

Current Conditions & Outlook in Credit Markets

A Tale of Three Periods

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YTM Spread Between High Yield Markets & 10 Year Treasury Notes

June 01, 2007 – February 19, 2010



Source: Citigroup Yieldbook Index Data

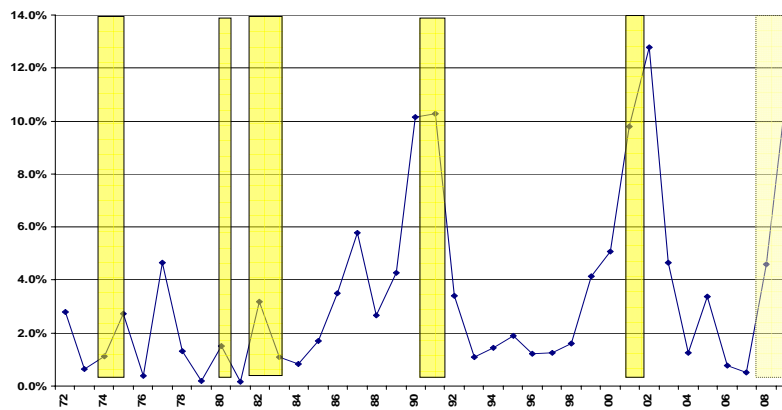
Default and Recovery Forecasting Models

- Macro-Economic Models: Default Probabilities
- Mortality Rate Models: Default Probabilities
- Market Based Models: Default Probabilities
- Recovery Rate Models: Loss-Given-Default
- Distressed Debt Market Size Estimate

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Historical Default Rates and Recession Periods in the U.S.

HIGH YIELD BOND MARKET 1972 – 2009



Periods of Recession: 11/73 - 3/75, 1/80 - 7/80, 7/81 - 11/82, 7/90 - 3/91, 4/01 - 12/01, 12/07-present

Source: E. Altman (NYU Salomon Center) & National Bureau of Economic Research

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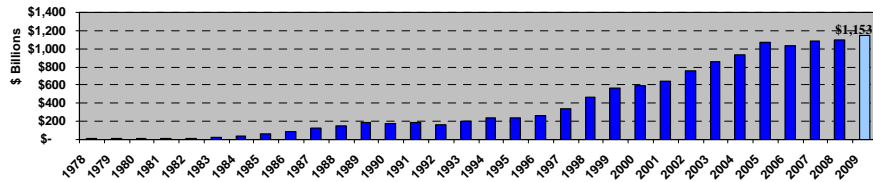
Major Agencies Bond Rating Categories

Moody's		S&P/Fitch
Aaa	↑	AAA
Aa1		AA+
Aa2		AA
Aa3		AA-
A1		A+
A2		A
A3		A-
Baa1		BBB+
Baa2	Investment	BBB
Baa3	Grade	BBB-
Ba1	High Yield	BB+
Ba2	("Junk")	BB
Ba3		BB-
B1		B+
B2		B
B3		B-
Caa1		CCC+
Caa		CCC
Caa3		CCC-
Ca		CC
C	↓	C
		D

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Size of the US High-Yield Bond Market

1978 – 2009 (Mid-year US\$ billions)



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Historical Default Rates

Straight Bonds Only Excluding Defaulted Issues From Par Value Outstanding, (US\$ millions)
1971 – 2010 (February 12th)

Year	Par Value Outstanding*	Par Value Defaults	Default Rates (%)	Year	Par Value Outstanding*	Par Value Defaults	Default Rates (%)
2010 (2/12)	\$1,182,995	\$1,268	0.107%	1984	\$40,939	\$344	0.840
2009	\$1,152,952	\$123,824	10.740%	1983	\$27,492	\$301	1.095
2008	\$1,091,000	\$50,169	4.598	1982	\$18,109	\$577	3.186
2007	\$1,075,400	\$5,473	0.509	1981	\$17,115	\$27	0.158
2006	\$993,600	\$7,559	0.761	1980	\$14,935	\$224	1.500
2005	\$1,073,000	\$36,181	3.372	1979	\$10,356	\$20	0.193
2004	\$933,100	\$11,657	1.249	1978	\$8,946	\$119	1.330
2003	\$825,000	\$38,451	4.661	1977	\$8,157	\$381	4.671
2002	\$757,000	\$96,855	12.795	1976	\$7,735	\$30	0.388
2001	\$649,000	\$63,609	9.801	1975	\$7,471	\$204	2.731
2000	\$597,200	\$30,295	5.073	1974	\$10,894	\$123	1.129
1999	\$567,400	\$23,532	4.147	1973	\$7,824	\$49	0.626
1998	\$465,500	\$7,464	1.603	1972	\$6,928	\$193	2.786
1997	\$335,400	\$4,200	1.252	1971	\$6,602	\$82	1.242
1996	\$271,000	\$3,336	1.231				
1995	\$240,000	\$4,551	1.896				
1994	\$235,000	\$3,418	1.454				
1993	\$206,907	\$2,287	1.105				
1992	\$163,000	\$5,545	3.402				
1991	\$183,600	\$18,862	10.273				
1990	\$181,000	\$18,354	10.140				
1989	\$189,258	\$8,110	4.285				
1988	\$148,187	\$3,944	2.662				
1987	\$129,557	\$7,486	5.778				
1986	\$90,243	\$3,156	3.497				
1985	\$58,088	\$992	1.708				

* Weighted by par value of amount outstanding for each year.

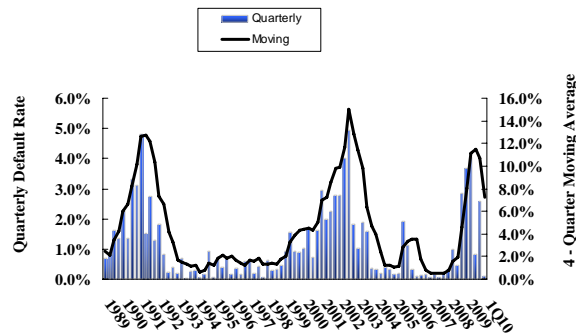
Standard Deviation (%)		
Arithmetic Average Default Rate		
1971 to 2009	3.331%	3.224%
1978 to 2009	3.636%	3.422%
1985 to 2009	4.322%	3.548%
Weighted Average Default Rate*		
1971 to 2009	4.550%	
1978 to 2009	4.561%	
1985 to 2009	4.598%	
Median Annual Default Rate		
1971 to 2009	1.896%	

Source: Author's compilation and Citigroup estimate

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Historical Default Rates

QUARTERLY DEFAULT RATE AND FOUR QUARTER MOVING AVERAGE
1991 – 2010 (February 12th)



Source: Author's Compilations

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High-Yield Bond Distressed Exchange Default & Recovery Statistics

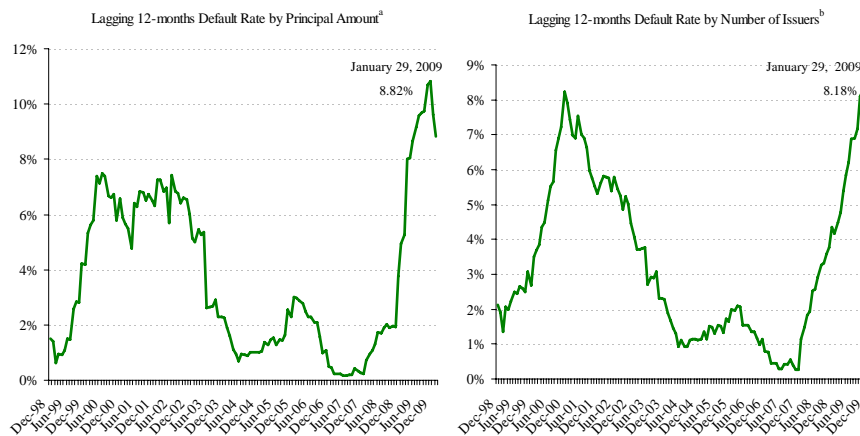
1984 –2010 (Feb. 12th)

