

**New York University  
Leonard N. Stern School of Business  
Salomon Center**

**Report on**

**Defaults & Returns on High Yield Bonds:  
Analysis Through September 30, 2002**

**By**

**Edward I. Altman  
And  
Gaurav Bana**

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# **Altman Report on Defaults and Returns on High Yield Bonds: Analysis Through September 30, 2002**

- **Nine months 2002 defaults reached a record level of \$83.1 billion, easily topping last year's previous record level. The dollar weighted default rate through Q3 2002 was also a record 11.0% and the last four quarters rate reached as much as 15.0%.**
- **Third quarter defaults of almost \$38 billion were paced by WorldCom's \$28 plus billion default. The third quarter default rate was 4.95%. If one does not include WorldCom, however, the rate drops to 1.2%.**
- **The first three quarters default loss rate was 8.74%, unadjusted for fallen angel defaults and 7.76% after adjusting for the nine fallen angel defaults so far this year. The average recovery rate was 24.59% (unadjusted for fallen angels) and 31.57% (adjusted).**
- **The high yield bond market returned -9.30 for the first three quarters, resulting in a return spread versus US Treasuries of -24.70% - - which will be a record annual negative level if there is no change in the fourth quarter.**
- **We believe that default rates peaked in Q3 - 2002 and the drop in default rates will result in increased returns for high yield bonds in the near future.**

**This report was written by Professor Edward I. Altman, Max L. Heine Professor of Finance at the Leonard Stern School of Business, NYU, and a consultant to Salomon Smith Barney. Dr. Altman acknowledges the assistance and data sources from Wilson Miranda, Gabriella Petrucci and Sau Man Kam of SSB, Moody's, S&P and New Generation Research, and Gaurav Bana and Lourdes C. Tanglao of the NYU Salomon Center.**

## **Executive Summary**

**The third-quarter 2002 default rate for high yield bonds was 4.95%, based on \$37.48 billion of defaults. The quarterly default rate is the highest in history, surpassing the first quarter of 1991 rate of 4.80%. One massive default, WorldCom, accounted for \$28.30 billion of defaults (76%). Without WorldCom, the third quarter default rate would have only been 1.2%.**

**The dollar weighted default rate for the first three quarters has already broken the record for a single calendar year reaching 10.98%. And, the latest four-quarters' default rate of 15.01% has also set a record. Again, WorldCom's huge default contributed about 4% of this record total. The persistently high default rate through the third quarter has resulted in a near record yield spread of 10.10% -- second only to 1990's 10.50%. The current yield spread is more than 5% above the historical average. We believe the default rate has peaked in Q3-2002 and depending on the size of the decline, we believe the huge yield spread could reflect an over-sold market.**

**Counting WorldCom (\$46.0 billion in liabilities), there were more than \$197 billion in liabilities of firms which filed for Chapter 11 protection through the third quarter and 26 firms had liabilities greater than \$1 billion. The count was 22 firms through the first-half of the year, so the third-quarter number was "only" four, including WorldCom. There were 39 of such firms in 2001 - - a record year.**

## Defaults and Default Rates

The dollar weighted default rate for high yield corporate bonds was 10.98% in the first three quarters of 2002, based on \$83.09 billion of defaults (see Appendix A and Figure 1). The third quarter amount of \$37.5 billion topped any quarter in our entire history of high yield bond compilations and the default rate is already the highest for any particular calendar year. The dollar amount of defaults in the first three quarters of this year dwarfs even last year's record levels. The third-quarter default rate was 4.95%, breaking the one-quarter record from the first quarter of 1991 (Figure 2 and Appendix B). The latest four-quarter default rate rose to 15.01%, also a record. Keep in mind that our default rate calculation is based on dollar amounts. By comparison, S&P's three quarter, US speculative grade default rate based on number of issuers is only 6.11% and their 12-month rolling rate is 8.93%. Moody's 12-month rate was 9.23% (Appendix B), based on percentage of issuers but their rate based on amount outstanding was 18.25% - - perhaps the largest differential ever between their issuer versus amount outstanding rates.

The third quarter's record amount and rate was due primarily to WorldCom's massive default of over \$28 billion (over \$1 billion of WorldCom's debt could not be priced). Without WorldCom, the year-to-date rate drops by almost 4% to 7.2% and the third quarter's rate would have been only 1.2%. So, this huge single default, arguably not as relevant to high yield investors as to distressed or investment grade investors, should be viewed with some skepticism. Please note that our population base rises to \$757 billion as of mid-year, which is the base amount for Q3 and year-to-date default rate calculations. The increase in size from year-end 2001 was primarily due to a huge amount of fallen angels, led by WorldCom.

There were 288 defaulting issues from 92 companies in the three quarters of this year's compilation, up from 201 issues and 61 companies through the first six months. The enormous third quarter amount of \$37.5 billion was derived from about the same number of issues (87) and companies (31) as in the first and second quarters of 2002, resulting in a higher average default amount per issue (\$431 million) and average per firm (\$1.2 billion). The largest "contributors" to our three quarter default statistics were Adelphia, Century, Conseco, Global Crossing, Kmart, Nextel International, NTL, Teleglobe, United International Holdings, United Pan-Europe Communications, U.S. Airways, Williams Communications, and, of course, WorldCom (Appendix A).

About 57% of the high yield default dollars were from telecom companies. These 19 companies were only 21% of the number of defaulting firms. The average size of these telecom defaults (\$2.49 billion) was considerably greater than the average of the remainder of our 2002 defaulting population. Again, WorldCom skews the data.

### **Defaults Rates and Economic Activity**

Figure 3 shows the relationship between high yield bond market default rates and recession periods in the US economy. In the last two recessions, we saw default rates rise from relatively low levels several years before the recession started. But in all five recessions in our 30-year sample period, default rates peaked at the end of the recession or shortly after the recession ended. In the current period, we are told that the recession started in the second quarter of 2001 and probably ended sometime in early 2002. If this is the case, then our default rate (four quarter moving average) continued to rise after the end of the recession and the remaining key question is "has it peaked?" The answer probably is yes. It probably peaked in the third quarter if we include the enormous \$30 billion debt of WorldCom. Without WorldCom, it is

possible that the peak occurred in the second quarter, although recent reports about a softening in the economy makes us hesitant to predict this with great confidence.

### **Bankruptcies Trend**

The trend in large corporate bankruptcies has continued without pause from the record levels of 2001 when 39 companies with liabilities greater than \$1 billion filed under Chapter 11. The total for 2001 liabilities was \$230 billion (Figure 4). In the first three quarters of 2002, 26 additional billion-dollar liabilities companies filed bringing the total to 65 in less than the two years (since January, 2001). Total liabilities in the first nine months of 2002 were already \$197 billion, slightly above the record pace of 2001 - - these include filings with at least \$100 million in liabilities (Appendix C). Of these 26 large bankruptcies, 11 were telecom companies. Note that several of these telecom bankruptcies actually defaulted in 2001 (XO, McLeod, Metromedia Fiber, and Globalstar) and are not listed in Appendix A. In Figure 4, please also note that the 2002 totals are only for nine months.

### **Industry Defaults**

Industry sector defaults in the first three quarters of 2002 continued to show the large incidence of Telecom and other communication issuers (22 of 92 firms) - 24% of defaulting issuers (Figure 5). Cable communication providers had three entries (Appendix D), Energy and Transportation had five, Leisure/Entertainment had four, and Retailing also had three defaults (five if we include restaurants). Among the general and miscellaneous industry sectors, textiles had four defaults, glass products had three, mining had three, and paper and paper board had three defaults.

## **Defaults by Age**

Results from three quarters of 2002 show that about 35% of the issues defaulted within 36 months of issuance (see Figure 6). This is considerably lower than the historical average (49%, see Figure 7). A major reason is the Kmart default, with 52 issues, 49 of which had seven-year plus post-issuance default. By the 48-month mark, the proportion rises to 53% with Kmart and 62% without Kmart. The four-year or less average for the period 1989-2002 is higher at 65%.

The so-called “bad cohort” of 1996-1998 does show some evidence of dissipating with respect to subsequent defaults in 2002. Issuance for 1996 is associated with the six years from issuance proportion in 2002 (6.60%) vs. the historical average of 7.00% (rounded). The fourth-year rate (1998 cohort) and the fifth-year rate (1997 cohort), however, still show higher proportions of defaults in 2002 (when we exclude Kmart) - 21% vs. 16% and 17% vs. 12%, respectively. So, it is still too early to conclude that the so-called “bad cohorts” caused by the benign credit cycle have run their course.

## **Fallen Angel Defaults**

With the heightened interest and incidence of fallen angels, we again focus on this original investment grade population that default. In 2002 alone, more than \$125 billion of original issue high-grade bonds were downgraded (about one-quarter are WorldCom bonds, downgraded in May) and about \$7.5 billion were upgraded. This net downgrade figure helped swell the size of the high yield bond population to \$757 billion as of June 30, our population base for calculating Q3 and annual default rates. New issues through September 30 were about \$50.5 billion.



Figure 8 indicates that defaults that were originally rated investment grade (“broken fallen angels”) accounted for 41% (118) of the total number of defaulting issues in 2002. This data includes 52 Kmart and 32 WorldCom fallen angels. Without Kmart, we observe that just 20% of the issues were original issue investment grade. So, the actual incidence of fallen angel issue defaults is slightly below the average of 23% for the period 1971-2002, if we exclude Kmart.

In terms of the number of defaulting companies, rather than issues, there were nine fallen angel defaults (Conseco, Covanta, AT&T Canada, Global Crossing, Kmart, NRG Energy, Teleglobe, U.S. Airways and WorldCom). These comprised about 10% of defaulting companies. But, the dollar proportion of fallen angel defaults was much greater (39%), reflecting the profound impact of fallen angels on default rates and, to be sure, the reverse is now true as well

### **Default Losses and Recoveries**

The unadjusted weighted average recovery rate on defaults for the first nine months of 2002 registered 24.6% (see Figures 9 and 10). This figure is based on 276 observations so far this year, where the recovery rate is taken from bid price levels just after default. This figure is not adjusted for fallen angel defaults. Fallen angels accounted for about 39% in dollar amount of defaults in the first three quarters of 2002 and 41% of the total defaulted issues. We observe that the weighted average price just after default of our fallen angel default sample, including WorldCom, in 2002 is \$17.20. When compared to the weighted average price at downgrade (\$46.35), the weighted average fallen angel default recovery rate is 37.11%. This was a bit greater than the average original issue high yield default’s recovery (30.91%), but below our average recovery for fallen angel defaults over the period 1982-2001 (see our 2001 Annual Report, January 23, 2002). Combining these fallen angel issues with the remaining defaults, our

revised 2002 nine-months average recovery rate and loss rates are 33.51% and 7.76% (nine months) respectively.

Figure 11 shows the breakdown of average recoveries by seniority unadjusted for fallen angels. The senior secured category registered a weighted average recovery of 49.04%. All other categories showed average recoveries in the 25-33% range. Once again, there were no junior subordinated defaults. Our discount bond category reflects accreted values as the relevant investment amount.

### Predicting Recovery Rates

As we discussed in several of our previous reports, one can explain up to 60% of the variation in recovery rates on defaulted high yield bonds by simply knowing or estimating default rates. Indeed, expected default rates for 2002 based on (a) the simple linear model,<sup>1</sup> (b) a power function model,<sup>2</sup> and (c) a log-linear function,<sup>3</sup> assuming an 11%, 12% or 13% default rate (BDR) as follows:

<u>BDR</u>	<u>BRR<sup>(a)</sup></u>	<u>BRR<sup>(b)</sup></u>	<u>BRR<sup>(c)</sup></u>
11%	22.1%	21.7%	25.5%
12%	19.5%	21.1%	24.6%
13%	16.9%	20.7%	23.6%

where: BRR = Expected Bond Recovery Rate

As shown in Figure 9, BRR is 24.6% so far with an 11% BDR. If the default rate rises to say, 13% by year's end, the linear prediction changes to 16.9%, the power function prediction to 20.7%, and the log-linear model's prediction to 23.6%. See Altman, Brady, Resti and Sironi,

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<sup>1</sup>  $BRR = 50.9 - 2.617 (BDR)$

<sup>2</sup>  $BRR = 52.7 (BDR)^{-0.2834}$

<sup>3</sup>  $BRR = 52.332 - 11.181 \ln (BDR)$

(2002) -- "The Link Between Default and Recovery Rates," NYU Salomon Center Working Paper #S-02-9, for these and other similar specifications.

