

Altman-NYU Salomon Center Distressed Debt Indexes and Related Default Analyses

There are three Altman-NYU Salomon Center indexes related to defaulted debt: the Index of Defaulted Public Bonds which commenced in December 1986; the Index of Defaulted Bank Loans which commenced in December 1995 and the Combined Defaulted Public Bond and Bank Loan Index which commenced in December 1995.

The Altman-NYU Salomon Center Index of Defaulted Public Bonds (see page 353 for a graphical display) measures the investment performance of defaulted bonds. It includes public, non-convertible debt issues that either filed for bankruptcy or defaulted on a scheduled interest payment. Issues are removed from the Index for a number of reasons including curing of the default, reinstatement of payment, exchange of the original bond, emergence from Chapter 11 or liquidation. The Index is set equal to 100 as of December 1986.

The Index of Defaulted Bank Loans (see page 355 for a graphical display), "...represents the defaulted segment of the broader distressed bank loan universe. 'Default' can include Chapter 11 filings, missed interest and principal payments, material distressed restructurings, and severe covenant violations. Distressed, but not defaulted, loans are less easily defined. ... [Index] performance reflects the change in price plus any interest payments received. The face value outstanding can and, in some cases, does vary from month to month, e.g., on revolving facilities. ..."

For more information on these indexes and analysis of related corporate default questions contact: Professor Edward Altman, New York University Salomon Center, Stern School of Business, New York, NY 10012, (212) 998-0709.

Sources:

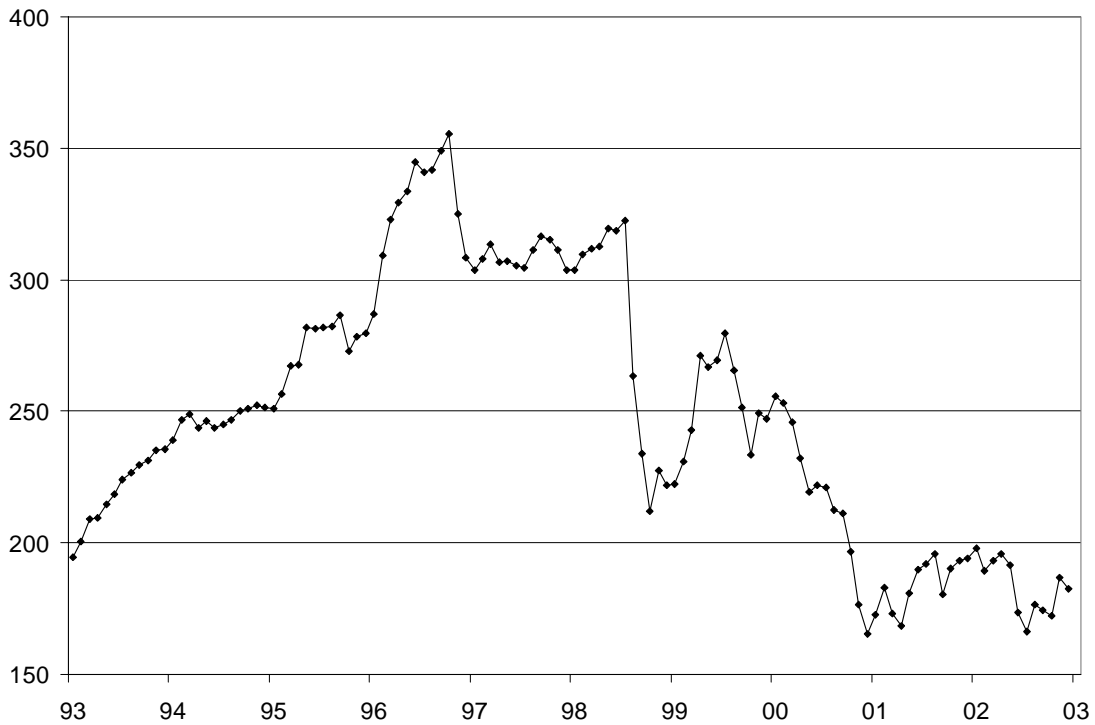
Altman, Edward I. with Gaurav Bana. "Defaults & Returns on High Yield Bonds: The Year 2002 in Review and the Market Outlook." New York University Salomon Center Report. February 2003.

Altman, Edward I. with Shuban Jha. "Market Size and Investment Performance of Defaulted Bonds & Bank Loans: 1987-2002." New York University Salomon Center Report. February 2003.

