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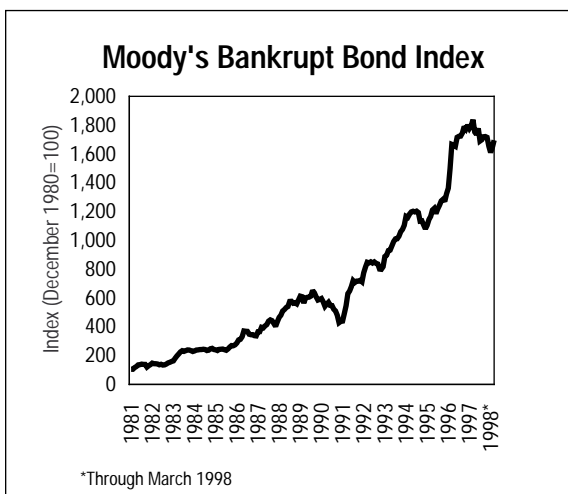
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Moody's Bankrupt Bond Index

Summary

This report introduces Moody's Bankrupt Bond Index (MBBI), a new price index of long-term, publicly issued debt of corporations that have sought legal protection from their creditors, as under Chapter 11 of the U.S. Bankruptcy Code. Moody's created the index to address increasing investor interest in the return characteristics of this market segment. Going forward, we will report the index on a monthly basis. Briefly:

- The total par value of bankrupt debt in Moody's Bankrupt Bond Index has varied substantially since 1981. From 1981 to 1992, the total par value of bankrupt debt climbed from $71.5 million to a peak of over $17 billion. As of the date of this report, the total stands at $5.0 billion, but successive increases in this total registered in the second half of 1997 could indicate the beginning of a new upward trend.

- The industrial sector has consistently contributed the most debt to MBBI as a percentage of total par. Cyclical industries, such as retail, follow the economic cycle more closely, and industries susceptible to sector-specific shocks, such as energy, have contributed more debt to MBBI following those fluctuations.

- Since 1981, the index has produced an average monthly return of 1.5%, and an annualized total return of 17.4%. These returns are accompanied by a high level of risk. Monthly returns are volatile, with a standard deviation of 4.1%.

- While the returns implied by MBBI are highly correlated with those implied by other defaulted debt indices, they display little to no correlation with many other fixed income and equity market return indices, supporting bankrupt bonds' treatment as a distinct asset class.

Moody's Bankrupt Bond Index

Index (December 1980=100)

*Through March 1998

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Introduction

A measure of the financial performance of bankrupt debt is an important tool for investors with exposure to, or considering exposure to, these assets. In an effort to increase understanding about this asset class, we have created Moody's Bankrupt Bond Index (MBBI). MBBI, a par-weighted index based upon bankrupt bond pricing, will assist investors by providing a historical benchmark against which to measure performance. As a gauge of the market for bankrupt corporate bonds, MBBI should also serve to reduce the uncertainty surrounding the return characteristics of bankrupt bonds.

MBBI was developed in response to heightened interest in, and demand for, information about the financial performance of the bankrupt bond sector, for which research has often been untimely and inconsistent. While the return characteristics of performing bond markets and equity markets have been thoroughly explored (Merrill Lynch alone reports over 2,700 unique bond indices), the bankrupt sector has received considerably less attention. Currently, only two indices track defaulted bonds, and none specifically document the performance of bankrupt bonds.

At least part of the reason that the bankrupt sector has been neglected relative to other financial sectors is the difficulty of obtaining timely and accurate information on bankruptcies. As part of Moody's ongoing commitment to corporate bond default research, we have compiled and continue to maintain a unique, comprehensive, and timely database of defaults and bankruptcies that allows us to overcome this difficulty in creating MBBI.

Moody's will track and report this index going forward on a monthly basis. Market participants and others interested in our results will find them in Moody's *Speculative Grade Commentary*. The remainder of this report describes the construction of MBBI and analyzes its historical performance.

Methodology

BANKRUPTCY VERSUS DEFAULT

In the face of uncertainty, it is inevitable that some firms fail. Bankruptcy is the legal system by which the financial claims against economically unviable firms are reallocated, and therefore represents an important component of capital markets' allocative function. Bankruptcy is a subset of defaults that is generally characterized by legal protection for the debtor from creditors' claims. In the U.S. for large public corporations, this protection usually comes under Chapter 11 (reorganization) of the Bankruptcy Code, and Chapter 7 (liquidation) is relatively rare.

Default, in contrast, is a general term covering a variety of financial distress scenarios of interest to bondholders. In addition to bankruptcies, the broader class of defaults includes grace period defaults, omitted or partial interest payments, technical defaults, and distressed exchanges. Moody's defines default as any missed or delayed disbursement of interest and/or principal, bankruptcy, receivership, or distressed exchange where (i) the issuer offered bondholders a new security or package of securities that amount to a diminished financial obligation (such as preferred or common stock, or debt with a lower coupon or par amount) or (ii) the exchange had the apparent purpose of helping the borrower avoid default.

The distinction between bankruptcy and default is important in determining which bonds comprise the index. Specifically, bankruptcy is an objectively defined state whereas default is not. The dates of bankruptcy and bankruptcy resolution establish the period of time over which a bond may be considered for MBBI. The beginning and ending dates for the inclusion of defaulted bonds, on the other hand, are only subjectively defined. Various definitions would lead to a plurality of indices — each reflecting the return characteristics of the population and possible sample selection bias created by the definition.