### **Telecom Recovery Rates**

Figure 12 continues our update of recovery rates in the telecom and other communication/e-commerce sector from 1996 through the third quarter of 2002. These companies (almost all telecoms and cable companies of late) and their defaulting issues continue to suffer considerable defaults and correspondingly low recovery rates. Of the 11 issuers in 2002 (primarily Global Crossing, Nextel International, Williams Communications, NTL, KPN Qwest and WorldCom), the weighted average recovery rate registered just 11.64% (see Panel B of Figure 12). This is the lowest for any year in our compilations and reduced the overall adjusted recovery rate in 2002 (see Figure 9).

### **Should We Include WorldCom?**

We again include a discussion of the massive WorldCom default due to its size and unique relevance to the high yield bond market. On July 20, 2002, WorldCom Corporation filed for bankruptcy under Chapter 11 of the Bankruptcy Code, after missing its interest payments on various bond issues on July 15. WorldCom's almost \$30 billion in bonds outstanding had been downgraded by Moody's on May 9 of this year. Technically, we should include all of its staggering amount of bonds in our high yield default statistics since it was part of the high yield population as of June 30 -- the population date of reference for calculating third-quarter and annual default rates. Also, all of the high yield indexes that we are familiar with included WorldCom prior to its default. But, such an outlier event will obviously impact our default numbers and rates. Indeed, at \$28.3 billion, WorldCom's default was 31 times larger than the average company default (\$903 million with WorldCom) and more than 8.5 standard deviations

(one standard deviation = \$3.3 billion) greater than the average. Without WorldCom, the average issuers' default was \$602 million with a standard deviation of \$1.4 billion. Arguably, WorldCom is also the largest Chapter 11 filing ever, with approximately \$46 billion in liabilities (Enron's liabilities, including its off-balance sheet obligations, is over \$60 billion, although its filing only indicated about \$31 billion). And, WorldCom's "reported" assets were over \$100 billion. This figure is meaningless, however, in terms of its economic value (possibly less than 15% of reported assets)

While our criteria for including a defaulted issue was whether it was part of our high yield population as of June 30<sup>th</sup>, and WorldCom meets this test, another factor that is perhaps more relevant to the high yield bond market, is whether investors had purchased WorldCom prior to its default. According to most observers this was not the case, since the WorldCom bonds traded like distressed debt prior to and after the downgrade and was held or purchased by investment grade and distressed debt specialists.<sup>4</sup> The latter group "bet" on the likelihood that WorldCom's bonds, many of which sold in the low 40's and some short-term bonds in the 70's before and after being downgraded, would not default and the upside potential was attractive to many. Indeed, our own Z and Z"-Score models had WorldCom Corporation looking like a single B+, or at worst a CCC+, rated company as of the end of the first quarter of this year (see our paper "Corporate Distress Prediction Models in a Basel II Environment," Salomon Smith Barney, High Yield Research Report, September 24, 2002).

When we add WorldCom's \$28.3 billion in bonds to our default totals, our default rate for three quarters of the year jumps to 11.0%, solidifying 2002's highest default year status. For reasons mainly related to WorldCom's outlier size, its technical high yield classification and its

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<sup>4</sup> Some observers, however, have noted that some high yield investor did purchase WorldCom to have a portfolio more in-line with the revised high yield Index composition.

investor base, we will report default statistics both with and without this enormous default. Actually, Texaco's 1987 default had a greater influence (4.44%) on that year's default rate than will WorldCom's 2002 influence - - which was about 3.8% and will narrow somewhat by year-end.

### **Distressed and Defaulted Debt Proportions**

The distressed debt proportion of the high yield plus defaulted debt population increased to about 26% as of September 30 compared to 20% and 17% as of June 30 and March 31, 2002, respectively. WorldCom's influence is no longer a part of this increase since it entered the high yield database in May but was deleted after its default. We estimate that the face value size of the defaulted and distressed, public and private debt markets reached a record \$885 billion as of September 30 with about \$163 billion of defaulted bonds outstanding (December 31, 2001 defaults, plus year-to-date 2002 defaults, minus emergencies from bankruptcies, including liquidation) and \$206 billion in distressed debt. The size of the high yield plus defaulted bond markets shot-up to almost \$800 billion. Defaulted debt, therefore, accounted for more than 20% of this total and distressed debt almost 26% (see Figure 13).

Figure 14 shows our estimates for the size of the defaulted and distressed, public and private debt markets as of September 30, 2002 and as of the end of 2001. The face value of these two enormous segments of the corporate debt universe jumps to about \$885 billion and the market value to about \$488 billion - - the largest amounts and proportions since we started following these markets in 1990 (Figure 15). This increase is observed despite our lowering of the private/public debt ratio to 1.40 from 1.65 in our earlier 2001 estimate. The new estimate is based on an updated study of more than 150 recent corporate defaulting companies' balance

sheets as of the statement closest to the default date. Perhaps even this lower 1.40 ratio is too high since WorldCom has a much lower ratio and is now part of our relevant universe.

### **Returns, Yields and Spreads**

The considerably higher distressed proportion is consistent with the increase in the high yield average yield spread over 10-year Treasuries, which rose to 10.10% as of September 30 (Figure 16) from 8.80% as of June 30 and 6.44% just six months ago. This enormous swing of 466 bp. in two quarters reflects the increase in actual default rates and investor concern for continued high rates of default and, in general, high uncertainty as well as the decrease in 10-year Treasury rates. We continue to use the yield-to-maturity as our benchmark promised yield.

The return on high yield bonds also plummeted in the third quarter, reaching  $-9.30\%$  and a spread compared to Treasuries of  $-24.60\%$ . This is the highest negative return spread since we have been compiling these statistics from 1978. If the negative return spread remains at or near this level by the end of the year, the average annual return spread from 1978-2002 will fall to below 1.0% per year from 1.88% over the 1978-2001 period. The average annual yield spread for high yield bonds (last column of Figure 16) will increase to above 5.0% if conditions remain unchanged by year's end. As of October 21, the yield spread increased to 10.24% but the return spread decreased to  $-21.59\%$  due to the T-Bond's fall in return by almost 400 bp.

The current yield spread of 10.10% is almost the highest on record, second only to 10.50% as of the end of 1990. Recall that the yield spread dropped considerably in 1991 to 5.86% one year later as default rates also dropped from 10.3% to 3.4% (Figure 1) and returns soared in 1991 to more than 43% (Figure 16). Due to a soft economy and problems in some industrial sectors going forward, e.g., power companies, public utilities and airlines, we do not expect defaults to drop to such a low level over the next 12 months. We are fairly confident,

however, that they have peaked this quarter and will begin to decline shortly and possibly considerably.

**FIGURE 1**

**HISTORICAL DEFAULT RATES - STRAIGHT BONDS ONLY  
EXCLUDING DEFAULTED ISSUES FROM PAR VALUE OUTSTANDING  
1971 - Q3 2002 (\$ MILLIONS)**

<b>YEAR</b>	<b>PAR VALUE OUTSTANDING (a)</b>	<b>PAR VALUE DEFAULTS</b>	<b>DEFAULT RATES</b>	
Q3 2002	\$757,000	\$83,086	10.976%	
2001	\$649,000	\$63,609	9.801%	
2000	\$597,200	\$30,295	5.073%	
1999	\$567,400	\$23,532	4.147%	
1998	\$465,500	\$7,464	1.603%	
1997	\$335,400	\$4,200	1.252%	
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%	
1984	\$40,939	\$344	0.840%	
1983	\$27,492	\$301	1.095%	
1982	\$18,109	\$577	3.186%	
1981	\$17,115	\$27	0.158%	
1980	\$14,935	\$224	1.500%	
1979	\$10,356	\$20	0.193%	
1978	\$8,946	\$119	1.330%	
1977	\$8,157	\$381	4.671%	
1976	\$7,735	\$30	0.388%	
1975	\$7,471	\$204	2.731%	
1974	\$10,894	\$123	1.129%	
1973	\$7,824	\$49	0.626%	
1972	\$6,928	\$193	2.786%	
1971	\$6,602	\$82	1.242%	
				<b>Standard Deviation</b>
<b>ARITHMETIC AVERAGE DEFAULT RATE</b>		<b>1971 TO 2001</b>	<b>2.941%</b>	<b>2.746%</b>
		<b>1978 TO 2001</b>	<b>3.234%</b>	<b>2.963%</b>
		<b>1985 TO 2001</b>	<b>4.077%</b>	<b>3.096%</b>
<b>WEIGHTED AVERAGE DEFAULT RATE (b)</b>		<b>1971 TO 2001</b>	<b>4.319%</b>	<b>3.204%</b>
		<b>1978 TO 2001</b>	<b>4.347%</b>	<b>3.208%</b>
		<b>1985 TO 2001</b>	<b>4.440%</b>	<b>3.204%</b>
<b>MEDIAN ANNUAL DEFAULT RATE</b>		<b>1971 TO 2001</b>	<b>1.708%</b>	

**Notes**

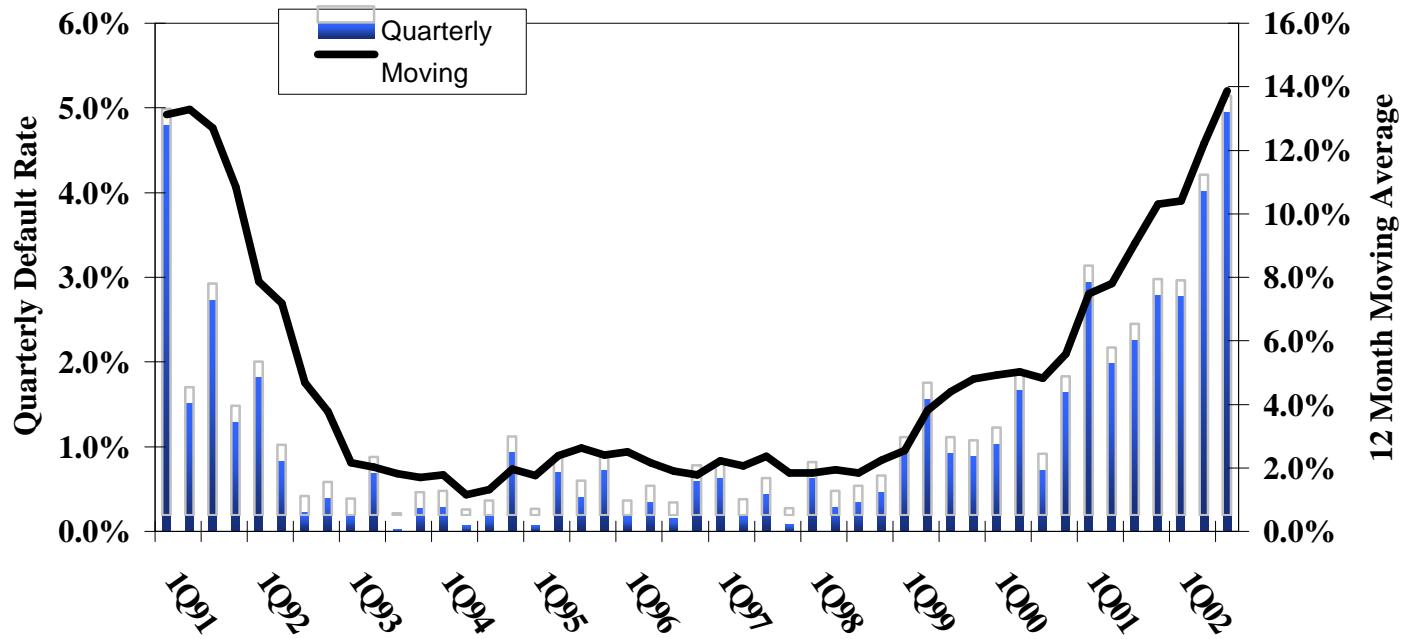
(a) As of mid-year.

(b) Weighted by par value of amount outstanding for each year.