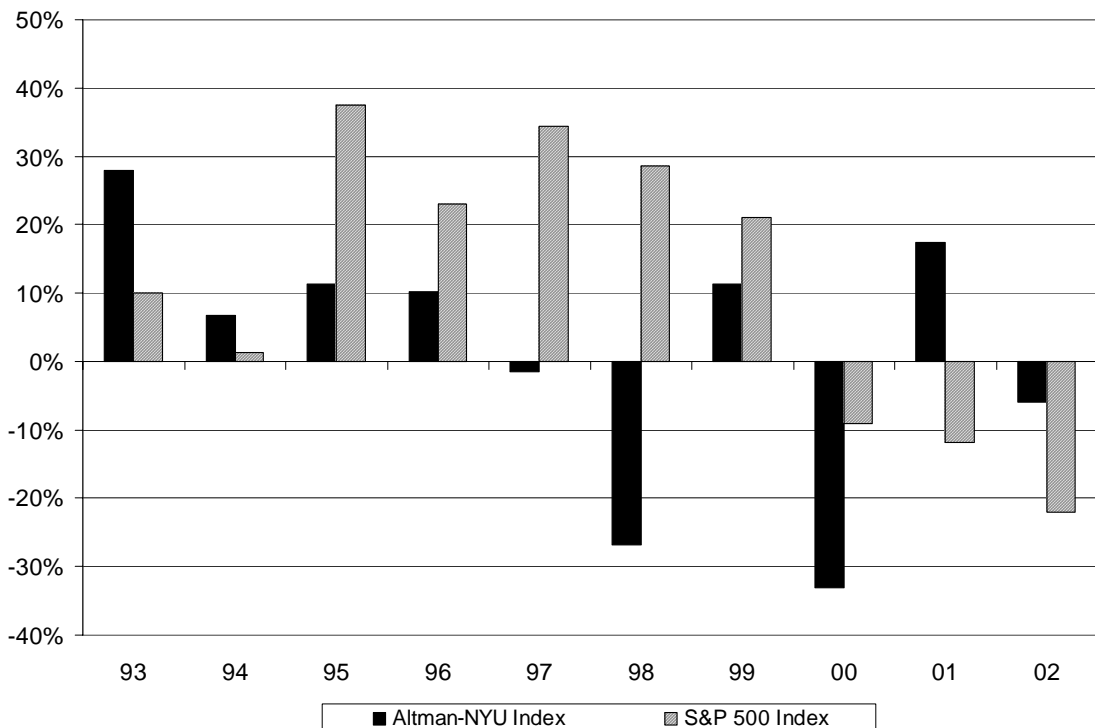
Altman-NYU Salomon Center Defaulted Bond Index Comparison of Returns (1987 - 2002)

<u>Year</u>	<u>Altman-NYU Salomon Center Defaulted Bond Index</u>	<u>S&P 500 Stock Index</u>	<u>Salomon Smith Barney High Yield Market Index</u>
1987	37.85%	5.26%	4.67%
1988	26.49%	16.61%	13.47%
1989	-22.78%	31.68%	2.75%
1990	-17.08%	-3.12%	-7.04%
1991	43.11%	30.48%	39.93%
1992	15.39%	7.62%	17.86%
1993	27.91%	10.08%	17.36%
1994	6.66%	1.32%	-1.25%
1995	11.26%	37.56%	19.71%
1996	10.21%	22.96%	11.29%
1997	-1.58%	34.36%	13.18%
1998	-26.91%	28.58%	3.60%
1999	11.34%	20.98%	1.74%
2000	-33.09%	-9.11%	-5.68%
2001	17.47%	-11.87%	5.44%
2002	-5.98%	-22.08%	-1.53%
Arithmetic Average Annual	6.27%	12.58%	8.47%
Compounded Average Annual	3.83%	11.13%	7.90%
Arithmetic Average Monthly	0.41%	0.99%	0.66%
Compounded Average Monthly	0.27%	0.82%	0.62%