INDEX DESCRIPTION

Moody's Bankrupt Bond Index measures the monthly par-weighted average price of bankrupt long-term (original maturities greater than one year), public corporate debt issues. Included are straight bonds, discount bonds, PIK's, bonds with option or equity features (such as convertibles), as well as other more exotic types. MBBI includes both Moody's-rated and non-rated issues from all industries and countries, and does not discriminate by issue size. Issues enter the index at the end of the month immediately following the date of the obligor's bankruptcy, and exit the index at the end of the month in which the

issuer's bankruptcy plan is confirmed, whether it reemerges from reorganization or is liquidated. Not included in the index are the defaulted or distressed issues of firms that have not yet filed for bankruptcy court protection.

As an illustration of the selection criteria, consider Homeland Stores, Inc., which had one, non-Moody's-rated, issue outstanding at the time of default (12.25% senior notes due March 1, 1999). Homeland Stores first defaulted on a scheduled interest payment on March 1, 1996, and filed a Prepackaged Chapter 11 plan of reorganization on May 13, 1996, which was confirmed on August 2, 1996. Based on MBBI's criteria, Homeland's 12.25% notes entered the index in June 1996, and exited the index in August 1996. Fluctuations in the price of Homeland Stores notes over that time would be reflected in the index. Index calculations are end-of-month.

Index calculation requires three types of information: dates of bankruptcy and bankruptcy plan confirmation, prices, and the par value of the issue as of the date of bankruptcy. The index is benchmarked at 100 in December 1980, and subsequent index values are calculated by accumulating the aggregate par-weighted percentage price increase/decrease for bankrupt bonds over a period with the index value as of the start of that period. Formally,

$$MBBI_t = MBBI_{t-1}(1+R_t)$$

where $MBBI_t$ is the index value as of the start of period t, R_t is the par-weighted average price return over period t and $MBBI_{t=Dec1980}=100$. The par-weighted average price return R_t is calculated as follows:

$$\left[\frac{\sum_{i=1}^{n}\left(P_{i,t}/P_{i,t-1}\right)D_i}{\sum_{i=1}^{n}D_i} \right] -1$$

where D_i is the par value of bankrupt issue i, $P_{i,t}$ is the bond price for issue i at time t, and there are n bonds in the index at time t.

BANKRUPTCY DATA

Moody's bases the results of this study on a subset of the bonds in its proprietary database of defaults for industrial and transportation companies, utilities, and financial institutions that issued long-term debt to the public. To calculate MBBI we use a subset of the database that includes only those bankrupt issues that meet the bankruptcy criteria defined above and for which we could obtain prices. From the beginning date of the index in January 1981, through the latest period, March 1998, there have been 581 public, corporate, long-term debt issues from 276 issuers that have been included in this index at some time.

The number of bankrupt issuers and issues included in MBBI has varied substantially since 1981, as depicted in **Exhibit 1**. From 1981 until late 1986, the numbers were fairly stable, at an average of about 13 issuers and 27 issues. Over the next six years the number of bankrupt issues increased rapidly, reaching an all-time peak of 158 issues (from 63 issuers) in April 1992. The peak for the number of bankrupt issuers occurred one month before, in March 1992, when the index contained 65 issuers (157 issues). In 1992, the number of issuers and issues in MBBI began to decline precipitously as the bankruptcies that had accumulated over the previous six years were resolved. By 1994 the numbers had almost returned to pre-1987 levels.

Exhibit 2, which shows the annual net addition of issues to the index (i.e., number of issues entering index - number of issues exiting index), illustrates the trend particularly well. Except for 1983 and 1985, there were net additions to the index in every year between 1981 and 1991. Though net additions were large in a couple of years (1986 and 1991), for the most part bankruptcies included in MBBI increased steadily. By 1992, the pace of resolutions exceeded that of bankruptcies, as shown by the large negative net additions to the index in 1993 and the relatively smaller negative net entry over the next three years. 1997 registered the first positive net additions to MBBI in five years, and net entry in just the first 3 months of 1998 has already exceeded that amount.

Exhibit 1 - MBBI Issuer and Issue Counts

*Through March 1998
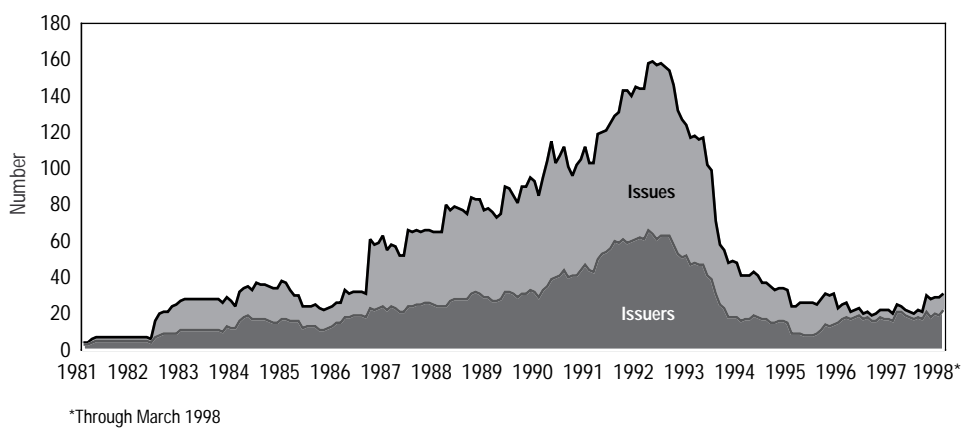
Exhibit 2 - Annual Net Issue Additions to MBBI