**FIGURE 2**

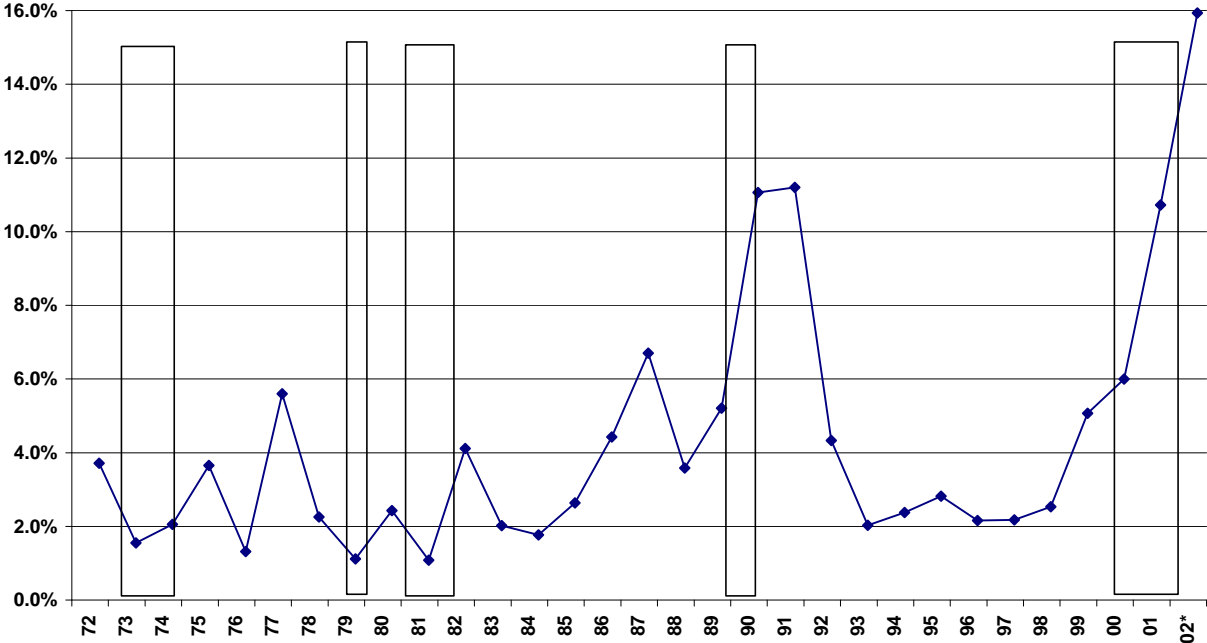
**QUARTERLY DEFAULT RATE AND 12-MONTH MOVING AVERAGE  
1991-2002 Q3**



Source: Authors' Compilations and Salomon Smith Barney Estimates

**FIGURE 3**

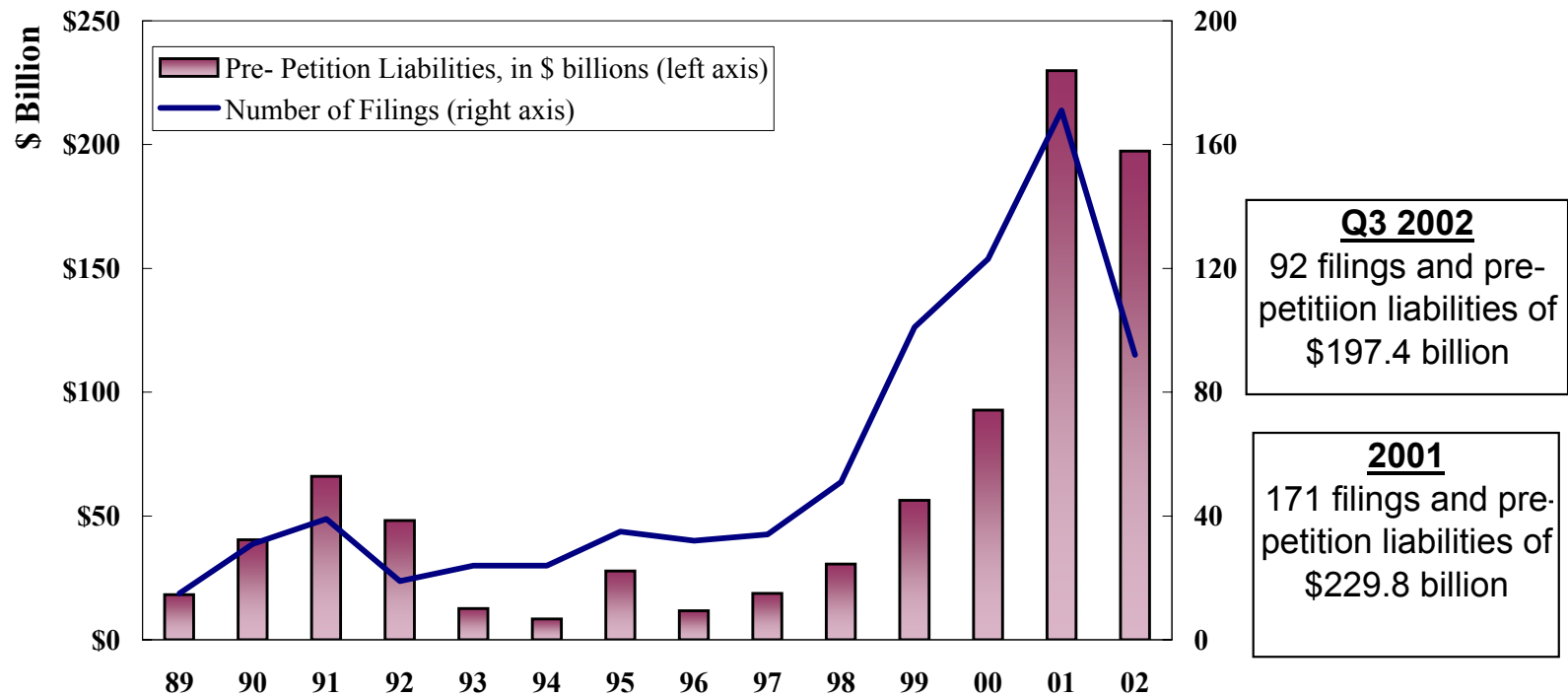
**HISTORICAL DEFAULT RATES AND RECESSION PERIODS IN THE US  
HIGH YIELD BOND MARKET 1972 - Q3 2002**



\* 12 months moving average as of September 30, 2002  
**Periods of Recession: 11/73 - 3/75, 1/80 - 7/80, 7/81 - 11/82, 7/90 - 3/91, 4/01 - 12/01 (?)**  
Source: Figure 1 & Nat'l Bureau of Economic Research Data

**FIGURE 4**

**TOTAL LIABILITIES OF PUBLIC COMPANIES FILING  
FOR CHAPTER 11 PROTECTION  
1989-2002 YTD\***



Note: 9/30/2002 only. Minimum \$100 million in liabilities  
Source: NYU Salomon Center Bankruptcy Filings Database  
Source: Appendix C

**FIGURE 5**  
**CORPORATE BOND DEFAULTS BY INDUSTRY**  
**(NUMBER OF COMPANIES)**

<u>INDUSTRY</u>	<u>1970-82</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>	<u>1995</u>	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>Total</u>	
Auto/Motor Carrier	3							3	3					1				1			1	12	
Conglomerates	0					1	3	1	1	3	3								1		-	13	
Energy	3	3	5	7	12	2	4			4	2	3		1			1	13	1		6	67	
Financial Services	4	1	1	1			4	11	7	14	3	2	1	2	1	2	6	1	6	4	1	72	
Leisure/Entertainment	0						2	4	4	8	2	4	3	4	3	1	5	5	8	9	6	5	73
General Manufacturing	9	1	1	2	6	3	3	1	5	8	8	7	3	8	6	7	6	16	23	43	21	187	
Health Care	0					1	2		2	1	1	1		2			2	8	6	3	3	32	
Miscellaneous Industries	3	1	2	6	3	1			4	4	3	1	1	1			3	3	16	34	38	145	
Real Estate/Construction	7		1	1		1	1	3	7	5	1			2	1	2	1	4	6	4	1	48	
REIT	11	1									1										1	14	
Retailing	6	1					1	2	6	15	6	4	5	6	3	6	6	12	7	12	4	102	
Communications	7	2	2	1	1	3	1		3	4	1	1	3	2	2	1	6	11	8	39	22	120	
Transportation (non auto)	4	2		1	1			1	1	2			2			2	1	8	5	7	6	43	
Utilities						1	1				1				1	1			1		-	6	
<b>Total</b>	<b>57</b>	<b>12</b>	<b>12</b>	<b>19</b>	<b>23</b>	<b>15</b>	<b>24</b>	<b>26</b>	<b>47</b>	<b>62</b>	<b>34</b>	<b>22</b>	<b>19</b>	<b>28</b>	<b>15</b>	<b>29</b>	<b>37</b>	<b>98</b>	<b>107</b>	<b>156</b>	<b>92</b>	<b>934</b>	

Source: Author's compilations

**FIGURE 6****PERCENTAGE DEFAULTS BY YEAR FROM ISSUANCE  
2002 - Q3**

<b><u>Time</u></b>	<b>Total</b>		<b>Total excluding Kmart</b>	
	<b><u># of Issues</u></b>	<b><u>Percentage</u></b>	<b><u># of Issues</u></b>	<b><u>Percentage</u></b>
<b>1st Year</b>	<b>17</b>	<b>5.90%</b>	<b>15</b>	<b>6%</b>
<b>2nd Year</b>	<b>39</b>	<b>13.54%</b>	<b>38</b>	<b>16%</b>
<b>3rd Year</b>	<b>46</b>	<b>15.97%</b>	<b>46</b>	<b>19%</b>
<b>4th Year</b>	<b>50</b>	<b>17.36%</b>	<b>50</b>	<b>21%</b>
<b>5th Year</b>	<b>40</b>	<b>13.89%</b>	<b>40</b>	<b>17%</b>
<b>6th Year</b>	<b>19</b>	<b>6.60%</b>	<b>19</b>	<b>8%</b>
<b>7th Year</b>	<b>8</b>	<b>2.78%</b>	<b>4</b>	<b>2%</b>
<b>8th Year</b>	<b>7</b>	<b>2.43%</b>	<b>5</b>	<b>2%</b>
<b>9th Year</b>	<b>10</b>	<b>3.47%</b>	<b>8</b>	<b>3%</b>
<b>10th (+) Year</b>	<b>52</b>	<b>18.06%</b>	<b>11</b>	<b>5%</b>
<b>Total</b>	<b>288</b>	<b>100.00%</b>	<b>236</b>	<b>100%</b>

Source: Authors' Compilations

FIGURE 7

**DISTRIBUTION OF YEARS TO DEFAULT FROM ORIGINAL ISSUANCE DATE**  
**(By Year of Default)**  
**(1989 - 2002 Q3)**

Years to Default	1989		1990		1991		1992		1993/1994		1995		1996	
	No. of Issues	% of Total	No. of Issues	% of Total	No. of Issues	% of Total	No. of Issues	% of Total	No. of Issues	% of Total	No. of Issues	% of Total	No. of Issues	% of Total
1	4	6	3	3	0	0	0	0	3	8	1	3	2	8
2	12	18	25	23	18	13	0	0	6	16	9	28	3	13
3	15	23	23	21	26	19	7	13	5	14	7	22	3	13
4	13	20	18	17	29	21	10	19	2	5	3	9	8	33
5	1	2	23	21	35	26	8	15	4	11	1	3	1	4
6	7	11	5	5	10	7	12	22	8	22	2	6	5	21
7	7	11	5	5	4	3	5	9	7	19	2	6	0	0
8	2	3	4	4	10	7	4	7	0	0	2	6	0	0
9	1	2	1	1	3	2	0	0	0	0	4	13	0	0
10	3	5	1	1	2	1	8	15	2	5	1	3	2	8
<b>Total</b>	<b>65</b>	<b>100</b>	<b>108</b>	<b>100</b>	<b>137</b>	<b>100</b>	<b>54</b>	<b>100</b>	<b>37</b>	<b>100</b>	<b>32</b>	<b>100</b>	<b>24</b>	<b>100</b>

Years to Default	1997		1998		1999		2000		2001		2002-Q3		1989-2002 H1	
	No. of Issues	% of Total	No. of Issues	% of Total	No. of Issues	% of Total	No. of Issues	% of Total	No. of Issues	% of Total	No. of Issues	% of Total	No. of Issues	% of Total
1	5	20	2	6	32	26	19	10	40	12	17	6	128	9
2	4	16	5	15	37	30	51	28	69	21	39	14	278	19
3	4	16	10	30	15	12	56	31	87	26	46	16	304	21
4	9	36	3	9	14	11	14	8	65	19	50	17	238	16
5	3	12	10	30	7	6	13	7	27	8	40	14	173	12
6	0	0	2	6	8	6	5	3	14	4	19	7	97	7
7	0	0	1	3	10	8	12	7	21	6	8	3	82	6
8	0	0	0	0	2	2	4	2	5	1	7	2	40	3
9	0	0	0	0	0	0	3	2	4	1	10	3	26	2
10	0	0	0	0	0	0	6	3	3	1	52	18	80	6
<b>Total</b>	<b>25</b>	<b>100</b>	<b>33</b>	<b>100</b>	<b>125</b>	<b>100</b>	<b>183</b>	<b>100</b>	<b>335</b>	<b>100</b>	<b>288</b>	<b>100</b>	<b>1446</b>	<b>100</b>

**FIGURE 8****DEFAULTS BY ORIGINAL RATING  
(INVESTMENT GRADE VS. NON-INVESTMENT GRADE)**

	By Year		
	Defaulted Issues*	% Originally Rated Investment Grade	% Originally Rated Non-Investment Grade
2002 Q3	241	41%	59%
2001	258	14%	86%
2000	142	16%	84%
1999	87	13%	87%
1998	39	31%	69%
1997	20	0%	100%
1996	24	13%	88%
1995	29	10%	90%
1994	16	0%	100%
1993	24	0%	100%
1992	59	25%	75%
1991	163	27%	73%
1990	117	16%	84%
1989	66	18%	82%
1988	64	42%	58%
1987	31	39%	61%
1986	55	15%	85%
1985	26	4%	96%
1984	14	21%	79%
1983	7	43%	57%
1982	20	55%	45%
1981	1	0%	100%
1980	4	25%	75%
1979	1	0%	100%
1978	1	100%	0%
1977	2	100%	0%
<b>Total</b>	<b>1511</b>	<b>23%</b>	<b>77%</b>

\* Where we could find an original rating from either S&P or Moody's.