Altman-NYU Salomon Center Index of Defaulted Bonds



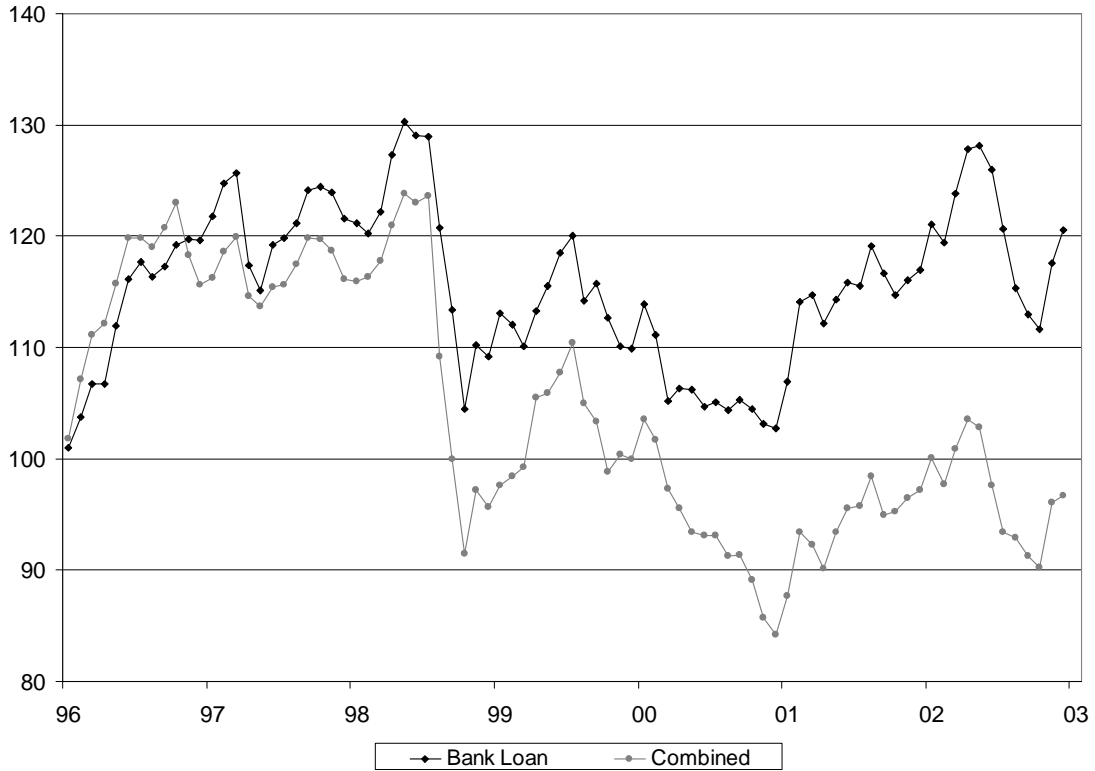
Altman-NYU Salomon Center Defaulted Bond Index and the S&P 500 Stock Index, Comparison of Returns



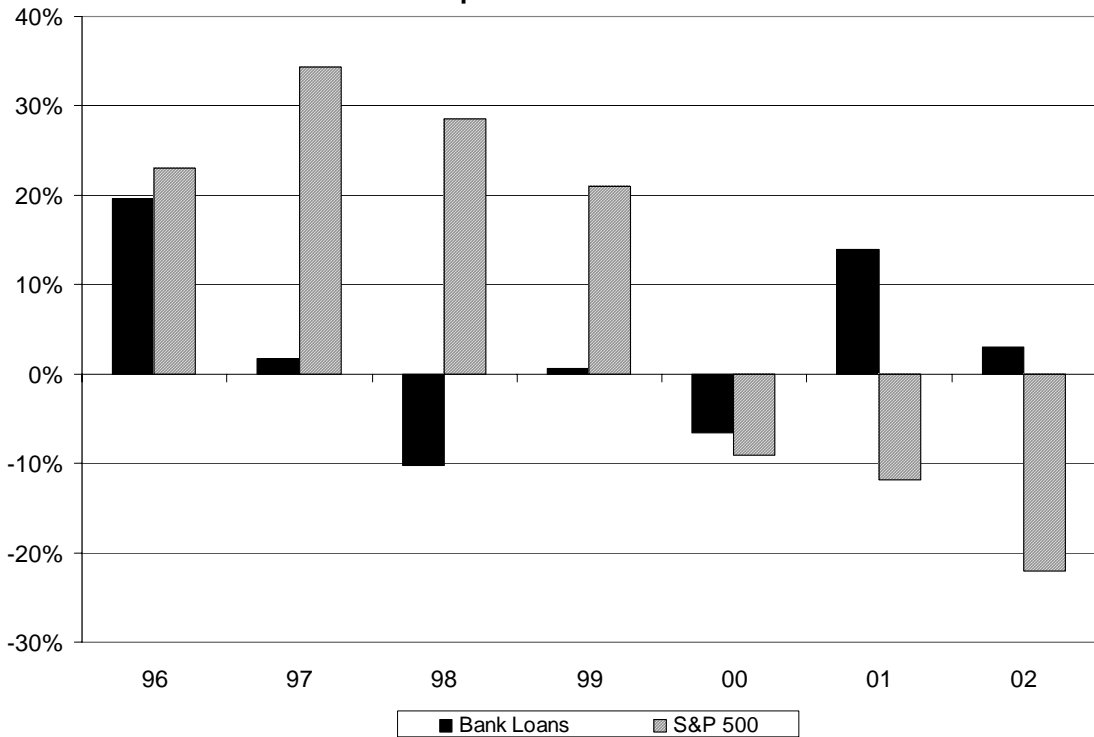
**Altman-NYU Salomon Center
Bank Loan Index
Comparison of Returns
(1996 - 2002)**