Year	Distressed Exchange		% Distressed Exchange Defaults		Distressed Exchange Defaults		% Distressed Exchange Defaults		Distressed Exchange Recovery Rate	All Default Recovery Rate	Difference Between Distressed Exchange & All Default Recovery Rate
	Defaults (\$)	Total Defaults (\$)	Exchange Defaults to Total (\$)	Exchange Defaults (# Issuers)	Total Defaults (# Issuers)	Exchange Defaults to Total (# Issuers)	Exchange Rate	Recovery Rate			
2010	269.80	1,267.66	21.3%	1	6	16.7%	n/a	38.49	n/a		
2009	22,905.90	123,823.79	18.5%	45	119	37.8%	42.68	36.13	6.55		
2008	30,329.42	50,763.26	59.7%	14	64	21.9%	52.41	42.50	9.91		
2007	146.83	5,473.00	2.7%	1	19	5.3%	85.17	66.65	18.52		
2006	0.00	7,559.00	0.0%	0	0	0.0%	n/a	n/a	n/a		
2005	6,861.00	36,209.00	18.9%	1	34	2.9%	78.61	62.96	15.65		
2004	537.88	11,657.00	4.6%	5	39	12.8%	58.05	57.72	0.33		
2003	1,080.12	38,451.00	2.8%	8	86	9.3%	78.52	45.58	32.94		
2002	764.80	96,858.00	0.8%	3	112	2.7%	61.22	25.3	35.92		
2001	1,267.60	63,609.00	2.0%	5	156	3.2%	33.12	25.62	7.50		
2000	50.00	30,295.00	0.2%	1	107	0.9%	77.00	26.74	50.26		
1999	2,118.40	23,532.00	9.0%	6	98	6.1%	65.39	27.9	37.49		
1998	461.10	7,464.00	6.2%	2	37	5.4%	17.34	40.46	(23.12)		
1997	0.00	4,200.00	0.0%	0	0	0.0%	n/a	n/a	n/a		
1996	0.00	3,336.00	0.0%	0	0	0.0%	n/a	n/a	n/a		
1995	0.00	4,551.00	0.0%	0	0	0.0%	n/a	n/a	n/a		
1994	0.00	3,418.00	0.0%	0	0	0.0%	n/a	n/a	n/a		
1993	0.00	2,287.00	0.0%	0	0	0.0%	n/a	n/a	n/a		
1992	0.00	5,545.00	0.0%	0	0	0.0%	n/a	n/a	n/a		
1991	76.00	18,862.00	0.4%	1	62	1.6%	31.30	40.67	(9.37)		
1990	1,044.00	18,354.00	5.7%	7	47	14.9%	43.15	24.66	18.49		
1989	548.90	8,110.00	6.8%	6	26	23.1%	44.53	35.97	8.56		
1988	390.30	3,944.00	9.9%	3	24	12.5%	28.40	43.45	(15.05)		
1987	33.60	7,486.00	0.4%	2	15	13.3%	40.70	66.63	(25.93)		
1986	114.80	3,156.00	3.6%	3	23	13.0%	47.68	36.6	11.08		
1985	323.30	992.00	32.6%	2	19	10.5%	55.04	41.78	13.26		
1984	100.10	344.00	29.1%	1	12	8.3%	44.12	50.62	(6.50)		
Totals/Averages	69,423.84	581,546.71	11.9%	117	1105	10.6%	51.81	41.82	9.82		

Source: Authors' Compilations

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Lagging Twelve-Month Leveraged Loan Default Rate by Principal Amount & Number of Issuers

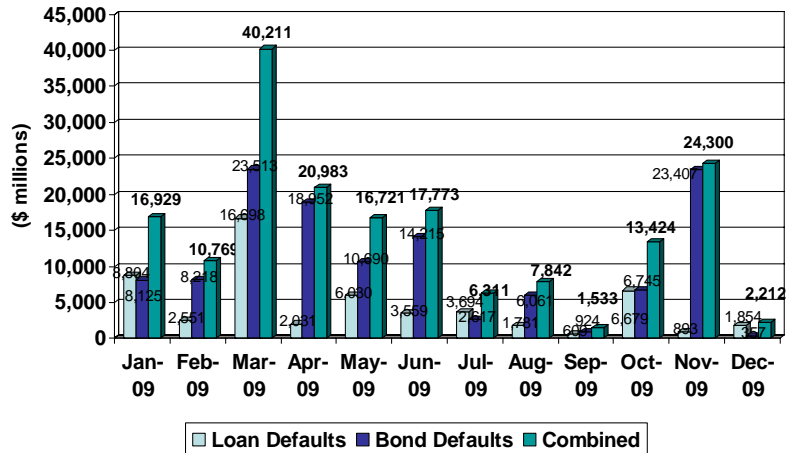


^aDefault rate is calculated as the amount defaulted over the last twelve months divided by the amount outstanding at the beginning of the twelve-month period. ^bDefault rate is calculated as the number of defaults over the last twelve months divided by the number of issuers in the Index at the beginning of the twelve-month period.

Source: S&P LCD

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2009 High-Yield and Institutional Leveraged Loan Defaults



Sources: S&P LCD and E. Altman, NYU Salomon Center.

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Largest High-Yield and Institutional Leveraged Loan Defaults*

2009

Issuer	Date	Bond Defaults (\$ million)	Loan Defaults (\$ million)	Combined Defaults (\$ million)
CIT Group, Inc.	11/01/2009	21,933	15,225	37,158
Charter Communications Holdings, LLC	03/27/2009	12,811	7,281	20,092
Capmark Financial Group, Inc.	10/25/2009	n/a	13,833	13,833
General Motors Corp.	06/01/2009	10,459	1,466	11,925
Lyondell Basell	01/06/2009	1,631	7,493	9,124
Idearc, Inc.	03/31/2009	2,850	6,170	9,020
R.H. Donnelley Corp.	05/28/2009	6,081	2,685	8,766
Harrah's Operating Co., Inc.	04/01/2009	5,551	n/a	5,551
Abitibi Bowater, Inc.	04/16/2009	5,263	n/a	5,263
Ford Motor Co.	04/03/2009	3,354	n/a	3,354
Freescale Semiconductor, Inc.	03/10/2009	3,041	n/a	3,041
Nortel Networks Ltd.	01/14/2009	3,025	n/a	3,025
Smurfit-Stone Container Corp.	01/26/2009	2,275	517	2,792
Visteon Corp.	05/27/2009	862	1,500	2,362

*Includes only those defaults where a company's combined bond and loan defaults totaled more than \$1.0 billion in a given month.

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Largest High-Yield and Institutional Leveraged Loan Defaults* (continued)

2009

Issuer	Date	Bond Defaults (\$ million)	Loan Defaults (\$ million)	Combined Defaults (\$ million)
Station Casinos, Inc.	02/01/2009	2,300	n/a	2,300
Rouse Co.	04/16/2009	2,250	n/a	2,250
Spectrum Brands, Inc.	02/03/2009	1,033	1,024	2,057
General Growth Properties	03/16/2009	n/a	1,988	1,988
Aleris International, Inc.	02/12/2009	1,102	809	1,911
Masonite Corp.	03/16/2009	770	1,129	1,899
Reader's Digest Association, Inc.	08/24/2009	600	1,183	1,783
E Trade Financial Corp.	08/19/2009	1,740	n/a	1,740
Six Flags, Inc.	06/01/2009	847	835	1,682
Thornburg Mortgage, Inc.	05/01/2009	1,571	n/a	1,571
Lear Corp.	07/07/2009	400	985	1,385
Fontainebleau Las Vegas Holdings, LLC	06/09/2009	675	700	1,375
Vitro SAB de CV	02/02/2009	1,224	n/a	1,224
Chemtura Corp.	03/18/2009	1,020	n/a	1,020

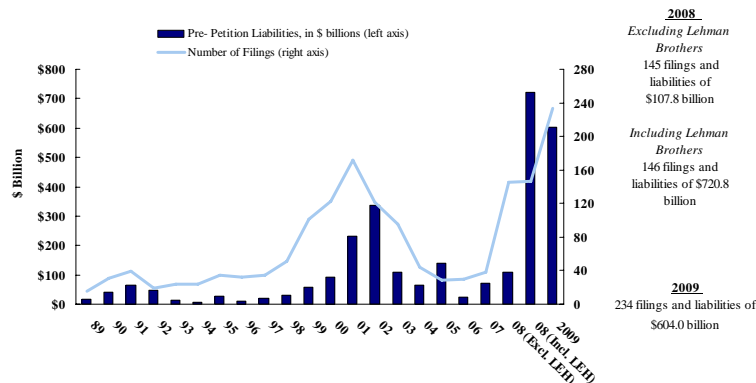
*Includes only those defaults where a company's combined bond and loan defaults totaled more than \$1.0 billion in a given month.
Sources: S&P LCD and E. Altman, NYU Salomon Center