*Through March 1998
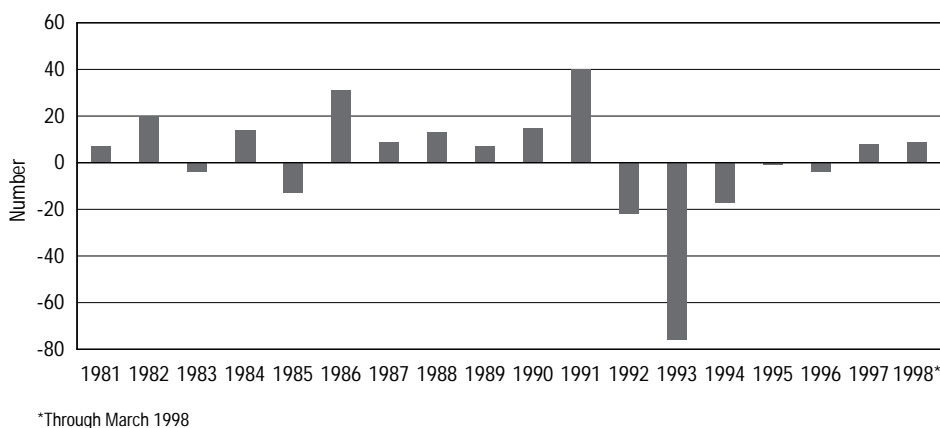
ISSUE PRICING

Moody's Bond Record and Interactive Data Corporation (IDC) provide the prices we use to calculate MBBI. Because bankrupt bonds are bought and sold in a thinly traded market, transaction prices are not always readily available and we must sometimes rely on bid and ask-side quotations. These may reflect both odd- and round-lot prices intended to be representative of closing prices. Additionally, prices are occasionally subject to a reporting lag or subject to revision as data becomes available. When this is the case, MBBI values will also be revised to reflect the new information. We attempt to use month-end prices whenever possible (prices as of the last day of the month for the current index). However, due to the illiquidity of some issues, we occasionally use the last available price as long as it falls within the last two weeks of the month.

WEIGHTING

Moody's Bankrupt Bond Index is weighted by the par amount of the issues included as of the date of bankruptcy. Par weighting is particularly important in an index of bankrupt bonds. Weighting issues in MBBI by their par amounts corresponds more closely to the concept of holding a market portfolio of bankrupt bonds. Other weighting schemes, such as an issuer-weighted average or an arithmetic average, do not accurately represent the actual size of the bankrupt bond market. As the market for bankrupt bonds is thinly traded, large issues, especially those that are excessively volatile, can exert significant influence on the market. Arithmetic averaging weights all issues equally, which tends to ameliorate those effects, and could cause calculated returns to differ greatly from those of the market.

As with the number of issues and issuers, the par amount of bankrupt corporate, long-term public debt included in MBBI, has varied considerably over the past 17 years. **Exhibit 3** illustrates this variability. From 1981 to mid-1986, the par amount of long-term bankrupt debt was stable at an average of about $800 million. Widespread deterioration in corporate credit quality in late 1986 and 1987 caused the amount to rise to approximately $2.5 billion.[1] In the following years, the amount of bankrupt long-term public debt exploded, more than tripling between 1989 and 1991, reaching a peak of $17.5 billion in March, 1992. Between 1981 and its peak, the par amount of bankrupt debt grew by an incredible 24,356.5%.

Over the history of the index, the total par value of bankrupt debt has grown by 6,849.2%. Since 1995, the amount of bankrupt long-term public debt has stabilized at about $3 billion on average, more than three times the amount from 1981 to 1986. Successive increases in the last five months of 1997 indicate that the amount included in MBBI has again trended upward.

Exhibit 3 - Total Par Value Included in MBBI

*Through March 1998
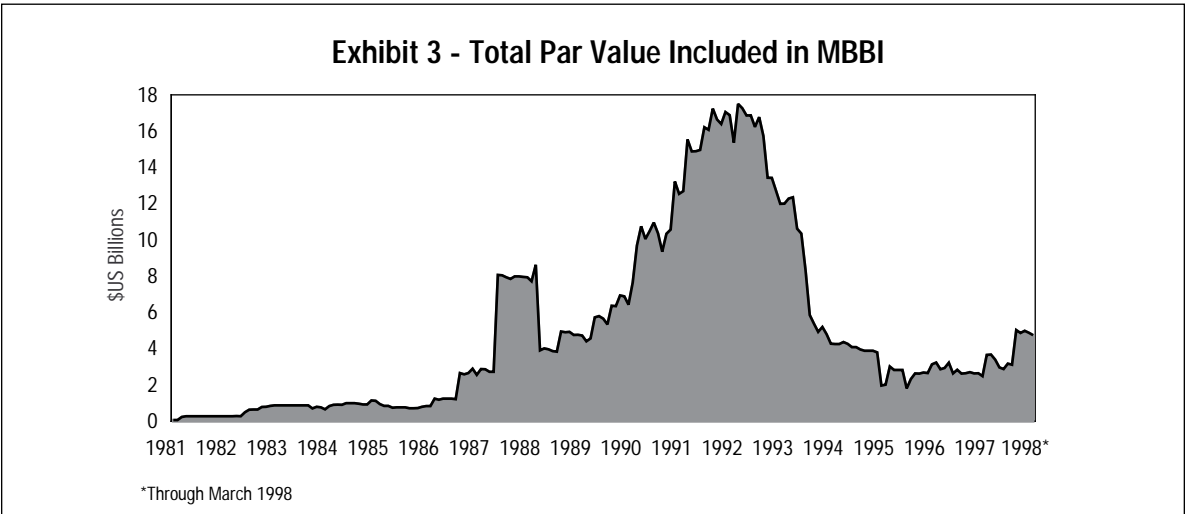
The par amount of bankrupt bonds included in MBBI by industrial category has varied significantly as well. **Exhibit 4** tracks the percentage of the total par amount for each of 12 broad industry categories since 1981. The graph reveals that these industries have participated in varying degrees in the index, and that there is both inter-temporal and contemporaneous correlation among some industries included in MBBI. These correlations are driven by sensitivity to general economic conditions, sector-specific shocks, and sectoral interdependence. Cyclical industries such as the industrial, technology and retail sectors contributed more debt to MBBI than others on a percentage basis in the early 1980's and early 1990's, periods that were punctuated by economic recession. The banking and financial (non-bank) sectors experienced sharp increases in the percentage of par included in MBBI between 1988 and 1993, following the S&L debacle and real-estate related loan problems. The protracted plight of the financial sector underscores the spillover effects some industries can have on others. In the mid 1980's, a sharp drop in the price of oil caused a marked increase in the share of bankrupt debt in MBBI from the energy sector. The "positive" oil shock had adverse and persistent economic consequences for oil-producing states, which is precisely where the declines in real-estate and subsequent S&L failures hit hardest.