Source: Authors' Compilations from S&P and Moody's records.

**FIGURE 9**  
**2002 Q3 DEFAULT LOSS RATE**

	<b>Unadjusted for Fallen Angels</b>	<b>Only Fallen Angels</b>	<b>All except Fallen Angels</b>	<b>Price Adjusted for Fallen Angels</b>
<b><i>BACKGROUND DATA</i></b>				
AVERAGE DEFAULT RATE, 2002 Q3	10.976%	10.976%	10.976%	10.976%
AVERAGE PRICE AT DEFAULT (a)	24.591%	37.108%	30.914%	33.510%
AVERAGE LOSS OF PRINCIPAL	75.409%	62.892%	69.086%	66.490%
AVERAGE COUPON PAYMENT	8.438%	6.964%	9.410%	8.385%
<b><i>DEFAULT LOSS COMPUTATION</i></b>				
DEFAULT RATE	10.976%	10.976%	10.976%	10.976%
X LOSS OF PRINCIPAL	<u>75.409%</u>	<u>62.892%</u>	<u>69.086%</u>	<u>66.490%</u>
DEFAULT LOSS OF PRINCIPAL	8.277%	6.903%	7.583%	7.298%
DEFAULT RATE	10.976%	10.976%	10.976%	10.976%
X LOSS OF 1/2 COUPON	<u>4.219%</u>	<u>3.482%</u>	<u>4.705%</u>	<u>4.192%</u>
DEFAULT LOSS OF COUPON	0.463%	0.382%	0.516%	0.460%
<b>DEFAULT LOSS OF PRINCIPAL AND COUPON</b>	<b>8.740%</b>	<b>7.285%</b>	<b>8.099%</b>	<b>7.758%</b>

(a) If default date price is not available, end-of-month price is used. For fallen angels, Price at Default = Price at Default/ Price at Downgrade

Source: Author's Compilations and various dealer quotes.



**FIGURE 10**  
**DEFAULT RATES AND LOSSES (a)**  
**(1978 - 2002 Q3)**

<b>YEAR</b>	<b>PAR VALUE OUTSTANDING (a)</b> (\$ MMs)	<b>PAR VALUE OF DEFAULT</b> (\$ MMs)	<b>DEFAULT RATE (%)</b>	<b>WEIGHTED PRICE AFTER DEFAULT</b>	<b>WEIGHTED COUPON (%)</b>	<b>DEFAULT LOSS (%)</b>	<b>(b)</b>
Q3 2002	\$757,000	\$83,086	10.98%	24.6	8.44%	8.74%	
2001	\$649,000	\$63,609	9.80%	25.5	9.18%	7.76%	
2000	\$597,200	\$30,295	5.07%	26.4	8.54%	3.95%	
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	11.83%	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	\$58,088	\$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%	72.0	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%	
<b>ARITHMETIC AVERAGE 1978-2001:</b>			<b>3.23%</b>	<b>\$43.</b>	<b>11.14%</b>	<b>2.19%</b>	
<b>WEIGHTED AVERAGE 1978-2001:</b>			<b>4.35%</b>			<b>3.16%</b>	

**Notes**

(a) Excludes defaulted issues.

(b) Default loss rate adjusted for fallen angels is 7.758%

Source: Authors' Compilations

Source: Figure 1 and 9

**FIGURE 11**

**WEIGHTED AVERAGE RECOVERY RATES ON DEFAULTED DEBT  
BY SENIORITY PER \$100 FACE AMOUNT (1978 - 2002 YTD)**

Default Year	Senior Secured		Senior Unsecured		Senior Subordinated		Subordinated		Discount and Zero Coupon		All Seniorities	
	No.	\$	No.	\$	No.	\$	No.	\$	No.	\$	No.	\$
2002 Q3	23	\$49.04	212	\$25.10	18	\$33.06	0	\$0.00	23	\$31.34	276	\$24.94
2001	9	\$40.95	187	\$28.84	48	\$18.37	0	\$0.00	37	\$15.05	281	\$25.48
2000	13	\$39.58	47	\$25.40	61	\$25.96	26	\$26.62	17	\$23.61	164	\$25.83
1999	14	\$26.90	60	\$42.54	40	\$23.56	2	\$13.88	11	\$17.30	127	\$31.14
1998	6	\$70.38	21	\$39.57	6	\$17.54	0	0.00	1	\$17.00	34	\$37.27
1997	4	\$74.90	12	\$70.94	6	\$31.89	1	\$60.00	2	\$19.00	25	\$53.89
1996	4	\$59.08	4	\$50.11	9	\$48.99	4	\$44.23	3	\$11.99	24	\$51.91
1995	5	\$44.64	9	\$50.50	17	\$39.01	1	\$20.00	1	\$17.50	33	\$41.77
1994	5	\$48.66	8	\$51.14	5	\$19.81	3	\$37.04	1	\$5.00	22	\$39.44
1993	2	\$55.75	7	\$33.38	10	\$51.50	9	\$28.38	4	\$31.75	32	\$38.83
1992	15	\$59.85	8	\$35.61	17	\$58.20	22	\$49.13	5	\$19.82	67	\$50.03
1991	4	\$44.12	69	\$55.84	37	\$31.91	38	\$24.30	9	\$27.89	157	\$40.67
1990	12	\$32.18	31	\$29.02	38	\$25.01	24	\$18.83	11	\$15.63	116	\$24.66
1989	9	\$82.69	16	\$53.70	21	\$19.60	30	\$23.95			76	\$35.97
1988	13	\$67.96	19	\$41.99	10	\$30.70	20	\$35.27			62	\$43.45
1987	4	\$90.68	17	\$72.02	6	\$56.24	4	\$35.25			31	\$66.63
1986	8	\$48.32	11	\$37.72	7	\$35.20	30	\$33.39			56	\$36.60
1985	2	\$74.25	3	\$34.81	7	\$36.18	15	\$41.45			27	\$41.78
1984	4	\$53.42	1	\$50.50	2	\$65.88	7	\$44.68			14	\$50.62
1983	1	\$71.00	3	\$67.72			4	\$41.79			8	\$55.17
1982			16	\$39.31			4	\$32.91			20	\$38.03
1981	1	\$72.00									1	\$72.00
1980			2	\$26.71			2	\$16.63			4	\$21.67
1979							1	\$31.00			1	\$31.00
1978			1	\$60.00							1	\$60.00
<b>Total/Average</b>	<b>158</b>	<b>\$52.32</b>	<b>764</b>	<b>\$35.18</b>	<b>365</b>	<b>\$29.66</b>	<b>247</b>	<b>\$31.03</b>	<b>125</b>	<b>\$21.05</b>	<b>1659</b>	<b>\$33.16</b>
<b>Median</b>		<b>\$ 55.75</b>		<b>\$41.99</b>		<b>\$31.91</b>		<b>\$31.00</b>		<b>\$17.50</b>		<b>\$39.44</b>

Source: Authors' Compilations from Various Dealer Quotes

FIGURE 12

RECOVERY RATES FOR TELECOMMUNICATIONS AND E-COMMERCE INDUSTRIES\*

Panel A: 1996 - 2002 Q3

Issuer	Bond	Coupon	Issue Size	Default Date	Default Price (\$)
@Track Communications	Guaranteed Senior Notes	13.750	125.00	2/15/2001	38.00
360Networks, Inc.	Senior Notes	12.500	175.00	6/15/2001	3.00
360Networks, Inc.	Senior Notes	12.000	500.00	6/28/2001	2.50
360Networks, Inc.	Senior Notes	13.000	600.00	6/28/2001	2.00
Advanced Radio Telecomm	Senior Notes	14.000	135.00	3/30/2001	15.00
Arch Wireless, Inc.	Senior Notes	9.500	125.00	5/23/2001	35.00
Arch Wireless, Inc.	Senior Discount Notes	10.875	164.16	5/23/2001	20.00
Arch Wireless, Inc.	Senior Notes	13.000	130.00	5/23/2001	21.00
Arch Wireless, Inc.	Senior Notes	13.750	147.00	5/23/2001	21.00
Arch Wireless, Inc.	Senior Notes	14.000	100.00	5/23/2001	35.00
BTI Telecom, Corp.	Senior Notes	10.500	250.00	10/12/2001	25.50
CAI Wireless Systems, Inc.	Senior Notes	12.000	12.00	7/30/1998	24.00
CAI Wireless Systems, Inc.	Senior Notes	12.250	275.00	7/30/1998	24.00
Call - Net Enterprises, Inc.	Senior Notes - Yankee	8.000	175.00	2/8/2001	38.00
Call - Net Enterprises, Inc.	Senior Notes - Yankee	9.375	450.00	2/8/2001	36.00
Call - Net Enterprises, Inc.	Senior Discount Notes - Yankee	NA	244.60	2/8/2001	32.60
Call - Net Enterprises, Inc.	Senior Discount Notes - Yankee	NA	282.40	2/8/2001	31.36
Call - Net Enterprises, Inc.	Senior Discount Notes - Yankee	NA	358.60	2/8/2001	31.61
CellNet Data Systems	Senior Discount Notes	NA	223.30	2/4/2000	12.63
CellNet Data Systems	Senior Discount Notes	NA	452.60	2/4/2000	17.34
Classic Cable, Inc.	Guaranteed Senior Notes	9.375	150.00	8/1/2001	46.00
Classic Cable, Inc.	Guaranteed Senior Notes	9.875	91.50	8/1/2001	45.00
Classic Cable, Inc.	Guaranteed Senior Notes	10.500	225.00	9/1/2001	52.00
Convergent Communications, Inc.	Senior Notes	13.000	160.00	4/19/2001	10.00
Covad Communications Group, Inc.	Senior Subordinated Notes	12.000	425.00	8/7/2001	19.00
Covad Communications Group, Inc.	Senior Notes	12.500	215.00	8/7/2001	24.00
Covad Communications Group, Inc.	Senior Discount Notes	NA	218.22	8/7/2001	16.37
Dolphin Telecom, PLC	Senior Discount Notes	NA	215.30	7/27/2001	2.00
Dolphin Telecom, PLC	Senior Discount Notes	NA	221.50	7/27/2001	1.00
e.spire Communications, Inc.	Senior Discount Notes	NA	305.80	3/22/2001	15.94
e.spire Communications, Inc.	Senior Notes	13.750	220.00	3/22/2001	30.00
e.spire Communications, Inc.	Senior Discount Notes	13.000	190.00	3/22/2001	25.00
e.spire Communications, Inc.	Senior Discount Notes	NA	119.70	3/22/2001	24.00
Energis PLC	Senior unsecured notes	9.75%	200.00	3/15/2002	NA
Exodus Communications, Inc.	Senior Notes	10.750	375.00	9/26/2001	13.00
Exodus Communications, Inc.	Senior Notes	11.250	275.00	9/26/2001	13.00
Exodus Communications, Inc.	Senior Notes	11.625	998.70	9/26/2001	13.00
Exodus Communications, Inc.	Senior Notes	11.625	1.30	9/26/2001	13.00
Flag Telecom Holdings, Ltd.	Senior Notes	8.250	426.60	4/12/2002	28.58
Flag Telecom Holdings, Ltd.	Senior Notes	8.250	3.40	4/12/2002	28.58
Flag Telecom Holdings, Ltd.	Senior Notes	11.675	300.00	4/12/2002	28.58
Focal Communications, Corp.	Senior Notes	11.875	275.00	10/31/2001	30.33