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Filings for Chapter 11

Number of Filings and Pre-petition Liabilities of Public Companies

1989 - 2009



Note: Minimum \$100 million in liabilities
Source: NYU Salomon Center Bankruptcy Filings Database

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Forecasting Default and Recovery Rates

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Method 1: Recession Scenario Analysis Rating Distributions Prior To Recessions

(Percent of Issuers)

	<u>1990</u>	<u>2000</u>	<u>2008¹</u>	<u>2009 (Q4)</u>
Ba/BB	54%	32%	43%	33%
B/B	44%	54%	35%	49%
Caa+Ca/C CCC/CC	2%	14%	22%	18%

Subsequent Default Rates By Rating Category

	<u>1991</u>	<u>2001</u>	<u>2009 Forecasts 1991/2001 Scenarios</u>	<u>2010 (Q4) Forecasts 1991/2001 Scenarios</u>
Ba/BB	4%	2%	1.7% / 0.9%	1.3% / 0.7%
B/B	16%	11%	5.6% / 3.9%	7.8% / 5.4%
Caa/CCC/C C	37%	34%	8.1% / 7.5%	6.7% / 6.1%
H.Y. Default Rate	11.0%	10.6%	15.4% / 12.3%	15.8% / 12.2%

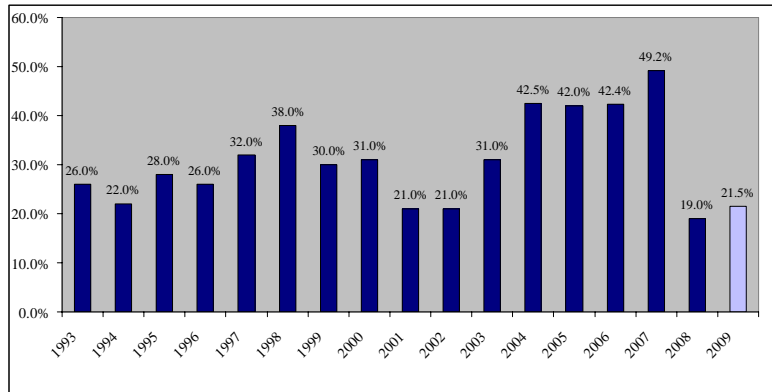
¹Based on Moody's & S&P ratings in 2008 and 2009 (4Q).

Source: M. Friedson: *Distressed Debt Investor* (September 28, 2006, April 17, 2008) and author updates.

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Method 2: Mortality Rate Analysis

New Issues Rated B- or Below as Percentage of all New Issues
(1993 – 2009)

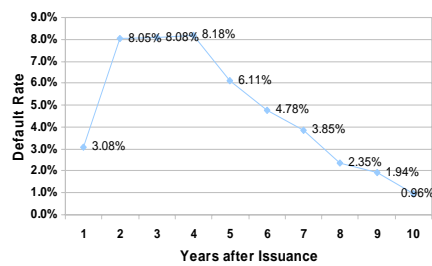


Source: Standard & Poor's Global Fixed Income Research

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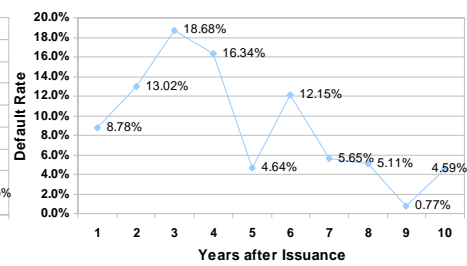
Default Lag After Issuance: 'B' & 'CCC' Rated Corporate Bonds

Default Lag after Issuance for 'B' Ratings



Source: Altman Mortality Tables (1971-2009)

Default Lag after Issuance for 'CCC' Ratings



Source: Altman Mortality Tables (1971-2009)

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Forecasting Defaults and the Default Rate

MODEL DRIVERS

- Mortality Rate Estimates: 1971 - 2009
= f {bond rating, age, redemptions, defaults}
- Historical New Issuance over last 10 years by credit quality
 - Bond-ratings
 - Z-score Bond-equivalent ratings
- Estimate high yield market growth in 2010



New Defaults and Default Rate in 2010

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Marginal and Cumulative Mortality Rate Equation

$$MMR_{(t)} = \frac{\text{Total value of defaulting debt in year } (t)}{\text{total value of the population at the start of the year } (t)}$$

MMR = Marginal Mortality Rate

One can measure the cumulative mortality rate (CMR) over a specific time period (1,2,..., T years) by subtracting the product of the surviving populations of each of the previous years from one (1.0), that is,

$$CMR_{(t)} = 1 - \prod_{t=1} SR_{(t)},$$

here $CMR_{(t)}$ = Cumulative Mortality Rate in (t) ,
 $SR_{(t)}$ = Survival Rate in (t) , $1 - MMR_{(t)}$

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Mortality Rates by Original Rating

All Rated Corporate Bonds*
1971-2009

		1	2	3	4	5	6	7	8	9	10
AAA	Marginal	0.00%	0.00%	0.00%	0.00%	0.03%	0.02%	0.01%	0.00%	0.00%	0.00%
	Cumulative	0.00%	0.00%	0.00%	0.00%	0.03%	0.05%	0.06%	0.06%	0.06%	0.06%
AA	Marginal	0.00%	0.00%	0.27%	0.12%	0.02%	0.01%	0.00%	0.01%	0.03%	0.01%
	Cumulative	0.00%	0.00%	0.27%	0.39%	0.41%	0.42%	0.42%	0.43%	0.46%	0.47%
A	Marginal	0.01%	0.08%	0.18%	0.19%	0.15%	0.12%	0.05%	0.22%	0.12%	0.08%
	Cumulative	0.01%	0.09%	0.27%	0.46%	0.61%	0.73%	0.78%	1.00%	1.11%	1.19%
BBB	Marginal	0.42%	2.86%	1.48%	1.12%	0.68%	0.30%	0.36%	0.19%	0.18%	0.38%
	Cumulative	0.42%	3.27%	4.70%	5.77%	6.41%	6.69%	7.02%	7.20%	7.37%	7.72%
BB	Marginal	1.09%	2.23%	4.11%	2.18%	2.58%	1.50%	1.57%	1.20%	1.63%	3.30%
	Cumulative	1.09%	3.30%	7.27%	9.29%	11.63%	12.96%	14.32%	15.35%	16.73%	19.48%
B	Marginal	3.08%	8.05%	8.08%	8.18%	6.11%	4.78%	3.85%	2.35%	1.94%	0.96%
	Cumulative	3.08%	10.98%	18.08%	24.78%	29.38%	32.76%	35.34%	36.86%	38.09%	38.68%
CCC	Marginal	8.78%	13.02%	18.68%	16.34%	4.64%	12.15%	5.65%	5.11%	0.77%	4.59%
	Cumulative	8.78%	20.66%	35.48%	46.02%	48.53%	54.78%	57.33%	59.51%	59.83%	61.67%

*Rated by S&P at Issuance
Based on 2,527 issues
Source: Standard & Poor's (New York) and Author's Compilation

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Mortality Losses by Original Rating