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1 The large, anomalous increase in the par value of bankrupt bonds from June 1987 to March 1988 represents Texaco's Chapter 11 filing, which affected some $7.5 billion of long-term publicly issued corporate debt. For pricing considerations, not all of this debt is considered by MBBI.

Exhibit 4 - Total Par Value of MBBI by Industry
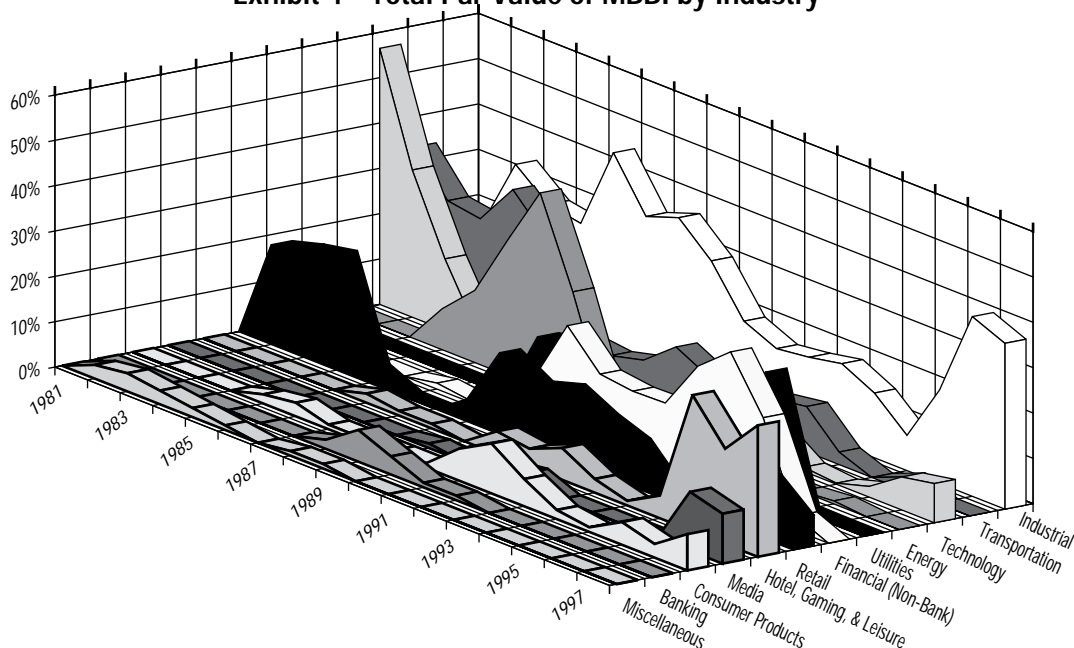
The criteria we have defined for Moody's Bankrupt Bond Index includes both U.S. and non-U.S. bonds, but as of the date of this report contains only one non-U.S. bankruptcy, comprising only 0.03% of the total bankrupt par amount.[2] However, turmoil throughout Asia and prospect of the development of a high yield bond market in Europe increases the likelihood that non-U.S. issuers will show greater representation in MBBI in the future.

Index Performance

RETURN HISTORY

Between January 1981 and March 1998 Moody's Bankrupt Bond Index earned a 1,595.3% total return, or a 17.4% compound annual growth rate. From 1981 to mid-1989, MBBI increased by an impressive 552.2% (26.6% total annualized return), and between 1991 and 1997 achieved a no less impressive 272.2% gain (15.7% total annualized return). In the intervening period, from August 1989 to November 1990, MBBI suffer its largest loss, falling 34.3%. Monthly index values and returns for MBBI since its inception are presented in **Exhibit 12** in the appendix.

Returns for the MBBI have, for the most part, been positive over its history. One hundred thirty four of the 207 monthly returns (64.7%) have been positive, and large gains (greater than two standard deviations) have outnumbered large losses 7.5 to one. **Exhibit 5** displays graphically the monthly returns for the index (the two dashed horizontal lines mark two standard deviations).

The distribution of monthly returns indicates that, historically, there is a small probability of making a very large return, and a larger probability of a small loss in any month. **Exhibit 6**, a histogram displaying the distribution of monthly returns from January 1981 to March 1998, shows that the monthly returns of MBBI are somewhat asymmetric and are widely dispersed. On average, MBBRI returned 1.5% per month, though the median return (1.0%) is slightly less, indicating some large returns in the right tail. Much of the distribution's mass lies near its center, which is somewhat flat, and the distribution is slightly skewed to the right. This is supported by the positive coefficient of kurtosis (1.4), a measure of the flatness of the distribution near its center, and skewness (0.3), the degree of its asymmetry. These descriptive statistics are shown in **Figure 7**.