**FIGURE 12**

**RECOVERY RATES FOR TELECOMMUNICATIONS AND E-COMMERCE INDUSTRIES\***

*Panel A: 1996 - 2002 Q3*

<b>Issuer</b>	<b>Bond</b>	<b>Coupon</b>	<b>Issue Size</b>	<b>Default Date</b>	<b>Default Price (\$)</b>
Focal Communications, Corp.	Senior Discount Notes	NA	235.20	10/31/2001	25.30
FWT, Inc.	Senior Subordinated Notes	9.875	105.00	4/16/1999	7.00
Galaxy Telecomm L.P.	Senior Subordinated Notes	12.375	120.00	9/28/2000	64.75
Geotek Communications, Inc.	Senior Discount Notes	NA	207.00	6/30/1998	17.00
Global Crossing, Ltd.	Notes	6.000	200.00	1/28/2002	15.00
Global Crossing, Ltd.	Notes	7.250	300.00	1/28/2002	11.00
Global Crossing, Ltd.	Guaranteed Senior Notes	8.700	998.12	1/28/2002	15.00
Global Crossing, Ltd.	Senior Notes	8.700	1.88	1/28/2002	15.00
Global Crossing, Ltd.	Notes	9.000	100.00	1/28/2002	15.00
Global Crossing, Ltd.	Guaranteed Senior Notes	9.125	900.00	1/28/2002	15.00
Global Crossing, Ltd.	Notes	9.300	20.00	1/28/2002	15.00
Global Crossing, Ltd.	Guaranteed Senior Notes	9.500	1099.40	1/28/2002	9.25
Global Crossing, Ltd.	Senior Notes	9.500	0.60	1/28/2002	15.00
Global Crossing, Ltd.	Guaranteed Senior Notes	9.625	800.00	1/28/2002	15.00
Global Telesystems, Inc.	Senior Notes	10.875	150.00	12/15/2000	28.00
Global Telesystems, Inc.	Senior Notes	11.000	68.60	12/15/2000	3.00
Global Telesystems, Inc.	Senior Notes	9.875	105.00	8/15/2001	20.00
Global Telesystems, Inc.	Senior Notes	11.500	264.60	8/15/2001	20.00
Globalstar LP	Senior Notes	10.750	325.00	1/16/2001	13.00

**FIGURE 12**

**RECOVERY RATES FOR TELECOMMUNICATIONS AND E-COMMERCE INDUSTRIES\***

**Panel A: 1996 - 2002 Q3**

<b>Issuer</b>	<b>Bond</b>	<b>Coupon</b>	<b>Issue Size</b>	<b>Default Date</b>	<b>Default Price (\$)</b>
Globalstar LP	Senior Notes	11.500	300.00	1/16/2001	12.50
Globalstar LP	Senior Notes	11.250	325.00	1/16/2001	8.00
Globalstar LP	Senior Notes	11.375	500.00	1/16/2001	12.50
GST Telecommunications, Inc.	Senior Discount Notes	NA	289.80	5/17/2000	24.80
GST Telecommunications, Inc.	Senior Secured Notes	13.250	265.00	5/17/2000	45.00
GST Telecommunications, Inc.	Senior Subordinated Accrual Notes	12.750	165.30	5/17/2000	6.75
GST Telecommunications, Inc.	Senior Discount Notes	NA	370.40	5/17/2000	56.70
Heartland Wireless Communications, Inc	Senior Notes 10/15/04	14.000	125.00	4/15/1998	28.50
Heartland Wireless Communications, Inc	Senior Notes 4/15/03	13.000	100.00	4/15/1998	30.00
ICG Communications Corp.	Senior Discount Notes	NA	151.72	11/14/2000	8.00
ICG Communications Corp.	Senior Discount Notes	NA	393.97	11/14/2000	8.00
ICG Communications Corp.	Senior Discount Notes	13.500	584.30	11/14/2000	12.00
ICG Communications Corp.	Senior Discount Notes	NA	521.61	11/14/2000	12.00
ICG Communications Corp.	Senior Discount Notes	NA	320.04	11/14/2000	8.00
ICO Global Comm. Services, Inc.	Eurobonds	15.250	107.10	7/1/1999	47.00
ICO Global Comm. Services, Inc.	Senior Notes	15.000	460.00	7/1/1999	44.00
Impsat Fiber Networks, Corp.	Guaranteed Senior Notes	12.125	123.44	12/15/2001	7.25
Impsat Fiber Networks, Corp.	Senior Notes	12.275	195.00	12/15/2001	7.25
Impsat Fiber Networks, Corp.	Senior Notes	13.750	298.28	12/15/2001	7.25
In-Flight Phone Corp.	Senior Discount Notes	14.000	285.80	1/24/1997	4.50
International Wireless Communications	Senior Secured Discount Notes	NA	139.00	9/3/1998	10.00
Ionica Group PLC	Senior Discount Notes	NA	250.00	9/28/1998	3.00
Ionica Group PLC	Senior Notes	13.500	150.00	9/28/1998	30.00
Iridium LLC/Capital Corp.	Senior Notes	13.000	0.30	7/15/1999	19.00
Iridium LLC/Capital Corp.	Senior Notes	10.875	350.00	7/15/1999	19.00
Iridium LLC/Capital Corp.	Senior Notes	11.250	5.60	7/15/1999	19.00
Iridium LLC/Capital Corp.	Senior Notes	14.000	500.00	7/15/1999	19.00
ITC DeltaCom, Inc.	Senior Notes	9.750	125.00	5/14/2002	NA
ITC DeltaCom, Inc.	Senior Notes	8.875	160.00	6/25/2002	NA
ITC DeltaCom, Inc.	Senior Notes	11.000	130.00	6/25/2002	NA
Knology Holdings	Senior Discount Notes	11.875	379.90	9/19/2002	NA
KPN Qwest	Senior Notes	8.125	450.00	5/23/2002	2.06
McLeodUSA, Inc.	Senior Discount Notes	NA	491.06	12/4/2001	21.00
McLeodUSA, Inc.	Senior Notes	8.125	500.00	12/4/2001	24.00
McLeodUSA, Inc.	Senior Notes	8.375	300.00	12/4/2001	24.00
McLeodUSA, Inc.	Senior Notes	9.250	225.00	12/4/2001	24.00
McLeodUSA, Inc.	Senior Notes	9.500	300.00	12/4/2001	24.00
McLeodUSA, Inc.	Senior Notes	11.375	750.00	12/4/2001	24.00
McLeodUSA, Inc.	Senior Notes	11.500	210.00	12/4/2001	22.00
McLeodUSA, Inc.	Senior Notes	12.000	150.00	12/4/2001	22.00
Metricom, Inc.	Guaranteed Senior Notes	13.000	300.00	7/2/2001	20.00
Metrocall, Inc.	Senior Subordinated Notes	11.000	227.35	3/15/2001	17.00

**FIGURE 12**

**RECOVERY RATES FOR TELECOMMUNICATIONS AND E-COMMERCE INDUSTRIES\***

*Panel A: 1996 - 2002 Q3*

<b>Issuer</b>	<b>Bond</b>	<b>Coupon</b>	<b>Issue Size</b>	<b>Default Date</b>	<b>Default Price (\$)</b>
Metrocall, Inc.	Senior Subordinated Notes	10.375	134.97	3/15/2001	17.00
Metrocall, Inc.	Senior Subordinated Notes	9.750	171.34	3/15/2001	17.00
Metrocall, Inc. - Pronet	Senior Subordinated Notes	11.875	92.97	6/15/2001	17.00
Metromedia Fiber Network, Inc.	Senior Notes	10.000	650.00	8/15/2001	26.50
Metromedia Fiber Network, Inc.	Senior Notes	10.000	750.00	8/15/2001	26.00
Metromedia International	Senior Discount Notes	10.500	210.63	9/30/2002	NA
Mobilemedia Communications	SrSubNts '12/03	10.250	210.00	11/1/1996	44.19
Mobilemedia Communications	SrSubNts '11/07	9.375	250.00	11/1/1996	54.20
Motient, Corp. (American Mobile Satellite)	Guaranteed Senior Notes	12.250	334.75	10/1/2001	30.33
Mpower Holding, Corp.	Senior Notes	13.000	380.56	4/8/2002	NA
Mpower Holding, Corp.	Senior Notes	13.000	56.12	4/8/2002	NA
Netia Holdings +	Guaranteed Senior Notes	10.250	199.50	12/15/2001	17.19
Netia Holdings +	Guaranteed Senior Notes	11.250	192.05	12/15/2001	17.19
Netia Holdings +	Guaranteed Senior Notes	13.125	94.90	12/15/2001	17.19
Nextel International, Inc.	Senior Notes	12.750	650.00	2/1/2002	7.00
Nextel Intl Inc	Senior Discount Notes	12.125	729.67	5/24/2002	33.00
Nextel Intl Inc	Senior Discount Notes	12.125	0.33	5/24/2002	33.00
Nextel Intl Inc	Senior Discount Notes	12.125	0.33	5/24/2002	33.00
Nextel Intl Inc	Senior Discount Notes	12.125	0.33	5/24/2002	33.00
Nextel Intl Inc	Guaranteed Senior Notes	14.000	147.50	5/30/2002	NA
NorthPoint Communications, Inc.	Senior Notes	12.875	400.00	1/16/2001	14.00
NTL, Inc.	Senior Notes	9.750	1300.00	4/1/2002	41.00
NTL, Inc.	Senior Notes	10.000	400.00	4/1/2002	41.00
NTL, Inc.	Senior Notes	11.500	625.00	4/1/2002	41.00
NTL, Inc.	Senior Notes	11.500	1050.00	4/1/2002	41.00