All Rated Corporate Bonds*
1971-2009

		1	2	3	4	5	6	7	8	9	10
AAA	Marginal	0.00%	0.00%	0.00%	0.00%	0.01%	0.01%	0.01%	0.00%	0.00%	0.00%
	Cumulative	0.00%	0.00%	0.00%	0.00%	0.01%	0.02%	0.03%	0.03%	0.03%	0.03%
AA	Marginal	0.00%	0.00%	0.04%	0.04%	0.01%	0.01%	0.00%	0.01%	0.01%	0.01%
	Cumulative	0.00%	0.00%	0.04%	0.08%	0.09%	0.10%	0.10%	0.11%	0.12%	0.13%
A	Marginal	0.00%	0.03%	0.09%	0.15%	0.09%	0.05%	0.03%	0.05%	0.08%	0.03%
	Cumulative	0.00%	0.03%	0.12%	0.27%	0.36%	0.41%	0.44%	0.49%	0.57%	0.60%
BBB	Marginal	0.33%	1.92%	1.26%	0.45%	0.44%	0.20%	0.15%	0.11%	0.11%	0.22%
	Cumulative	0.33%	2.24%	3.48%	3.91%	4.33%	4.52%	4.67%	4.77%	4.88%	5.09%
BB	Marginal	0.63%	1.29%	2.43%	1.27%	1.54%	0.79%	0.86%	0.52%	0.84%	1.18%
	Cumulative	0.63%	1.91%	4.30%	5.51%	6.97%	7.70%	8.49%	8.97%	9.74%	10.80%
B	Marginal	2.06%	5.63%	5.48%	5.46%	4.03%	2.63%	2.50%	1.32%	1.00%	0.69%
	Cumulative	2.06%	7.57%	12.64%	17.41%	20.74%	22.82%	24.75%	25.74%	26.49%	26.99%
CCC	Marginal	5.78%	9.34%	13.28%	11.95%	3.28%	9.15%	4.26%	3.96%	0.47%	2.94%
	Cumulative	5.78%	14.58%	25.92%	34.78%	36.92%	42.69%	45.13%	47.30%	47.55%	49.09%

*Rated by S&P at Issuance
Based on 2,099 issues
Source: Standard & Poor's (New York) and Author's Compilation

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Mortality Rate Based Method Forecasts of Default and Recovery Rates in the High-Yield Bond Market

2007 - 2010

<u>Year</u>	<u>Default Rate</u>	<u>Default Amount (\$ billion)</u>	<u>Recovery Rate*</u>
2008 (Forecast)	4.64%	\$53.1	39.6%
2008 (Actual)	4.60%	\$50.2	42.5%
2009 (Forecast)	7.98%	\$92.0	30.0%
2009 (Actual)	10.74%	\$123.8	36.1%
2010 (Forecast)	5.06%	\$62.5	34.9%

*Based on the log-linear default rate/recovery rate regression.

Source: Mortality Rates (Slide 25), All Corporate Bond Issuance and Authors' Estimates of Market Size in 2010.

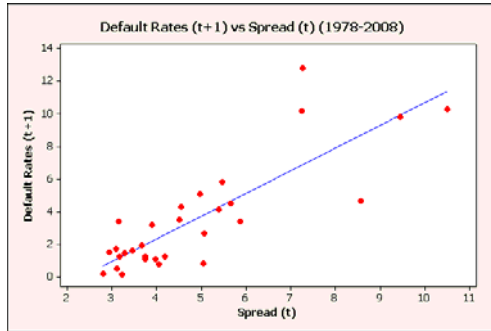
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Methods 3 & 4: Market Based Measures

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Dollar Denominated (Altman) Default Rate Predictions

Case 1: Default Rate[t+1] Versus Yield Spread[t]



The regression equation is

$$\text{Default Rate} = -3.25 + 1.39 * \text{Spread}$$

Predictor	Coef	SE Coef	T	P
Constant	-3.2490	0.9072	-3.58	0.001
Spread	1.3904	0.1741	7.99	0.000

S = 1.86079 R-Sq = 69.5% R-Sq(adj) = 68.4%

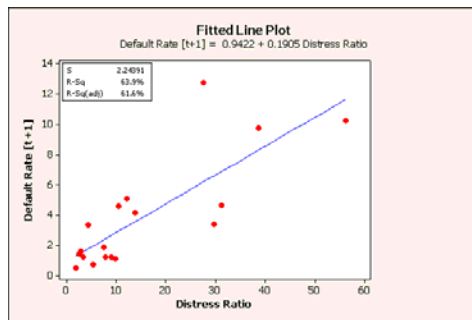
Application

Applying Yield spread (12/31/2007) of 566 bps, $P_D = -3.25 + 1.39 * 5.66 = 4.617\%$
 Applying Yield spread (12/31/2008) of 1,731 bps, $P_D = -3.25 + 1.39 * 17.31 = 20.811\%$
 Applying Yield spread (12/31/2009) of 513 bps, $P_D = -3.25 + 1.39 * 5.13 = 3.883\%$

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Dollar Denominated (Altman) Default Rate Predictions

Case 2: Default Rate[t+1] Versus Distress Ratio[t]



The regression equation is

$$\text{Default Rate} = 0.942 + 0.190 * \text{Distress Ratio}$$

Predictor	Coef	SE Coef	T	P
Constant	0.9422	0.7596	1.24	0.233
Distress Ratio	0.19045	0.03579	5.32	0.000

S = 2.24391 R-Sq = 63.9% R-Sq(adj) = 61.6%

Application

Applying Distress Ratio (12/31/2007) of 10.42%, $P_D = 0.810 + 0.193 * 10.42 = 2.820\%$
 Applying Distress Ratio (12/31/2008) of 82.00%, $P_D = 0.810 + 0.193 * 82.00 = 16.636\%$
 Applying Distress Ratio (12/31/2009) of 15.30%, $P_D = 0.942 + 0.190 * 15.30 = 3.856\%$

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Default and Recovery Forecasts: Summary of Forecast Models

Model	2009 Default Rate Forecast as of 12/31/2008	12/31/2010 Recession Default Rate Forecast as of 12/31/2009	12/31/2010 No Recession Default Rate Forecast as of 12/31/2009
Mortality Rate	7.98%	5.06%	5.06%
Recession Scenarios	15.40%	14.00%	n/r
Yield-Spread	18.32%	3.89%**	3.89%**
Distress Ratio	14.16%	3.86%***	3.86%***
Average of Models (Recovery Rates)*	13.63% (24.3%)	6.70% (31.8%)	4.27% (36.7%)

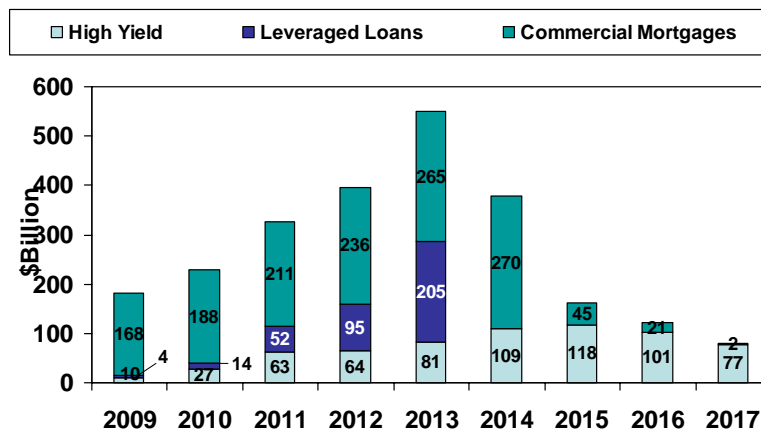
* Recovery rate based on the log Linear equation between default and recovery rates, see Altman, et al (2005) Journal of Business, November and Slide 36. **Based on Dec. 31, 2009 yield-spread of 513.16bp.***Based on Dec. 31, 2009 Distress Ratio of 15.3%.

Source: All Corporate Bond Issuance and Authors' Estimates of Market Size in 2010.

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Upcoming Debt Maturities

High-Yield Bond, Leveraged Loan and Commercial Mortgage Maturities (\$ in billions)



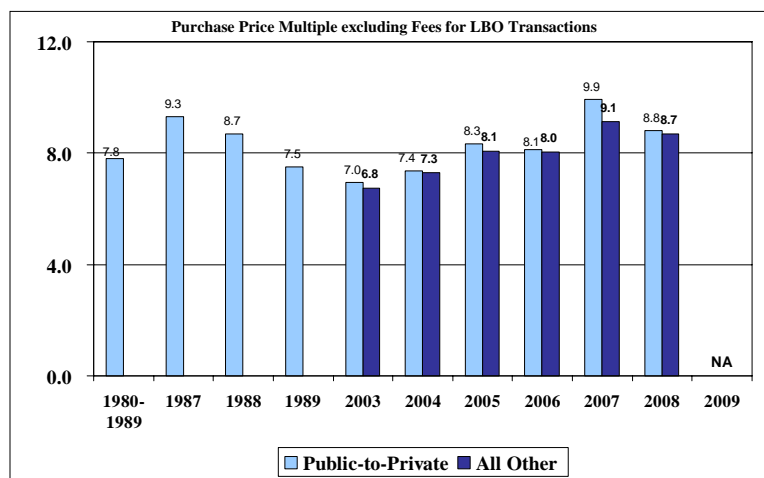
Source: J.P. Morgan; S&P LCD.