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2 Peoples Jewellers Limited of Canada ($US 14.02mm), which was in bankruptcy from December 29, 1992 to July 30,1993, is the only non-U.S. company included in MBBI as of the date of publication. The fact that notable non-U.S. bankruptcies, such as Kia Motors, are absent from the index underscores the fact that, although adequate bankruptcy information might be available, prices for the bankrupt bonds are necessary for inclusion in the index.

Exhibit 5 - MBBI Monthly Returns
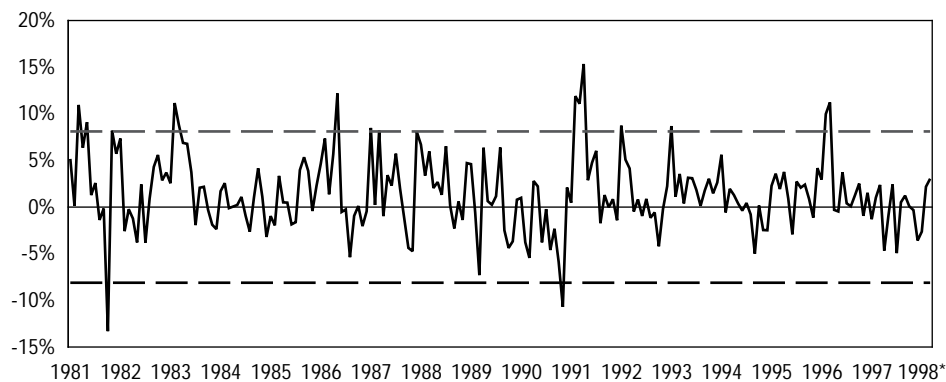
* Through March 1998

Exhibit 6 - Distribution of Monthly MBBI Returns
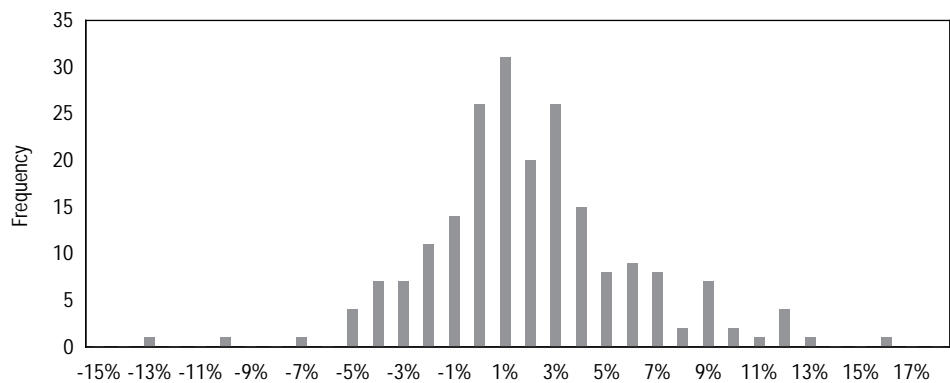
Exhibit 7 - Descriptive Statistics for Monthly MBBI Returns

Mean	Median	Standard Deviation	Kurtosis	Skewness	Minimum	Maximum
1.5%	1.0%	4.1%	1.2	0.3	-13.3%	15.3%

COMPARATIVE RETURNS

In this section we compare the returns of Moody's Bankrupt Bond Index with the Altman-NYU Salomon Center Defaulted Public Bond Index and Salomon Brothers' Bankrupt/Defaulted Index, and with several indices, provided by Merrill Lynch, that measure the returns of other major markets.

The returns shown in **Exhibit 8** reveal that the indices that track defaulted bonds (bankruptcies included) and Moody's Bankrupt Bond Index (bankruptcies only), though similar, tell different stories. The graph shows returns from January 1991 to March 1998, the time for which data is complete for all three series. Although the indices tend to move in the same direction contemporaneously, their returns are materially different. MBBI registered an 15.6% annualized total return between 1991 and March 1998, compared with 8.2% per year for Altman-NYU and 13.3% for Salomon Brothers. The differential performance of the three indices calls attention to the unique way in which information affects the returns of MBBI. As MBBI is a price index of bankrupt bonds only, fluctuations in its return are driven primarily by the information flow generated by the workout process. The prices, and therefore returns, of indices of

defaulted bonds (such as the Altman-NYU index), however, are also influenced by the uncertainty of a defaulted issue's likelihood of resuming normal payment or of ultimately entering bankruptcy. **Exhibit 9** further details the differences.

On the basis of the standard deviation of monthly returns, MBBI is slightly less volatile than the Salomon Brothers index, but is more volatile than the Altman-NYU index. The standard deviation of monthly returns for MBBI is 3.6%, compared to 4.0% for the Salomon Brothers index and 3.0% for the Altman-NYU index.

Exhibit 8 - Comparative Index Levels

*Through March 1998

Exhibit 9 - Comparative Monthly Returns
January 1991 to January 1998

	MBBI	Altman-NYU	Salomon Bros.	Corporate Master*	High Yield Master II*	Convertibles*	Treasury Master*	3mo T-bills*	S&P 500
Mean	1.6%	1.2%	1.5%	0.7%	0.8%	1.2%	1.4%	0.4%	1.5%
Standard Deviation	3.6%	3.0%	4.0%	1.2%	1.3%	1.4%	2.3%	0.1%	3.2%
Min	-5.0%	-8.6%	-9.0%	-2.2%	-2.5%	-3.2%	-4.2%	0.0%	-5.7%
Max	15.3%	13.6%	21.6%	4.1%	4.1%	8.7%	7.9%	0.6%	11.2%