<u>Year</u>	<u>Altman-NYU Salomon Center Bank Loan Index</u>	<u>S&P 500 Stock Index</u>	<u>Salomon Smith Barney High Yield Market Index</u>
1996	19.56%	22.96%	11.29%
1997	1.75%	34.36%	13.18%
1998	-10.22%	28.58%	3.60%
1999	0.65%	20.98%	1.74%
2000	-6.59%	-9.11%	-5.68%
2001	13.94%	-11.87%	5.44%
2002	3.03%	-22.08%	-1.53%
Arithmetic Average Annual	3.11%	9.12%	4.01%
Compounded Average Annual	2.70%	6.98%	3.82%
Arithmetic Average Monthly	0.26%	0.70%	0.34%
Compounded Average Monthly	0.21%	0.52%	0.31%

**Altman-NYU Salomon Center
Defaulted Bank Loans & Combined Indexes**



**Altman-NYU Salomon Center
Bank Loan Index and S&P 500 Stock Index,
Comparison of Returns**



Correlation of Altman-NYU Salomon Center Indexes of Defaulted Securities with Other Speculative Securities Indexes 1996 - 2002

CORRELATION OF MONTHLY RETURNS

	<u>Altman-NYU Loan Index</u>	<u>S&P 500 Stock Index</u>	<u>Salomon SB HY Index</u>	<u>Altman-NYU Bond Index</u>
Altman-NYU Loan Index	100.00%	-5.77%	41.77%	56.93%
S&P 500 Stock Index		100.00%	51.54%	20.27%
Salomon SB HY Index			100.00%	61.13%
Altman-NYU Bond Index				100.00%

CORRELATION OF QUARTERLY RETURNS

	<u>Altman-NYU Loan Index</u>	<u>S&P 500 Stock Index</u>	<u>Salomon SB HY Index</u>	<u>Altman-NYU Bond Index</u>
Altman-NYU Loan Index	100.00%	9.14%	40.18%	58.32%
S&P 500 Stock Index		100.00%	63.64%	36.93%
Salomon SB HY Index			100.00%	47.01%
Altman-NYU Bond Index				100.00%

Source: Edward I. Altman with Shuban Jha. "Market Size and Investment Performance of Defaulted Bonds & Bank Loans: 1987-2002." New York University Salomon Center Report. February 2003. Figure 13.

Estimated Face and Market Values of Defaulted and Distressed Debt

December 31, 2002 (\$Billions)

<u>Public Debt:</u>	<u>Face Value</u>	<u>Market Value</u>
Defaulted	187.7	37.5 (.20xFV)
Distressed	<u>204.7</u>	<u>102.4</u> (.50xFV)
Total Public	<u>392.5</u>	<u>139.9</u>
<u>Private Debt:</u>		
Defaulted	262.8	157.7 (.60xFV)
Distressed	<u>286.6</u>	<u>215.0</u> (.75xFV)
Total Public	<u>549.5</u>	<u>372.7</u>
Total Public and Private (1)	<u>941.9</u>	<u>512.6</u>

Sources: Estimated by Professor Edward Altman, NYU Stern School of Business from Salomon Smith Barney's High Yield Bond DataBase, NYU Salomon Center Defaulted Bond DataBase, New Generation Research.

(1) For 12/31/02, we use a private/public ratio of 1.40.

Source: Edward I. Altman with Shubin Jha. "Market Size and Investment Performance of Defaulted Bonds & Bank Loans: 1987-2002." New York University Salomon Center Report. February 2003. Figure 3.