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A Credit Default Analysis of LBOs

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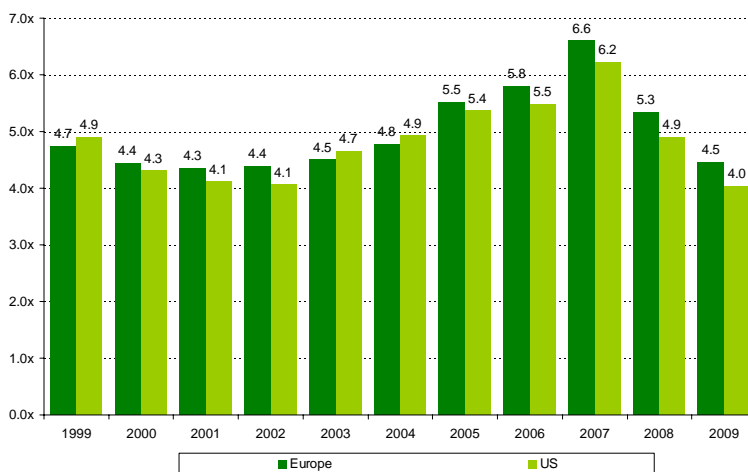
Purchase Price Multiples



Source: Standard and Poor's LCD

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Average Total Debt Leverage Ratio for LBO's: Europe and US with EBITDA of €/\$50M or More

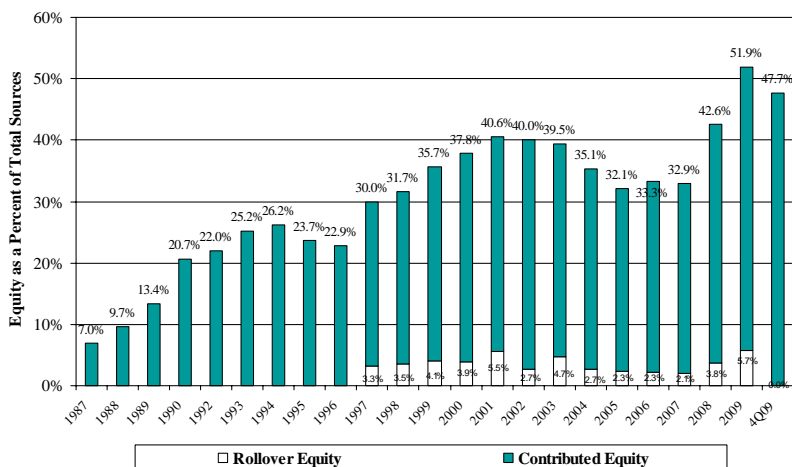


Source: Standard & Poor's LCD

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Average Equity Contribution to Leveraged Buyouts

1987 - 4Q09



Equity includes common equity and preferred stock as well as holding company debt and seller note proceeds downstreamed to the operating company as common equity; Rollover Equity prior to 1996 is not available; There were too few deals in 1991 to form a meaningful sample.

Source: Standard & Poor's LCD

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New Research:
Mortality Rate Analysis for
LBOs
2000 - 2009

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Recovery Rate
Analysis

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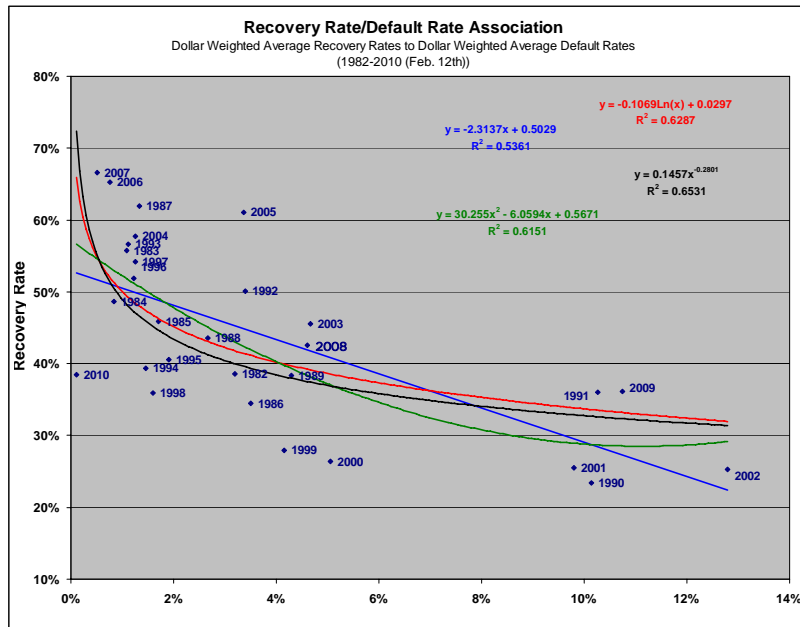
Default Rates and Losses^a

1978 – 2010 (Feb. 12th)

Year	Par Value Outstanding ^a (\$MM)	Par Value Of Default (\$MMs)	Default Rate (%)	Weighted Price After Default	Weighted Coupon (%)	Default Loss (%)
2010 (2/12)	\$1,182,995	\$1,268	0.11	38.5	9.05	0.07
2009	\$1,152,952	\$123,824	10.74	\$36.1	8.16	7.30
2008	\$1,091,000	\$50,169	4.60	\$42.5	8.23	2.83
2007	\$1,075,400	\$5,473	0.51	\$66.6	9.64	0.19
2006	\$993,600	\$7,559	0.76	\$65.3	9.33	0.30
2005	\$1,073,000	\$36,181	3.37	\$61.1	8.61	1.46
2004	\$933,100	\$11,657	1.25	\$57.7	10.30	0.61
2003	\$825,000	\$38,451	4.66	\$45.5	9.55	2.76
2002	\$757,000	\$96,858	12.79	\$25.3	9.37	10.15
2001	\$649,000	\$63,609	9.80	\$25.5	9.18	7.76
2000	\$597,200	\$30,248	5.06	\$26.4	8.54	3.94
1999	\$567,400	\$23,532	4.15	\$27.9	10.55	3.21
1998	\$465,500	\$7,464	1.60	\$35.9	9.46	1.10
1997	\$335,400	\$4,200	1.25	\$54.2	11.87	0.65
1996	\$271,000	\$3,336	1.23	\$51.9	8.92	0.65
1995	\$240,000	\$4,551	1.90	\$40.6	11.93	1.24
1994	\$235,000	\$3,418	1.45	\$39.4	10.25	0.96
1993	\$206,907	\$2,287	1.11	\$56.6	12.98	0.56
1992	\$163,000	\$5,545	3.40	\$50.1	12.32	1.91
1991	\$183,600	\$18,862	10.27	\$36.0	11.59	7.16
1990	\$181,000	\$18,354	10.14	\$23.4	12.94	8.42
1989	\$189,258	\$8,110	4.29	\$38.3	13.40	2.93
1988	\$148,187	\$3,944	2.66	\$43.6	11.91	1.66
1987	\$129,557	\$7,486	5.78	\$75.9	12.07	1.74
1986	\$90,243	\$3,156	3.50	\$34.5	10.61	2.48
1985	\$68,088	\$992	1.71	\$45.9	13.69	1.04
1984	\$40,939	\$344	0.84	\$48.6	12.23	0.48
1983	\$27,492	\$301	1.09	\$55.7	10.11	0.54
1982	\$18,109	\$577	3.19	\$38.6	9.61	2.11
1981	\$17,115	\$27	0.16	\$12.0	15.75	0.15
1980	\$14,935	\$224	1.50	\$21.1	8.43	1.25
1979	\$10,356	\$20	0.19	\$31.0	10.63	0.14
1978	\$8,946	\$119	1.33	\$60.0	8.38	0.59
Arithmetic Average 1978-2009:			3.63	\$44.79	10.64	2.45
Weighted Average 1978-2009:			4.56			3.09

^a Excludes defaulted issues.
Source: Authors' compilations and various dealer price quotes.

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Source: E. Altman, et. al., "The Link Between Default and Recovery Rates", NYU Salomon Center, S-03-4.