* Merrill Lynch Index

Also of special interest is MBBI's historical return correlation with other fixed income and equity asset classes. **Exhibit 10** presents the correlations (negative values are highlighted) of monthly returns for MBBI, the Altman-NYU index, Salomon Brothers' Bankrupt/Defaulted Index, and Merrill Lynch's Treasury Master, Corporate Master, High Yield II, and three-month T-bill indices. The table also shows the correlation with equities, measured by the S&P 500 stock index. As one would expect, the Altman-NYU Index and the Salomon Brothers Index are both strongly positively correlated (0.732 and 0.805, respectively) with Moody's Bankrupt Bond Index. Although positively correlated with the Merrill Lynch High Yield Master II index, the relation is much weaker (0.436). Correlations with Merrill Lynch's Treasury Master, Corporate Master, and T-bill indices are also extremely weak. The MBBI is virtually uncorrelated with equities as well, with only a -0.043 correlation with the S&P 500. The correlation structure Moody's Bankrupt Bond Index suggests that bankrupt bonds are a distinct asset class.
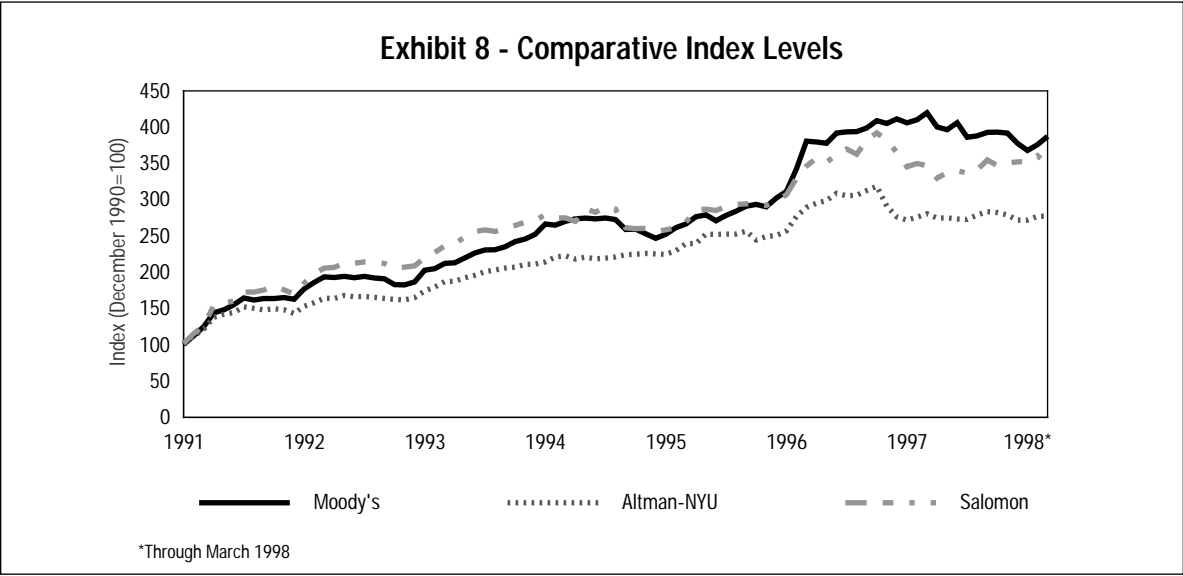
Exhibit 10 - Correlation of Monthly Returns
January 1991 to January 1998

	MBBI	Altman-NYU	Salomon Bros.	Corporate Master*	High Yield Master II*	Convertibles*	Treasury Master*	3mo T-Bills*	S&P 500
MBBI	1.000								
Altman	0.732	1.000							
Salomon	0.805	0.766	1.000						
Corporate	-0.056	-0.061	0.091	1.000					
High Yield	0.436	0.391	0.539	0.512	1.000				
Convertible	0.203	0.284	0.304	0.400	0.593	1.000			
Treasury	-0.121	-0.138	0.021	0.984	0.434	0.335	1.000		
3mo T-Bill	0.059	0.080	0.189	0.322	0.373	0.218	0.318	1.000	
S&P 500	-0.043	-0.066	0.037	0.492	0.371	0.737	0.454	0.190	1.000

Merrill Lynch Index

As would be expected, a comparison across asset classes reveals that investments that experience the greatest volatility, as measured by the standard deviations of their monthly returns, also hold the promise of the greatest reward. **Exhibit 11** plots the risk-return relationship for each of the indices from January 1991 to March 1998. More desirable investments, those that have historically yielded the highest average monthly return with the least amount of risk, are in the upper left corner of the chart. The chart shows that three-month Treasury bills yield the least, yet are also an extremely low risk. Equities, as gauged by the S&P 500, outperform all other asset classes (except for MBBI and the Salomon index), but entail much more risk. The Altman-NYU Index exhibits the least risk relative to MBBI and the Salomon Brothers index, but its average monthly return is also lower than both by at least 0.3%. MBBI and the Salomon Brothers index both have returns that are comparable to those of the S&P 500, but at considerably more risk. The standard deviation of MBBI's average monthly return is 0.5% higher than the S&P 500's, and the Salomon Brothers index is more risky by 0.8%. Over long periods of time, these differences in volatility can lead to substantially divergent returns.