**FIGURE 12**

**RECOVERY RATES FOR TELECOMMUNICATIONS AND E-COMMERCE INDUSTRIES\***

*Panel A: 1996 - 2002 Q3*

<b>Issuer</b>	<b>Bond</b>	<b>Coupon</b>	<b>Issue Size</b>	<b>Default Date</b>	<b>Default Price (\$)</b>
NTL, Inc.	Senior Notes	11.875	500.00	4/1/2002	41.00
NTL, Inc.	Senior Notes	12.375	450.00	4/1/2002	41.00
NTL, Inc.	Senior Notes	12.750	277.80	4/1/2002	41.00
Optel, Inc.	Senior Notes	11.500	200.00	10/28/1999	33.00
Optel, Inc.	Senior Notes	13.000	225.00	10/28/1999	33.00
Orbcomm Global LP	Senior Notes	14.000	170.00	8/15/2000	15.00
Orbital Imaging Corp.	Senior Notes, Ser. D	11.625	75.00	3/1/2001	13.00
Orbital Imaging Corp.	Senior Notes, Ser. B	11.625	150.00	3/1/2001	13.00
Paging Network, Inc.	Senior Subordinated Notes	10.125	400.00	2/1/2000	39.70
Paging Network, Inc.	Senior Subordinated Notes	8.875	300.00	2/1/2000	39.70
Paging Network, Inc.	Senior Subordinated Notes	10.000	500.00	2/1/2000	39.70
Pathnet Telecommunications, Inc.	Senior Notes	12.250	350.00	4/2/2001	5.00
PhoneTel Tech	Guaranteed Senior Notes	12.000	125.00	1/15/1999	35.00
PSINet, Inc.	Senior Notes	11.500	350.00	3/21/2001	9.00
PSINet, Inc.	Senior Notes	11.000	1050.00	3/21/2001	10.00
PSINet, Inc.	Senior Subordinated Notes	10.500	600.00	3/21/2001	9.00
PSINet, Inc.	Senior Subordinated Notes	10.000	600.00	3/21/2001	9.00
Rhythms NetConnections, Inc.	Senior Notes	12.750	325.00	8/2/2001	11.00
Rhythms NetConnections, Inc.	Senior Subordinated Notes	14.000	300.00	8/2/2001	3.00
Rhythms NetConnections, Inc.	Senior Discount Notes	NA	240.50	8/2/2001	7.21
RSL Communications PLC	Guaranteed Senior Notes	12.875	100.00	3/1/2001	2.00
RSL Communications PLC	Guaranteed Senior Notes	9.125	200.00	3/1/2001	3.25
RSL Communications PLC	Guaranteed Senior Notes - Yankee	NA	278.00	3/16/2001	1.00
RSL Communications PLC	Guaranteed Senior Notes - Yankee	12.250	300.00	3/16/2001	8.00
RSL Communications PLC	Guaranteed Senior Notes - Yankee	10.500	200.00	3/16/2001	8.00
RSL Communications PLC	Guaranteed Senior Notes - Yankee	12.000	100.00	3/16/2001	1.00
RSL Communications PLC	Guaranteed Senior Notes - Yankee	9.875	175.00	3/16/2001	1.00
Source Media, Inc.	Senior Secured Notes	12.000	91.65	5/1/2001	25.00
Spectrasite Holdings	Senior Discount Notes	12.000	200.00	9/15/2002	NA
Startec Global Communications Corp.	Senior Notes	12.000	160.00	11/15/2001	28.75
Teleglobe Holdings(US) Corp	Guaranteed Senior Notes	7.200	600.00	5/15/2002	32.00
Teleglobe Holdings(US) Corp	Guaranteed Senior Notes	7.700	400.00	5/15/2002	32.00
Telegroup, Inc.	Senior Discount Notes	NA	85.60	2/10/1999	34.00
TeleHub Network Services Corp.	Senior Unsecured Discount Notes	13.875	79.10	10/27/1999	13.00
Telesystem International Wireless, Inc.	Senior Discount Notes	NA	149.31	7/6/2001	39.15
Telesystem International Wireless, Inc.	Senior Discount Notes	NA	340.64	7/6/2001	39.04
Teletrac, Inc.	Senior Subordinated Notes	14.000	98.40	6/9/1999	25.00
Telex Communications, Inc.	Guaranteed Senior Subordinated	10.500	125.00	9/17/2001	26.00
Teligent, Inc.	Senior Notes	11.500	300.00	5/21/2001	2.00
Teligent, Inc.	Senior Discount Notes	NA	372.66	5/21/2001	0.59
United International Holdings, Inc.	Senior Discount Notes	14.000	45.45	11/15/2001	16.00
United International Holdings, Inc.	Senior Discount Notes	14.000	447.42	11/15/2001	16.00

**FIGURE 12**

**RECOVERY RATES FOR TELECOMMUNICATIONS AND E-COMMERCE INDUSTRIES\***

*Panel A: 1996 - 2002 Q3*

<b>Issuer</b>	<b>Bond</b>	<b>Coupon</b>	<b>Issue Size</b>	<b>Default Date</b>	<b>Default Price (\$)</b>
United International Holdings, Inc.	Senior Discount Notes	NA	1220.99	11/15/2001	16.00
USN Communications	Senior Discount Notes	NA	123.70	2/18/1999	9.00
Velocita Corp/PF Net Communications Limited	Senior Notes	13.750	56.60	7/20/2002	NA
Velocita Corp/PF Net Communications Limited	Senior Notes	13.750	168.40	7/20/2002	NA
Versatel Telecom NV	Senior Notes	11.875	180.00	10/10/2001	33.35
Versatel Telecom NV	Senior Notes	13.250	225.00	10/10/2001	34.36
Versatel Telecom NV	Senior Notes	13.250	150.00	10/10/2001	34.36
Viatel, Inc.	Senior Notes	11.500	200.00	5/2/2001	11.00
Viatel, Inc.	Senior Notes	11.500	269.45	5/2/2001	11.00
Viatel, Inc.	Senior Notes	11.250	400.00	5/2/2001	11.00
Viatel, Inc.	Senior Discount Notes	12.500	410.20	5/2/2001	12.19
Viatel, Inc. - Econophone	Senior Notes	13.500	150.00	5/2/2001	2.00
WebLink Wireless	Senior Discount Notes	15.000	207.27	5/23/2001	20.00
WebLink Wireless	Senior Discount Notes	NA	271.01	5/23/2001	5.83
Williams Communications Group, Inc.	Senior Notes	10.700	500.00	4/22/2002	16.00
Williams Communications Group, Inc.	Senior Notes	10.875	1500.00	4/22/2002	16.00
Williams Communications Group, Inc.	Senior Notes	11.700	575.00	4/22/2002	16.00
Williams Communications Group, Inc.	Senior Notes	11.875	5.09	4/22/2002	16.00
Williams Communications Group, Inc.	Senior Notes	11.875	419.91	4/22/2002	16.00
Winstar Communications, Inc.	Senior Discount Notes	NA	551.40	4/15/2001	0.42
Winstar Communications, Inc.	Senior Notes	12.750	639.75	4/15/2001	1.38
Winstar Communications, Inc.	Senior Notes	12.500	325.00	4/15/2001	1.38
Winstar Communications, Inc.	Senior Discount Notes	14.000	8.73	4/15/2001	102.50
Winstar Communications, Inc.	Senior Subordinated Notes	10.000	7.13	4/18/2001	92.00
Wireless One, Inc.	Senior Notes	13.000	150.00	2/11/1999	10.00
Wireless One, Inc.	Senior Discount Notes	NA	175.10	2/11/1999	9.57
World Access, Inc.	Senior Notes	13.250	300.00	4/4/2001	5.00
WorldCom	Bonds	8.250	4600.00	7/21/2002	14.00
WorldCom	Notes	7.500	4000.00	7/21/2002	14.00
WorldCom	Senior Notes	6.400	2250.00	7/21/2002	14.00
WorldCom	Notes	6.950	1750.00	7/21/2002	14.00
WorldCom	Notes	6.500	1500.00	7/21/2002	14.00
WorldCom	Notes	6.750	1250.00	7/21/2002	14.00
WorldCom	Notes	8.000	1250.00	7/21/2002	14.00



**FIGURE 12**

**RECOVERY RATES FOR TELECOMMUNICATIONS AND E-COMMERCE INDUSTRIES\***

*Panel A: 1996 - 2002 Q3*

<b>Issuer</b>	<b>Bond</b>	<b>Coupon</b>	<b>Issue Size</b>	<b>Default Date</b>	<b>Default Price (\$)</b>
WorldCom	Notes	8.250	1250.00	7/21/2002	14.00
WorldCom	Senior Notes	7.750	1100.00	7/21/2002	14.00
WorldCom	Notes	7.375	1000.00	7/21/2002	14.00
WorldCom	Notes	7.375	1000.00	7/21/2002	14.00
WorldCom	Notes	7.875	1000.00	7/21/2002	14.00
WorldCom	Senior Notes	6.250	600.00	7/21/2002	14.00
WorldCom	Senior Notes	7.550	600.00	7/21/2002	14.00
WorldCom	Senior Notes	6.500	500.00	7/21/2002	14.00
WorldCom	Debentures	7.125	500.00	7/21/2002	14.00
WorldCom	Senior Notes	7.250	500.00	7/21/2002	14.00
WorldCom	Senior Notes	7.750	300.00	7/21/2002	14.00
WorldCom	Debentures	7.750	240.00	7/21/2002	14.00
WorldCom	Notes	18.500	1512.00	7/21/2002	14.00
WorldCom/Brooks Fiber	Senior Notes	10.000	9.00	7/21/2002	14.00
WorldCom/Intermedia	Senior Discount Notes	11.250	319.94	7/21/2002	14.00
WorldCom/Intermedia	Senior Discount Notes	11.250	319.94	7/21/2002	14.00
WorldCom/Intermedia	Senior Discount Notes	11.250	319.94	7/21/2002	14.00
WorldCom/Intermedia	Senior Sub Notes	12.250	246.22	7/21/2002	14.00
WorldCom/Intermedia	Senior Notes	8.600	198.58	7/21/2002	14.00
WorldCom/Intermedia	Senior Notes	8.500	123.89	7/21/2002	14.00
WorldCom/Intermedia	Senior Notes	9.500	122.58	7/21/2002	14.00
WorldCom/Intermedia	Senior Notes	8.875	116.81	7/21/2002	14.00
WorldCom/MCI	Debentures	7.750	450.00	7/21/2002	14.00
WorldCom/MCI	Debentures	7.500	400.00	7/21/2002	14.00
WorldCom/MCI	Senior Notes	6.950	300.00	7/21/2002	14.00
WorldCom/MCI	Debentures	8.250	200.00	7/21/2002	14.00
AT&T Canada Inc.	Senior unsecured notes	7.650	998.64	9/15/2002	NA
AT&T Canada Inc.	Senior unsecured notes	7.625	250.00	9/15/2002	NA
AT&T Canada Inc.	Senior unsecured notes	7.150	96.00	9/15/2002	NA
Talton Holdings	Senior unsecured notes	11.000	115.00	4/24/1900	NA
XO Communications, Inc.	Senior Discount Notes	NA	334.02	12/1/2001	11.50
XO Communications, Inc.	Senior Notes	9.000	335.00	12/1/2001	17.00
XO Communications, Inc.	Senior Notes	9.625	400.00	12/1/2001	17.00
XO Communications, Inc.	Senior Notes	10.500	1.83	12/1/2001	17.00
XO Communications, Inc.	Senior Notes	10.500	398.17	12/1/2001	17.00
XO Communications, Inc.	Senior Notes	10.750	675.00	12/1/2001	17.00
XO Communications, Inc.	Senior Notes	10.750	500.00	12/1/2001	17.00
XO Communications, Inc.	Senior Notes	12.500	350.00	12/1/2001	17.00

**FIGURE 12**

**RECOVERY RATES FOR TELECOMMUNICATIONS AND E-COMMERCE INDUSTRIES\***

*Panel A: 1996 - 2002 Q3*

<b>Issuer</b>	<b>Bond</b>	<b>Coupon</b>	<b>Issue Size</b>	<b>Default Date</b>	<b>Default Price (\$)</b>
XO Communications, Inc.	Senior Notes	12.750	150.00	12/1/2001	17.00
XO Communications, Inc.	Senior Discount Notes	NA	572.58	12/1/2001	11.50
XO Communications, Inc.	Senior Discount Notes	NA	457.18	12/1/2001	11.50

82  
42

40					
<b>76 Firms</b>			<u><u>94231.58</u></u>	<b>Average Price</b>	<u><u>\$ 19.87</u></u>
<b>245 Issues</b>			46381.63	<b>Weighted Average Price</b>	<u><u>\$ 15.09</u></u>
				<b>Standard Deviation</b>	<u><u>\$ 14.13</u></u>

***PANEL B: 1998 - 2002 By Year***

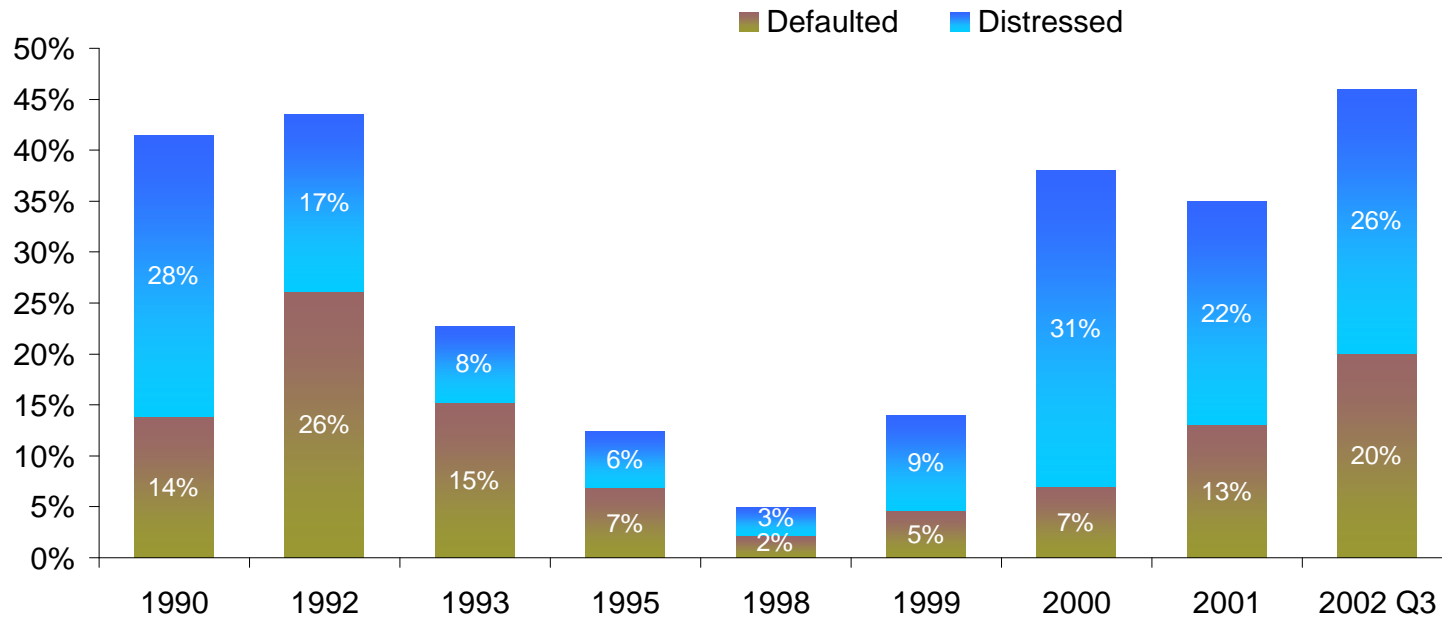
<b>YEAR</b>	<b>NUMBER OF ISSUES</b>	<b>AVERAGE RECOVERY PRICE</b>	<b>WEIGHTED AVERAGE</b>
1998	8	\$20.81	\$18.84
1999	16	\$23.47	\$25.58
2000	18	\$24.50	\$24.69
2001	118	\$18.69	\$16.07
2002 - Q3	78	\$19.09	\$11.64
	238	\$19.65	\$16.00

\* Includes Wireless Equipment and Satellite Telecommunication Companies in addition to Telecommunication Service Companies.