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Annual Returns
Yields and Spreads on 10-Year Treasury (Treas) and High Yield (HY) Bonds
1978 – 2010 (Feb. 19th)

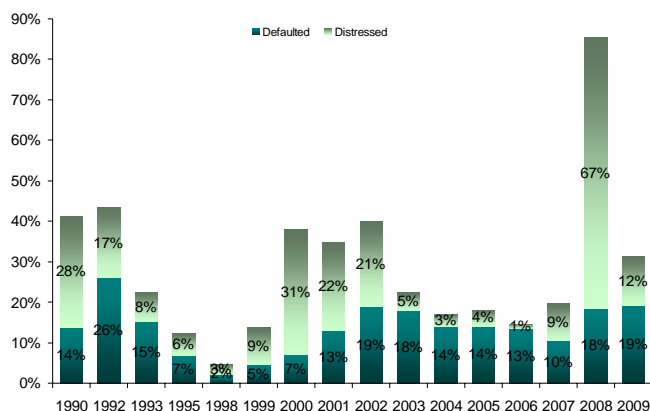
Year	Return (%)			Promised Yield (%) ^a		
	HY	Treas	Spread	HY	Treas	Spread
2010 (2/19)	0.71	1.03	(0.32)	9.13	3.78	5.35
2009	55.19	(9.92)	65.11	8.97	3.84	5.14
2008	(25.91)	20.30	(46.21)	19.53	2.22	17.31
2007	1.83	9.77	(7.95)	9.69	4.03	5.66
2006	11.85	1.37	10.47	7.82	4.70	3.11
2005	2.08	2.04	0.04	8.44	4.39	4.05
2004	10.79	4.87	5.92	7.35	4.21	3.14
2003	30.62	1.25	29.37	8.00	4.26	3.74
2002	(1.53)	14.66	(16.19)	12.38	3.82	8.56
2001	5.44	4.01	1.43	12.31	5.04	7.27
2000	(5.68)	14.45	(20.13)	14.56	5.12	9.44
1999	1.73	(8.41)	10.14	11.41	6.44	4.97
1998	4.04	12.77	(8.73)	10.04	4.65	5.39
1997	14.27	11.16	3.11	9.20	5.75	3.45
1996	11.24	0.04	11.20	9.58	6.42	3.16
1995	22.40	23.58	(1.18)	9.76	5.58	4.18
1994	(2.55)	(8.29)	5.74	11.50	7.83	3.67
1993	18.33	12.08	6.25	9.08	5.80	3.28
1992	18.29	6.50	11.79	10.44	6.69	3.75
1991	43.23	17.18	26.05	12.56	6.70	5.86
1990	(8.46)	6.88	(15.34)	18.57	8.07	10.50
1989	1.98	16.72	(14.74)	15.17	7.93	7.24
1988	15.25	6.34	8.91	13.70	9.15	4.55
1987	4.57	(2.67)	7.24	13.89	8.83	5.06
1986	16.50	24.08	(7.58)	12.67	7.21	5.46
1985	26.08	31.54	(5.46)	13.50	8.99	4.51
1984	8.50	14.82	(6.32)	14.97	11.87	3.10
1983	21.80	2.23	19.57	15.74	10.70	5.04
1982	32.45	42.08	(9.63)	17.94	13.86	3.98
1981	7.56	0.48	7.08	15.97	12.08	3.89
1980	(1.00)	(2.96)	1.96	13.46	10.23	3.23
1979	3.69	(0.86)	4.55	12.07	9.13	2.94
1978	7.57	(1.11)	8.68	10.92	8.11	2.81
Arithmetic Annual Average 1978-2009	11.00	8.34	2.66	12.22	6.99	5.23
Compound Annual Average 1978-2009	9.97	7.75	2.22			

^a End-of-year yields.
Source: Citigroup's High Yield Composite Index

Size of Distressed Debt Market

Distressed^a And Defaulted Debt as a Percentage of High Yield And Defaulted Debt Markets^b

1990 - 2009



(a) Defined as yield-to-maturity spread greater than or equal to 1000bp over comparable Treasuries. (b) \$1.463 trillion as of 12/31/2009. (c) Some years not available as no survey results available.

Source: NYU Salomon Center

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Estimated Face And Market Values Of Defaulted And Distressed Debt (\$ Billions)

2006 - 2009

	Face Value			Market Value			Market/Face Ratio
	12/31/2007	12/31/2008	12/31/2009	12/31/2007	12/31/2008	12/31/2009	
Public Debt							
Defaulted	\$ 127.3	\$ 234.4	\$ 279.6 ⁽¹⁾	\$ 76.4	\$ 40.7	\$ 97.8	0.35
Distressed	\$ 113.6	\$ 888.5	\$ 181.0 ⁽²⁾	\$ 85.2	\$ 488.7	\$ 135.7	0.75
Total Public	\$ 240.9	\$ 1,122.9	\$ 460.6	\$ 161.6	\$ 529.4	\$ 233.6	
Private Debt							
Defaulted	\$ 331.0	\$ 515.6	\$ 698.9 ⁽³⁾	\$ 281.4	\$ 299.1	\$ 419.3	0.60
Distressed	\$ 295.3	\$ 1,954.8	\$ 452.5 ⁽³⁾	\$ 265.7	\$ 1,368.3	\$ 362.0	0.80
Total Private	\$ 626.3	\$ 2,470.4	\$ 1,151.4	\$ 547.1	\$ 1,667.4	\$ 781.3	
Total Public and Private	\$ 867.2	\$ 3,593.2	\$ 1,612.0	\$ 708.7	\$ 2,196.8	\$ 1,014.9	

(1) Calculated using: (2008 defaulted population) + (2009 defaults) - (2009 Emergences) - (2009 Distressed Restructurings)

(2) Based on 15.3% of the high yield bond market (\$1.183 trillion) as of 12/31/09

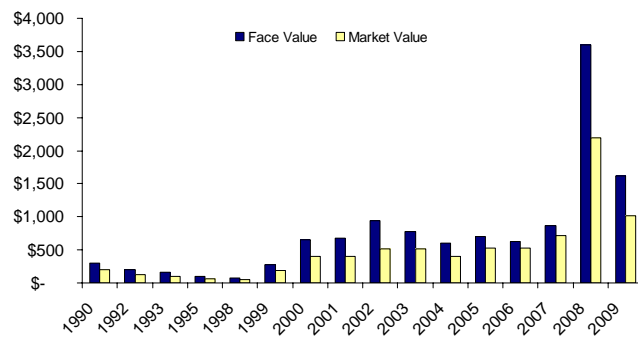
(3) Based on a private/public ratio of 2.5

Sources: Estimated by Professor Edward Altman, NYU Stern School of Business from NYU Salomon Center's Defaulted Bond and Bank Loan Databases

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Size Of The US Defaulted And Distressed Debt Market (\$ Billions)

1990 - 2009



Source: Author's Compilations

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Returns and Correlations of the Defaulted Debt Markets

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Hedge Fund Distressed Debt Index Returns

2003 – 2009

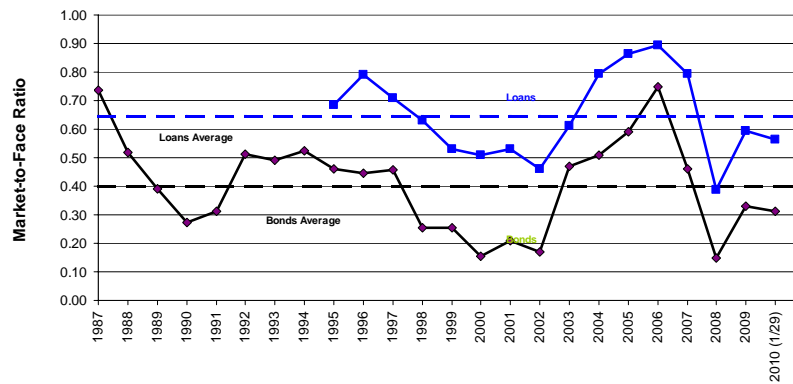
Calendar Year	Credit Suisse/Tremont	Hennessee	HFR	Van Hedge	Altman-Combined
2003	25.12%	26.79%	29.58%	27.42%	49.30%
2004	15.60%	18.98%	18.89%	18.19%	15.14%
2005	11.75%	9.71%	8.25%	9.34%	1.73%
2006	15.58%	15.78%	15.95%	15.33%	23.38%
2007	8.28%	8.31%	5.07%	7.37%	-3.30%
2008	-20.48%	-29.28%	-25.21%	-21.05%	-47.52%
2009	20.95%	42.97%	28.54%	N/A	55.99%