Exhibit 11 - Historical Risk/Return Relationships
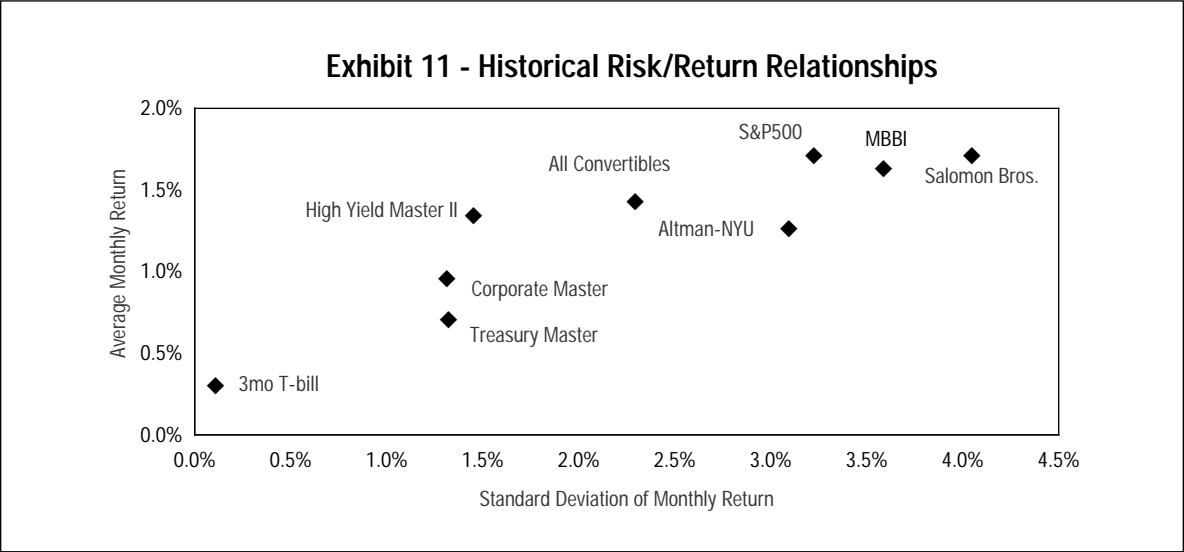
Conclusion

The results of this study demonstrate that bankrupt bonds exhibit their own set of responses to economic conditions and the flow of financial information, characteristics that differentiate them from the broader category of defaulted bonds, of which bankrupt bonds are a subset, and from other asset classes. The results also indicate that the returns of MBBI bear little to no correlation with other fixed income and equity indices, and that its correlation with other defaulted bond indices, while strong, nevertheless sets MBBI apart. The risk-return characteristics of MBBI further suggest that bankrupt bonds are a distinct asset class. This report finds that positive and sometimes large gains could have been made from holding a market portfolio of bankrupt bonds, in most cases outperforming conventional assets.

The total par amount of debt captured by MBBI reached its peak between 1989 and 1993, when a general economic downturn and sector-specific credit problems, such as the S&L catastrophe, caused rapid and large increases in the number of bankruptcy filings. Since 1995, the amount of bankrupt long-term corporate debt has stabilized. However, we may already be seeing an upward trend in the par amount of bankrupt debt, as consecutive increases in this amount in the second half of 1997 suggest. At the same time, MBBI has fallen from 1776.96 at the beginning of 1997 to 1695.32 in March 1998, a return of -4.6%.

As the complex economic and financial landscape changes in the U.S. and abroad, the credit quality of firms will undoubtedly be affected in 1998. New opportunities will be presented to those interested in investing in this market segment. It is our hope that Moody's Bankrupt Bond Index will prove to be a useful barometer of the bankrupt bond market and useful tool for market participants.

