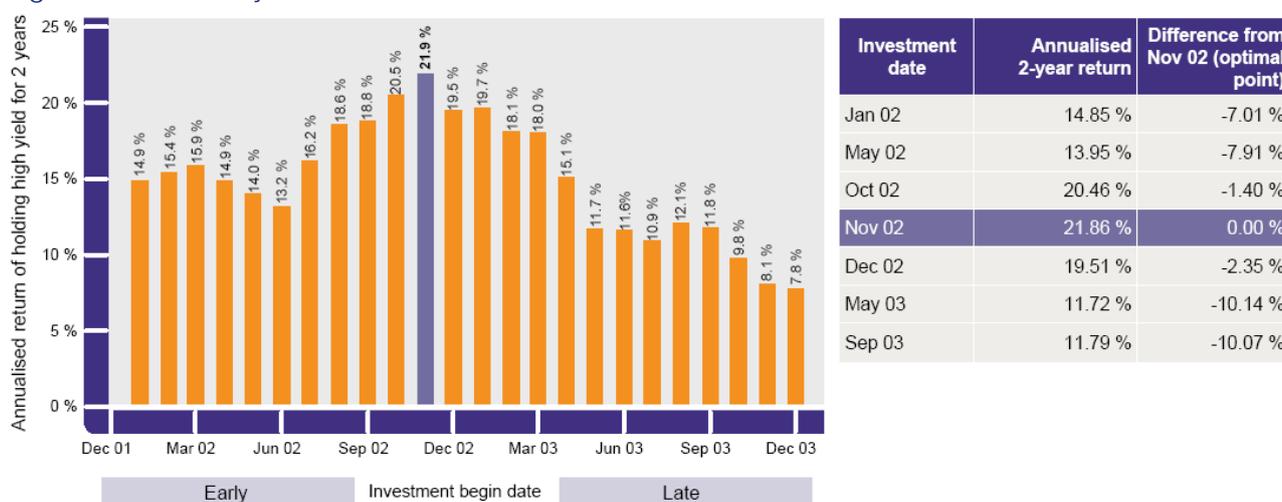


Source: Credit Suisse.

In order to capture potential defaults and possible recoveries, it is absolutely crucial for distressed hedge funds to invest early, as spreads usually tighten faster than they widen, especially for fundamentally sound companies. Figure 21 below shows the difference between early and late investing after the 2001/2002 recession. It demonstrates that the optimal date to invest would have been November 2002, thereby generating a two-year annualised return of 21.9% as October 2002 was the bottom of the market.

As it is hard to capture the bottom of a credit cycle, it is better to invest early rather than late. The average two-year annualised return for investing 1-12 months earlier than the optimal month was 15.9%, while the average for investing 1-12 months later was 13.9%. On average, investors who purchased high yield early earned nearly ¾ of the return of investors who timed the market perfectly and they outperformed investors who invested too late. This asymmetrical response rate is a function of the illiquid nature of the high yield market.

Figure 21: The early bird catches the worm



Source: Credit Suisse, Leveraged Finance Strategy Update, 12 February 2008.

## Conclusion

The current credit crisis offers attractive investment opportunities for distressed hedge funds, as distressed markets are inefficient and hedge funds can often buy securities at deep discounts, benefiting from forced selling by other market participants. As a result of the very loose lending standards such as covenant-lite structures that were put in place between 2005 and H1 2007, average prices for high yield bonds have fallen substantially during the last few months while those for leveraged loans have already overshot their 2002 lows and are priced at deeply recessionary levels.

Credit markets are cyclical in nature, but capturing the bottom of the credit cycle is difficult. In anticipation of a J-curve like recovery, investing early offers more upside potential than investing late. This has been evident during the previous bear market in 2002. Furthermore, investors should not forget that distressed investing should be seen as a long-term investment.

While distressed hedge funds tend to perform better during bull markets by harvesting their ‘investment seeds’ sown during bear markets, they can also make money independent of the overall market credit cycle by focussing on company specific turnarounds.

## Appendix

Indices used:

Style/security	Index name
Distressed	HFRI Distressed Index
World stocks	MSCI World Total Return Index (hedged to USD)
World bonds	Citigroup WGB Index (hedged to USD)
High yield	HFRI Fixed Income: High Yield Index
High yield	CS High Yield Index
Leveraged loans	CS Leveraged Loan Index

Please note: As the investable hedge fund indices only have a track record going back to 2003, the non-investable indices have been used. Due to survivorship and backfilling biases, only the time period starting in January 1994 has been considered. There is no guarantee of trading performance and past performance is no indication of current or future performance/results.

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