Sources: Bloomberg & NYU Salomon Center

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Defaulted Debt Indexes: Market-to-Face Value Ratios

(1987 – 2010 (Jan. 29th))



Loans Median Market-to-Face value is 0.62 and Average Market-to-Face value is 0.65

Bonds Median Market-to-Face value is 0.45 and Average Market-to-Face value is 0.40

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Source: Altman-NYU Salomon Center Defaulted Debt Indexes

ALTMAN-NYU SALOMON CENTER DEFAULTED BOND INDEX COMPARISON OF RETURNS (1987 - 2010 (Jan. 29th))			
Year	Altman-NYU Salomon Center Defaulted Bond Index	S&P 500 Stock Index	Citigroup High Yield Bond Index
1987	37.85%	5.26%	6.07%
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%
2003	84.87%	28.70%	30.62%
2004	18.93%	10.88%	10.79%
2005	-1.78%	4.92%	2.08%
2006	35.62%	15.80%	11.85%
2007	-11.53%	5.50%	1.83%
2008	-55.09%	-37.00%	-25.91%
2009	96.42%	26.46%	55.19%
2010 (1/29)	9.09%	-3.60%	1.12%
1987 - 2009 Arithmetic Average (Annual) Rate	11.53%	10.54%	9.35%
Standard Deviation	33.99%	18.83%	16.26%
1987 - 2009 Compounded Average (Annual) Rate	6.41%	9.39%	8.56%
1987 - 2009 Arithmetic Average (Monthly) Rate	0.64%	0.86%	0.73%
Standard Deviation	4.86%	4.53%	2.59%
1987 - 2009 Compounded Average (Monthly) Rate	0.52%	0.75%	0.69%

ALTMAN-NYU SALOMON CENTER DEFAULTED BANK LOAN INDEX COMPARISON OF RETURNS (1996 - 2010 (Jan. 29th))			
Year	Altman-NYU Salomon Center Defaulted Bank Loan Index	S&P 500 Stock Index	Citigroup High Yield Bond Index
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%
2003	27.48%	28.70%	30.62%
2004	11.70%	10.88%	10.79%
2005	7.19%	4.92%	2.08%
2006	4.35%	15.80%	11.85%
2007	2.27%	5.50%	1.83%
2008	-43.11%	-37.00%	-25.91%
2009	32.80%	26.46%	55.19%
2010 (1/29)	2.83%	-3.60%	1.12%
1996 - 2009 Arithmetic Average (Annual) Rate	4.63%	8.51%	8.18%
Standard Deviation	18.27%	21.44%	18.32%
1996 - 2009 Compounded Average (Annual) Rate	2.86%	6.25%	6.81%
1996 - 2009 Arithmetic Average (Monthly) Rate	0.31%	0.62%	0.60%
Standard Deviation	3.34%	4.67%	2.97%
1996 - 2009 Compounded Average (Monthly) Rate	0.25%	0.51%	0.55%

**COMBINED ALTMAN-NYU SALOMON CENTER
DEFAULTED PUBLIC BOND AND BANK LOAN INDEX
COMPARISON OF RETURNS
(1996 - 2010 (Jan. 29th))**

Year	Altman-NYU Salomon Center Combined Index	S&P 500 Stock Index	Citigroup High Yield Bond Index
1996	15.62%	22.96%	11.29%
1997	0.42%	34.36%	13.18%
1998	-17.55%	28.58%	3.60%
1999	4.45%	20.98%	1.74%
2000	-15.84%	-9.11%	-5.68%
2001	15.56%	-11.87%	5.44%
2002	-0.53%	-22.08%	-1.53%
2003	49.30%	28.70%	30.62%
2004	15.14%	10.88%	10.79%
2005	1.73%	4.92%	2.08%
2006	23.38%	15.80%	11.85%
2007	-3.30%	5.58%	1.83%
2008	-47.52%	-37.00%	-25.91%
2009	55.99%	26.46%	55.19%
2010 (1/29)	4.96%	-3.60%	1.12%
<hr/>			
1996 - 2009 Arithmetic Average (Annual) Rate	6.79%	7.70%	7.71%
Standard Deviation	25.37%	20.90%	17.75%
1996 - 2009 Compounded Average (Annual) Rate	3.65%	6.26%	6.81%
<hr/>			
1996 - 2009 Arithmetic Average (Monthly) Rate	0.55%	0.48%	0.50%
Standard Deviation	3.62%	4.80%	3.06%
1996 - 2009 Compounded Average (Monthly) Rate	0.49%	0.37%	0.45%

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**CORRELATION OF ALTMAN NYU-SALOMON CENTER
INDEXES OF DEFAULTED BONDS WITH OTHER SECURITIES
INDEXES 1987 – 2009**

Correlation of Altman Bond Index Monthly Returns

	Altman Bond Index	S&P 500	Citi HY Index	10yr T-Bond
Altman Bond Index	100.00%	40.38%	67.24%	-27.31%
S&P 500		100.00%	56.29%	0.33%
Citi HY Index			100.00%	-2.68%
10-yr T-Bond				100.00%

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**CORRELATION OF ALTMAN NYU-SALOMON CENTER
INDEXES OF DEFAULTED LOANS WITH OTHER SECURITIES
INDEXES 1996 – 2009**

Correlation of Altman Indices Monthly Returns

	Altman Bond Index	Altman Loan Index	Altman Combined Index	S&P 500	Citi HY Index	10yr T- Bond
Altman Bond Index	100.00%	66.29%	92.09%	42.41%	69.77%	-34.68%
Altman Loan Index		100.00%	89.16%	33.38%	58.50%	-26.13%
Altman Combined Index			100.00%	40.97%	69.21%	-33.95%
S&P 500				100.00%	60.26%	-14.63%
Citi HY Index					100.00%	-14.78%
10-yr T-Bond						100.00%

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U.S. Distressed Debt Managers

Abrams Capital	Black River Asset Mgmt	Cerberus Partners
ADM Maculus	Blackrock	Citadel Investments
AEG	Blackstone Group	Cohanzick Mgmt
Anchorage Advisors	Blue Mountain Cap Mgmt	Columbus Hill Cap.
Angelo, Gordon & Co.	Blue Wolf Capital	Commonwealth Advisors
Apex Fndmntl Partners	Bluebay Asset Mgmt	Concordia Advisors
Apollo Management	Bluecrest Cap. Mgmt	Contrarian Cap. Mgmt
Appaloosa Mgmt	Bond Street Capital	Corsair Capital
Archview Investment	Boone Capital Mgmt	Cypress Mgmt
Ares Corp. Opp. Fund	Brencourt Advisors	Cyrus Capital Partners
Ashmore Asian Recov.	Brigade Capital	D.E. Shaw
Atalaya Cap. Mgmt	The Broe Companies	Davidson / Kempner
Aurelius Capital Mgmt	Brookfield Asset Mgmt	DDJ Capital Mgmt
Avenue Capital Group	Canyon Capital	Deephaven Cap. Mgmt
Basso Asset Mgmt	Candlewood Partners	Delaware Street Capital
Baupost Group	Cardinal Capital	Deltec Recovery Fund
Bay Harbour Mgmt	Carl Marks	DKPR Wolf Point Mgmt
Bayside Capital	Carlyle Strategic	Drake Mgmt
Beltway Capital	Cargill Value Invstmt	Dreman Value Mgmt
Bennett Mgmt Co.	CarVal Investors	Drucker Capital
Black Diamond	Caspian Capital	Dune Capital Mgmt
Blackport Capital Fund,	Centerbridge Capital	