Source: Authors' compilation from various Dealer Quotes.

**FIGURE 13**

**DISTRESSED (a) AND DEFAULTED DEBT AS A PERCENTAGE OF TOTAL HIGH YIELD DEBT MARKET**



(a) Defined as yield-to-maturity spread greater than or equal to 1000bp over comparable Treasuries.

Source: Salomon Smith Barney and NYU Salomon Center

## FIGURE 14

### ESTIMATED FACE AND MARKET VALUES OF DEFAULTED AND DISTRESSED DEBT 2001-2002 (\$ billion)

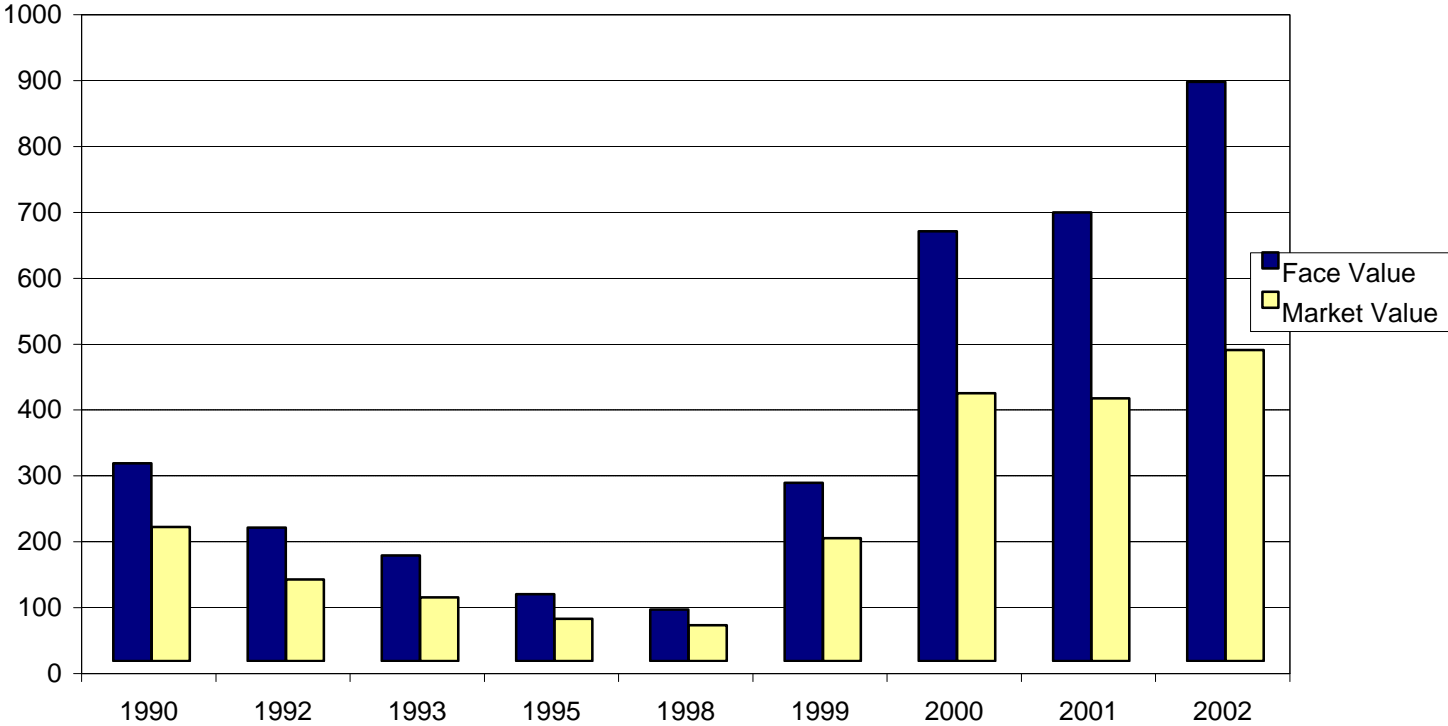
	<u>Face Value</u>		<u>Market Value</u>			
	12/31/2001	9/30/2002	12/31/2001	xFace Value	9/30/2002	xFace Value
<b><u>Public Debt</u></b>						
Defaulted	\$ 96.3	\$ 162.7	\$ 24.1	0.25	\$ 32.5	0.20
Distressed	\$ 160.6	\$ 205.9	\$ 80.3	0.50	\$ 103.0	0.50
<b>Total Public</b>	<b>\$ 256.9</b>	<b>\$ 368.6</b>	<b>\$ 104.4</b>		<b>\$ 135.5</b>	
<b><u>Private Debt</u></b>						
Defaulted	\$ 158.9	\$ 227.6	\$ 95.3	0.60	\$ 136.6	0.60
Distressed	\$ 265.0	\$ 288.3	\$ 198.8	0.75	\$ 216.2	0.75
<b>Total Public</b>	<b>\$ 423.9</b>	<b>\$ 515.9</b>	<b>\$ 294.1</b>		<b>\$ 352.8</b>	
<b>Total Public and Private</b>	<b>\$ 680.8</b>	<b>\$ 884.5</b>	<b>\$ 398.5</b>		<b>\$ 488.3</b>	

(1) For 12/31/01, we use a private/public ratio of 1.65.

(2) For 9/15/02, we use a private/public ratio of 1.40.

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 and Bank Loan Database.

**FIGURE 15**  
**SIZE OF THE DEFAULTED AND DISTRESSED DEBT MARKET (\$ Billions)**



Source: Author's compilation

**FIGURE 16**

**ANNUAL RETURNS, YIELDS AND SPREADS  
ON TEN-YEAR TREASURY (TREAS)  
AND HIGH YIELD (HY) BONDS (a)  
(1978 - 2002 Q3)**

YEAR	RETURN(%)			PROMISED YIELD(%)		
	HY	TREAS	SPREAD	HY	TREAS	SPREAD
2002 - Q3	(9.30)	15.40	(24.70)	13.70	3.60	10.10
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)	17.84	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:**

1978-2001	11.13	9.28	1.86	12.87	8.01	4.86
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**COMPOUND ANNUAL AVERAGE:**

1978-2001	10.50	8.62	1.88
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(a) End of year yields, except for 2002

Source: Salomon Smith Barney Inc.'s High Yield Composite Index.

**APPENDIX A**

**2002 DEFAULTED CORPORATE STRAIGHT DEBT**

Company	Bond Issue	Coupon (%)	Maturity Date	Outstanding	
				Amount (\$ MM)	Default Date
AAI Fostergrat Inc.	Guaranteed Senior Notes	10.750	7/15/2006	51.9	1/15/2002
Adelphia Business Solutions, Inc.	Senior Notes	12.250	9/1/2004	250.0	3/1/2002
Adelphia Business Solutions, Inc.	Senior Subordinated Notes	12.000	11/1/2007	300.0	3/27/2002
Adelphia Business Solutions, Inc.	Senior Discount Notes	13.000	4/15/2003	326.9	3/27/2002
Adelphia Communications Corp.	Senior Notes	10.250	11/1/2006	500.0	6/25/2002
Adelphia Communications Corp.	Senior Notes	10.250	6/15/2011	1000.0	6/25/2002
Adelphia Communications Corp.	Senior Notes	10.875	10/1/2010	750.0	6/25/2002
Adelphia Communications Corp.	Senior Notes	7.875	5/1/2009	300.0	6/25/2002
Adelphia Communications Corp.	Senior Notes	7.750	1/15/2009	300.0	6/25/2002
Adelphia Communications Corp.	Senior Notes	7.500	1/15/2004	100.0	6/25/2002
Adelphia Communications Corp.	Senior Notes	8.125	7/15/2003	150.0	6/25/2002
Adelphia Communications Corp.	Senior Notes	8.375	2/1/2008	299.4	6/25/2002
Adelphia Communications Corp.	Senior Notes	9.250	10/1/2002	325.0	6/25/2002
Adelphia Communications Corp.	Senior Notes	10.500	7/15/2004	150.0	6/25/2002
Adelphia Communications Corp.	Senior Notes	9.875	3/1/2007	350.0	6/25/2002
Adelphia Communications Corp.	Senior Notes	9.500	2/15/2004	31.8	6/25/2002
Adelphia Communications Corp.	Notes	9.875	3/1/2005	130.0	6/25/2002
Adelphia Communications Corp.	Senior Notes	8.375	12/15/2004	100.0	5/15/2002
Adelphia Communications Corp.	Senior Notes	8.875	1/15/2007	250.0	5/15/2002
Adelphia Communications Corp.	Senior Notes	9.375	11/15/2009	496.0	5/15/2002
Advanced Glassfiber Yarns LLC	Senior subordinated notes	9.875	1/15/2009	150.0	7/15/2002
Advantica Restaurant Group, Inc.	Senior Notes	11.250	1/15/2008	529.6	3/1/2002
AEI Resources, Inc.	Guaranteed Senior Notes	10.500	12/15/2005	200.0	2/28/2002
AEI Resources, Inc.	Senior Subordinated Notes	11.500	12/15/2006	150.0	2/28/2002
Aetna Industries, Inc.	Senior Notes	11.875	10/1/2006	85.0	2/11/2002
Anchor Glass Container Corp.	Senior Notes	11.250	4/1/2005	150.0	4/15/2002
Anchor Glass Container Corp.	Senior Notes	9.875	3/15/2008	50.0	3/15/2002
Anker Coal Group Inc.	Senior secured secon priority notes series B	14.250	9/1/2007	92.5	4/1/2002
Archibald Candy, Corp.	Guaranteed Senior Notes	10.250	7/1/2004	170.0	1/1/2002
AT&T Canada Inc.	Senior unsecured notes	7.650	9/15/2006	998.6	9/15/2002
AT&T Canada Inc.	Senior unsecured notes	7.625	3/15/2005	250.0	9/15/2002
AT&T Canada Inc.	Senior unsecured notes	7.150	9/23/2004	96.0	9/15/2002
Atlantic Express Transportation Corp.	Company Guarantee	10.750	2/1/2004	120.0	8/1/2002
Atlantic Express Transportation Corp.	Company Guarantee	10.750	2/1/2004	120.0	8/1/2002
Atlantic Express Transportation Corp.	Company Guarantee	10.750	2/1/2004	120.0	8/1/2002
Avado Brands Inc.	Senior Subordinate Notes	11.750	6/15/2009	100.0	6/4/2002
Avado Brands Inc./ Apple South	Senior Notes	9.750	6/1/2006	125.0	6/1/2002
BGF Industries	Senior Subordinated Notes	10.250	1/15/2009	100.0	7/16/2002
Budget Group, Inc.	Senior Notes	9.125	4/1/2006	400.0	4/1/2002
Carrier1 International S.A.	Senior unsecured notes	13.250	2/15/2009	160.0	2/12/2002
Carrier1 International S.A.	Senior unsecured notes	13.250	2/15/2009	160.0	2/12/2002
Century Communications	Senior Discount Notes	0.000	1/15/2008	605.0	6/10/2002
Century Communications	Senior Discount Notes	0.000	1/15/2008	605.0	6/10/2002
Century Communications	Senior Discount Notes	0.000	1/15/2008	605.0	6/10/2002
Century Communications	Senior Discount Notes	0.000	3/15/2003	444.0	6/10/2002
Century Communications	Senior Notes	9.500	3/1/2005	250.0	6/10/2002
Century Communications	Senior Notes	8.750	10/1/2007	225.0	6/10/2002
Century Communications	Senior Notes	8.375	12/15/2007	100.0	6/10/2002
Century Communications	Senior Notes	8.875	1/15/2007	250.0	5/15/2002
Century Communications	Senior Notes	8.375	11/15/2017	100.0	5/15/2002
Completel Europe, NV	Guaranteed Senior Notes	14.000	2/15/2009	147.5	5/30/2002
Condor Systems Ltd.	Company Guarantee	11.875	5/1/2009	99.9	7/29/2002
Conseco Inc.	Notes	8.750	2/9/2004	421.7	9/12/2002
Conseco Inc.	Company Guarantee	8.750	8/9/2006	366.3	9/12/2002
Conseco Inc.	Senior Notes	8.125	2/15/2003	95.3	9/12/2002
Conseco Inc.	Notes	6.400	2/10/2003	235.1	9/12/2002
Conseco Inc.	Company Guarantee	6.400	2/10/2004	44.8	9/12/2002
Contour Energy (Kelley)	Company Guarantee	10.300	4/15/2003	100.0	7/15/2002
Contour Energy (Kelley)	Company Guarantee	14.000	10/15/2006	30.0	7/15/2002
Contour Energy (Kelley)	Senior Subordinated Notes	10.375	10/15/2006	125.0	7/15/2002
Contour Energy (Kelley)	Company Guarantee	10.375	4/15/2003	125.0	7/15/2002
Contour Energy Company	Senior Secured Notes	14.000	4/15/2003	155.0	4/15/2002
Contour Energy Company	Senior Subordinated Notes	10.375	10/15/2006	125.0	4/15/2002
Covanta Energy Corp./Ogden	Senior unsecured debentures	9.250	3/1/2022	100.0	3/1/2002
Desa International, Inc.	Guaranteed Senior Notes	9.875	12/15/2007	130.0	1/8/2002
Diva Systems	Senior Discount Notes	12.625	3/1/2008	448.7	5/29/2002
Diva Systems	Senior Discount Notes	13.000	5/15/2006	47.0	5/29/2002
Diva Systems	Senior Discount Notes	13.000	5/15/2006	47.0	5/29/2002
Diva Systems	Senior Discount Notes	13.000	5/15/2006	0.0	5/29/2002
Doe Run Resources Corp.	Guaranteed Senior Notes	11.250	3/15/2005	200.0	3/15/2002
Doe Run Resources Corp.	Guaranteed Senior Notes	float	3/15/2003	55.0	3/15/2002
Doe Run Resources Corp.	Guaranteed Senior Notes	11.250	3/15/2005	50.0	3/15/2002
Doman Industries, Ltd. <sup>a</sup>	Senior Notes	8.750	3/15/2004	388.0	9/15/2002