Appendix

Exhibit 12 - Moody's Bankrupt Bond Index

Date	Index	Return	Date	Index	Return	Date	Index	Return
Jan-81	105.16	5.163%	Jan-84	232.51	1.705%	Jan-87	365.53	8.489%
Feb-81	105.32	0.150%	Feb-84	238.48	2.565%	Feb-87	366.37	0.229%
Mar-81	116.86	10.955%	Mar-84	239.61	-0.114%	Mar-87	396.44	8.208%
Apr-81	124.29	6.356%	Apr-84	241.87	0.055%	Apr-87	392.59	-0.972%
May-81	135.60	9.105%	May-84	242.16	0.228%	May-87	406.02	3.422%
Jun-81	137.34	1.285%	Jun-84	244.16	1.087%	Jun-87	415.38	2.305%
Jul-81	140.89	2.579%	Jul-84	242.21	-0.936%	Jul-87	439.19	5.732%
Aug-81	138.94	-1.379%	Aug-84	235.27	-2.635%	Aug-87	447.92	1.987%
Sep-81	138.73	-0.156%	Sep-84	237.69	1.027%	Sep-87	442.52	-1.206%
Oct-81	120.27	-13.304%	Oct-84	247.58	4.164%	Oct-87	423.15	-4.378%
Nov-81	130.13	8.196%	Nov-84	250.34	1.115%	Nov-87	403.13	-4.731%
Dec-81	137.57	5.718%	Dec-84	242.33	-3.203%	Dec-87	435.73	8.086%
Jan-82	147.69	7.360%	Jan-85	239.98	-0.968%	Jan-88	464.93	6.703%
Feb-82	143.88	-2.583%	Feb-85	235.27	-1.961%	Feb-88	480.61	3.372%
Mar-82	143.54	-0.233%	Mar-85	243.15	3.349%	Mar-88	509.33	5.977%
Apr-82	141.78	-1.228%	Apr-85	244.38	0.504%	Apr-88	519.74	2.043%
May-82	136.41	-3.789%	May-85	245.55	0.478%	May-88	533.67	2.680%
Jun-82	139.73	2.435%	Jun-85	240.99	-1.855%	Jun-88	540.68	1.314%
Jul-82	134.41	-3.806%	Jul-85	237.09	-1.620%	Jul-88	575.97	6.526%
Aug-82	135.64	0.912%	Aug-85	246.51	3.974%	Aug-88	576.96	0.171%
Sep-82	141.49	4.310%	Sep-85	259.68	5.342%	Sep-88	563.74	-2.291%
Oct-82	149.39	5.587%	Oct-85	269.74	3.872%	Oct-88	567.13	0.602%
Nov-82	153.67	2.865%	Nov-85	268.59	-0.425%	Nov-88	559.29	-1.383%
Dec-82	159.36	3.703%	Dec-85	274.81	2.315%	Dec-88	585.66	4.716%
Jan-83	163.43	2.553%	Jan-86	287.57	4.644%	Jan-89	612.63	4.604%
Feb-83	181.66	11.156%	Feb-86	308.72	7.353%	Feb-89	609.12	-0.572%
Mar-83	197.68	8.817%	Mar-86	312.94	1.368%	Mar-89	564.68	-7.296%
Apr-83	211.28	6.882%	Apr-86	330.73	5.683%	Apr-89	600.63	6.366%
May-83	225.61	6.781%	May-86	371.02	12.183%	May-89	604.49	0.643%
Jun-83	234.04	3.735%	Jun-86	369.08	-0.524%	Jun-89	605.96	0.244%
Jul-83	229.50	-1.936%	Jul-86	368.16	-0.247%	Jul-89	613.01	1.164%
Aug-83	234.27	2.075%	Aug-86	348.38	-5.373%	Aug-89	652.19	6.391%
Sep-83	239.36	2.173%	Sep-86	345.10	-0.941%	Sep-89	635.93	-2.492%
Oct-83	238.66	-0.292%	Oct-86	345.50	0.113%	Oct-89	608.08	-4.381%
Nov-83	234.15	-1.888%	Nov-86	338.44	-2.042%	Nov-89	585.74	-3.673%
Dec-83	228.61	-2.365%	Dec-86	336.93	-0.446%	Dec-89	590.39	0.794%
Jan-90	596.24	0.991%	Jan-93	887.95	8.690%	Jan-96	1362.41	2.949%
Feb-90	573.75	-3.772%	Feb-93	897.13	1.107%	Feb-96	1498.29	9.973%
Mar-90	542.49	-5.448%	Mar-93	928.99	3.555%	Mar-96	1666.43	11.222%
Apr-90	557.66	2.796%	Apr-93	932.78	0.390%	Apr-96	1661.41	-0.301%
May-90	570.05	2.222%	May-93	962.10	3.143%	May-96	1653.60	-0.470%
Jun-90	548.47	-3.785%	Jun-93	991.91	3.094%	Jun-96	1715.49	3.742%
Jul-90	547.28	-0.217%	Jul-93	1009.88	1.833%	Jul-96	1722.40	0.403%
Aug-90	522.10	-4.602%	Aug-93	1011.39	0.131%	Aug-96	1723.89	0.087%
Sep-90	509.99	-2.320%	Sep-93	1029.18	1.770%	Sep-96	1745.94	1.279%
Oct-90	480.02	-5.875%	Oct-93	1060.47	3.041%	Oct-96	1789.97	2.522%
Nov-90	428.68	-10.696%	Nov-93	1076.04	1.468%	Nov-96	1773.17	-0.939%
Dec-90	437.68	2.099%	Dec-93	1104.40	2.635%	Dec-96	1800.44	1.538%
Jan-91	439.71	0.465%	Jan-94	1166.39	5.613%	Jan-97	1776.94	-1.304%
Feb-91	492.03	11.898%	Feb-94	1159.69	-0.574%	Feb-97	1795.11	1.021%
Mar-91	546.54	11.079%	Mar-94	1182.39	1.957%	Mar-97	1837.78	2.377%
Apr-91	630.40	15.343%	Apr-94	1197.64	1.289%	Apr-97	1752.02	-4.666%
May-91	648.55	2.878%	May-94	1202.15	0.377%	May-97	1735.41	-0.948%
Jun-91	679.43	4.762%	Jun-94	1197.59	-0.379%	Jun-97	1777.53	2.427%
Jul-91	720.41	6.031%	Jul-94	1202.81	0.436%	Jul-97	1689.76	-4.938%
Aug-91	707.96	-1.729%	Aug-94	1193.34	-0.787%	Aug-97	1698.45	0.514%
Sep-91	717.09	1.290%	Sep-94	1133.67	-5.000%	Sep-97	1719.30	1.228%
Oct-91	716.88	-0.030%	Oct-94	1135.59	0.169%	Oct-97	1720.73	0.083%
Nov-91	722.93	0.844%	Nov-94	1107.65	-2.461%	Nov-97	1715.17	-0.323%
Dec-91	712.69	-1.416%	Dec-94	1080.13	-2.485%	Dec-97	1653.67	-3.586%
Jan-92	774.92	8.732%	Jan-95	1104.73	2.277%	Jan-98	1610.14	-2.632%
Feb-92	814.24	5.090%	Feb-95	1144.34	3.586%	Feb-98	1645.26	2.181%
Mar-92	847.85	4.141%	Mar-95	1166.50	1.936%	Mar-98	1695.32	3.042%
Apr-92	843.83	-0.475%	Apr-95	1210.46	3.769%			
May-92	850.78	0.822%	May-95	1221.74	0.932%			
Jun-92	842.62	-0.951%	Jun-95	1186.06	-2.921%			
Jul-92	850.55	0.880%	Jul-95	1218.57	2.741%			
Aug-92	840.85	-1.144%	Aug-95	1243.97	2.084%			
Sep-92	835.96	-0.572%	Sep-95	1273.90	2.406%			
Oct-92	800.84	-4.205%	Oct-95	1284.91	0.864%			
Nov-92	799.25	-0.201%	Nov-95	1270.34	-1.135%			
Dec-92	817.11	2.241%	Dec-95	1323.39	4.176%			