U.S. Distressed Debt Managers

Durham Asset Mgmt	Gradient Partners	Ivory Invest. Management
Eagle Rock Capital	Gramercy Capital	Jana Partners
Elliott Advisors	Greenlight Capital	JLL Partners
Endurance Capital	Greywolf Capital	JMB Capital
EOS Partners	Gruss Asset Mgmt	K Capital Partners
Epic Asset Mgmt	GSC Group	Katonah Scott's Cove Cap. Mgmt.
Everest Capital Ltd	GSO Capital Prtnrs	KD Distressed Capital
Fairfield Greenwich	Guggenheim Inv. Mgmt	Kilimanjaro Advisors
Farallon Partners	H.I.G.	King Street Advisors
Fintech Advisory	Hain Capital	Knighthead Capital
Fir Tree Partners	Halbis Cap. Mgmt (US)	KPS Spec. Siittns Fd
Forest Invstmnt Mgmt	Halcyon/Slika Mgmt.	Lampe Conway
Franklin Mutual Rec.	Harbert Fund Advisors	Latigo Partners
Fridson Investment Advisors	Harbinger Capital	Laurel Ridge Ast Mgmt.
Fulcrum Capital Mgmt	Harvest Capital	Leucadia Nat'l Corp.
GE Finance	Helios Advisors	Levco Debt Opps
Glenview Capital Mgmt	HIG Brightpoint Cap.	Litespeed Partners
GLG Partners, NA	Highbridge Cap. Mgmt	Littlejohn & Co.
Global Credit Advisors	Highland Capital	Loeb Partners
Golden Capital	Highland Rest. Cap.	Lonestar Partners
GoldenTree Asset Mgmt	Huizenga Capital Mgmt	LongAcre Cap. Partners
Goldman Spec Situations	Icahn Capital Corp.	Longroad Asset Mgmt
Gracie Capital	Insight Equity	Marathon Capital

U.S. Distressed Debt Managers

Marathon Capital	Paige Capital	Seneca Cap. Inv. Ptnshp
Mariner Invest. Group	Pardus Capital	Signature Cap. Partners
Mason Capital Management	Patriarch	Silverpoint Capital
MatlinPatterson Global	Paulson & Co.	Solus Alternative Management
Mellon HBV Cap. Mgmt	Pegasus Investors	Soros NY
MHR	Perella Weinberg Ptnrs Cap.	Spring Street
Millennium	Perry Partners	Stanfield Capital Mgmt
MJ Whitman Mgmt Co.	Phoenix Investment Adviser	Stairway Capital Advisors
Monarch Alternative Cap.	Pine Creek	Standard General Management
Monomoy Capital	Pinewood Cap. Partners	Stark Investments
Mount Kelleth Cap. Mgmt	Plainfield Asset Mgmt	Stone Harbor Inv. Ptnrs
MSD Capital	PMI	Stonehill Capital
New Generation Advisers	Principal Global Investors	Stone Lion Capital
Normandy Hill Capital	Questor Management	Stony Lane Partners
Oakhill	Radius Partners	Strategic Value Partners
Oaktree Capital	Ramius	Summit
Och Ziff Capital Management	Redwood Capital	Sunrise Capital Partners
Octavian Advisors	Resolution Partners	TA McKay & Co.
Onex Credit Partners	Restoration Capital Mgmt	Taconic Capital Partners
Orehill Partners	Resurgence Corp. Fund	Tennenbaum Capital
Owl Creek Asset Management	Salisbury	Third Avenue Value Fund
Pacholder Assoc., Inc.	Sandell Asset Mgmt	Third Point
Pacific Altern. Ast Mgmt.	Scoggin Capital	Tiburon Capital Management ⁵²

U.S. Distressed Debt Managers

TPG Credit Management	William E. Simon & Sons
Treadstone Group	Woodside Management
Tricadia Capital	York Capital
Triage Capital	Z Capital Partners
Trilogy Capital	
Trust Co. of the West	
Tuckerbrook	
Tudor Investment Corp.	
Turnberry Capital	
Tyndall Partners	
Van Kampe	
Varde Partners, Inc.	
Venor Capital Mgmt	
Versa Capital Mgmt	
Viking Global	
W.L. Ross & Co.	
Washington Corner Cap.	
Watershed Asset Management	
Wayzata Invest. Partners	
Wellspring Cap. Partners	
Wexford Capital	
Whippoorwill Assoc., Inc.	

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U.S. Distressed Funds with European Offices

Aladdin Capital Management	Och Ziff Capital Mgmt.
Apollo Management	Peter Schoenfeld Asset Mgmt.
Avenue Capital Group	Silverpoint Capital
Camulos Capital	Strategic Value Partners
Cargill Investors	TPG Credit Mgmt.
Cerberus Partners	Värde Partners
Citadel Investments	
Davidson Kempner	
D.E. Shaw	
Elliott Advisors	
EOS Partners	
Fortress Capital Corp	
HBK Investments	
Highbridge Capital Management	
Kelso Place Asset Management	
Lonestar Partners	
Marathon Capital	
Matlin Patterson Global Advisors	
Millennium Capital	
Oaktree Capital	

European Distressed Debt Managers (Home Grown)

Alchemy Partners	Perusa
Argo Capital	Providente
Arrowgrass Capital Partners	RAB Capital
Bluebay Asset Management	Rutland Fund
Butler Capital Management	Sisu Capital
Carousel	Sothic Capital Management
Cyrus Capital	Trafalgar Asset Managers
Development & Partenariat	Verdoso Special Opportunity Fund
Endless	Vermeer Capital Partners
EQT Opportunities	
Equinox	
Fin'active	
Fortelus Capital management	
Green Recovery	
H2 Equity Partners	
HIG Europe Capital Partners	
Ilex	
Marco Polo	
Nordwind Capital	
Orlando Management GmbH	

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Distressed Active/Control Investors

American Securities	GSC Group	Paulson & Co.
Angelo, Gordon & Co.	Harbinger Capital Partners	Perry Capital
Apollo Management	H.I.G. Capital	Plainfield Asset Mgt
Appaloosa Management	Highland Rest. Capital Partners	Platinum Equity Capital Partners
Audax Credit Opportunities	Industria Partners	Prophet Equity
Aurelius Capital Management	Insight Equity I	Ramius Capital Group
Aurora Resurgence Mgt Partners	Levine Liechtman	Relativity Fund
Avenue Capital Partners	Littlejohn & Co.	Remedial Capital
Bay Harbour Management	Lone Star Partners	Resurgence Asset Management
Black Diamond	Longroad Asset Management	Sandell Asset Management Corp.
BlackEagle Partners	KPS Special Situations Fund	Saybrook Capital
Brookfield Asset Mgmt	Marathon Capital	Silver Point Capital
Carlyle Strategic Partners	Marlin Equity Partners	Stark Investments
Catalyst Partners	MatlinPatterson Global Advisors	Stony Lane Partners
Centerbridge Capital Partners	Mellon HBV	Strategic Value Partners
Cerberus Partners	MHR Institutional Partners	Sun Capital Partners
Citadel Limited Partnership	Millroad Partners	Sunrise Capital
DDJ Capital Management	Monomoy Capital Partners	TCW Crescent Mezzanine
D.E. Shaw	Newport Global Advisors	TPG Credit Management
Elliott Associates	Oakhill	Tuckerbrook
Ewing Management	Oaktree Capital	Tudor Investment Corp et al
Farallon Capital	Panagaen Capital Management	Vector Capital
Gores Group	P. Schoenfeld Asset Management	Versa Capital Management

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Distressed Active/Control Investors

Water Tower Capital
 Wayzata Investment Partners
 W.L. Ross & Co
 Whippoorwill Associates
 Wingate Partners
 York Capital
 Z Capital Partners

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Investment Styles and Target Returns in Distressed Debt Investing

<u>Active/Control</u>	<u>Active/Non-Control</u>	<u>Passive</u>
Requires 1/3 minimum to block and ½ to control; may require partner(s)	Senior secured, senior unsecured	Invest in undervalued securities trading at distressed levels
Take Control of company through debt/equity swap	Active participation in restructuring process; Influence process	Sub-strategies: trading/buy-hold/senior or senior secured/sub debt/busted converts/capital structure arbitrage/long-short, value
Restructure or even purchase related businesses; roll-up	Exit via debt or equity (post-chapter 11) markets	Trading oriented; Sometimes get restricted
Equity infusion; run Company	Generally do not control	Holding period of 6 months to 1 year generally; Longer sometimes
Exit 2-3 years	Holding period of 1-2 years	Target return: 12-20%
Large or Mid-Small Cap focus	Large or Mid-Small Cap focus	
Target return: 20-25%	Target return: 15-20%	