**APPENDIX A**

**2002 DEFAULTED CORPORATE STRAIGHT DEBT**

<b>Company</b>	<b>Bond Issue</b>	<b>Coupon (%)</b>	<b>Maturity Date</b>	<b>Outstanding Amount (\$ MM)</b>	<b>Default Date</b>
Doman Industries, Ltd. <sup>a</sup>	Senior Notes	12.000	7/1/2004	160.0	9/15/2002
Doman Industries, Ltd. <sup>a</sup>	Senior Notes	8.750	3/15/2004	388.0	3/15/2002
Energis PLC	Senior unsecured notes	9.750	6/15/2009	200.0	3/15/2002
Evenflo, Co.	Senior Notes	11.750	8/15/2006	110.0	2/15/2002
Exide Technologies, Inc.	Senior Notes	10.000	4/15/2005	300.0	4/14/2002
Flag Telecom Holdings, Ltd.	Senior Notes	8.250	1/30/2008	426.6	4/12/2002
Flag Telecom Holdings, Ltd.	Senior Notes	11.675	3/30/2010	300.0	4/12/2002
Flag Telecom Holdings, Ltd.	Senior Notes	8.250	1/30/1998	3.4	4/12/2002
Florsheim Group, Inc.	Senior Notes	12.750	9/1/2002	18.5	3/1/2002
Formica, Corp.	Senior Subordinated Notes	10.875	3/1/2009	215.0	3/5/2002
Frontiervision/ Adelpia Comuncations	Senior Discount Notes	11.875	9/15/2007	231.5	6/25/2002
Frontiervision/ Adelpia Comuncations	Senior Subordinated Notes	11.000	10/15/2006	200.0	6/25/2002
Frontiervision/ Adelpia Comuncations	Senior Discount Notes	11.875	9/15/2007	89.2	6/25/2002
Galey & Lord, Inc.	Guaranteed Senior Notes	9.125	3/1/2008	299.5	2/19/2002
Galey & Lord, Inc.	Senior Subordinated Notes	9.125	3/1/2008	0.5	2/19/2002
Galey & Lord, Inc.	Senior Subordinated Notes	9.125	3/1/2008	0.5	2/19/2002
Gaylord Container Corp.	Senior subordinated notes	9.875	2/15/2008	40.9	3/4/2002
Gaylord Container Corp.	Senior unsecured subordinated notes	9.875	2/15/2008	40.9	3/4/2002
Gaylord Container Corp.	Senior unsecured subordinated notes	9.750	6/15/2007	3.4	3/4/2002
GenTek Inc	Company Guarantee	11.000	8/1/2009	200.0	8/1/2002
Glasstech Holding Company	Senior Notes	12.750	7/1/2004	70.0	1/30/2002
Global Crossing, Ltd.	Guaranteed Senior Notes	9.500	11/15/2009	1099.4	1/28/2002
Global Crossing, Ltd.	Guaranteed Senior Notes	8.700	8/1/2007	998.1	1/28/2002
Global Crossing, Ltd.	Guaranteed Senior Notes	9.125	11/15/2006	900.0	1/28/2002
Global Crossing, Ltd.	Guaranteed Senior Notes	9.625	5/15/2008	800.0	1/28/2002
Global Crossing, Ltd.	Notes	9.000	8/15/2021	100.0	1/28/2002
Global Crossing, Ltd.	Notes	9.300	6/1/2004	20.0	1/28/2002
Global Crossing, Ltd.	Senior Notes	8.700	8/1/2007	1.9	1/28/2002
Global Crossing, Ltd.	Senior Notes	9.500	11/15/2009	0.6	1/28/2002
Global Crossing, Ltd. / Frontier Corp	Notes	7.250	5/15/2004	300.0	1/28/2002
Global Crossing, Ltd. / Frontier Corp	Notes	6.000	10/15/2003	200.0	1/28/2002
Globix, Corp.	Senior Notes	13.000	5/1/2005	1.0	3/1/2002
Globix, Corp.	Senior Notes	12.500	2/1/2010	600.0	2/1/2002
Grant Geophysical Inc	Company Guarantee	9.750	2/15/2008	43.6	8/15/2002
Heafner Tire Group, Inc.	Guaranteed Senior Notes	10.000	5/15/2008	150.0	3/26/2002
Holley Pref Prod	Company Guarantee	12.250	9/15/2007	150.0	9/23/2002
HQ Global Holdings, Inc.	Senior Notes	13.500	8/15/2007	125.0	3/13/2002
HQ Global Holdings, Inc.	Senior Notes	13.500	8/15/2007	0.1	3/13/2002
Hudson Respiratory Care, Inc.	Senior subordinated notes	9.125	4/15/2008	115.0	4/15/2002
Insilco Holding, Co.	Guaranteed Senior Notes	12.000	8/15/2007	120.0	2/15/2002
IT Group, Inc.	Guaranteed Senior Notes	11.250	4/1/2009	225.0	1/16/2002
ITC DeltaCom, Inc.	Senior Notes	8.875	3/1/2008	160.0	6/25/2002
ITC DeltaCom, Inc.	Senior Notes	11.000	6/1/2007	130.0	6/25/2002
ITC DeltaCom, Inc.	Senior Notes	9.750	11/15/2008	125.0	5/14/2002
Kaiser Aluminum Corp.	Senior Notes	9.875	2/15/1949	177.0	2/12/2002
Kaiser Aluminum Corp.	Senior Notes	10.875	10/15/2006	175.0	2/12/2002
Kaiser Aluminum Corp.	Senior Notes	10.875	10/15/2006	50.0	2/12/2002
Kaiser Aluminum Corp.	Senior Subordinated Notes	12.750	2/1/2003	400.0	2/1/2002
Kasper ASL, Ltd.	Senior Notes	13.000	3/31/2004	110.0	2/5/2002
Kmart, Corp.	Senior Notes	9.875	6/15/2008	430.0	1/22/2002
Kmart, Corp.	Senior Notes	9.375	2/1/2006	400.0	1/22/2002

**APPENDIX A**

**2002 DEFAULTED CORPORATE STRAIGHT DEBT**

<b>Company</b>	<b>Bond Issue</b>	<b>Coupon (%)</b>	<b>Maturity Date</b>	<b>Outstanding Amount (\$ MM)</b>	<b>Default Date</b>
Kmart, Corp.	Senior Notes	7.950	2/1/2023	300.0	1/22/2002
Kmart, Corp.	Senior Notes	8.375	12/1/2004	300.0	1/22/2002
Kmart, Corp.	Notes	8.125	12/1/2006	200.0	1/22/2002
Kmart, Corp.	Senior Notes	7.750	10/1/2012	200.0	1/22/2002
Kmart, Corp.	Pass Thru Certificates	8.540	1/2/2015	128.1	1/22/2002
Kmart, Corp.	Senior Notes	12.500	3/1/2005	100.0	1/22/2002
Kmart, Corp.	Senior Notes	8.250	1/1/2022	100.0	1/22/2002
Kmart, Corp.	Senior Notes	8.375	7/1/2022	100.0	1/22/2002
Kmart, Corp.	Senior Secured Notes	8.800	7/1/2010	96.6	1/22/2002
Kmart, Corp.	Pass Thru Certificates	9.780	1/5/2020	82.0	1/22/2002
Kmart, Corp.	Pass Thru Certificates	9.350	12/20/2002	68.4	1/22/2002
Kmart, Corp.	Pass Thru Certificates	8.990	7/5/2010	65.3	1/22/2002
Kmart, Corp.	Lease Certificates	6.000	1/1/2008	28.6	1/22/2002
Kmart, Corp.	Notes	8.960	12/10/2019	22.0	1/22/2002
Kmart, Corp.	Notes	8.850	12/15/2011	22.0	1/22/2002
Kmart, Corp.	Notes	9.440	7/1/2018	20.9	1/22/2002
Kmart, Corp.	Notes	7.770	7/2/2002	20.0	1/22/2002
Kmart, Corp.	Notes	8.190	11/24/2003	16.0	1/22/2002
Kmart, Corp.	Notes	7.550	7/27/2004	11.0	1/22/2002
Kmart, Corp.	Notes	8.920	11/1/2013	10.0	1/22/2002
Kmart, Corp.	Notes	9.000	12/1/2020	10.0	1/22/2002
Kmart, Corp.	Notes	8.100	12/16/2002	10.0	1/22/2002
Kmart, Corp.	Notes	7.330	7/31/2002	9.9	1/22/2002
Kmart, Corp.	Notes	7.720	6/25/2002	7.5	1/22/2002
Kmart, Corp.	Notes	7.490	7/16/2002	7.0	1/22/2002
Kmart, Corp.	Notes	8.200	11/24/2003	6.0	1/22/2002
Kmart, Corp.	Notes	9.000	12/1/2003	6.0	1/22/2002
Kmart, Corp.	Notes	7.740	6/25/2002	6.0	1/22/2002
Kmart, Corp.	Notes	8.280	11/15/2006	5.0	1/22/2002
Kmart, Corp.	Notes	8.250	11/20/2006	5.0	1/22/2002
Kmart, Corp.	Notes	8.170	11/26/2004	5.0	1/22/2002
Kmart, Corp.	Notes	8.130	12/16/2003	5.0	1/22/2002
Kmart, Corp.	Notes	7.720	7/8/2002	5.0	1/22/2002
Kmart, Corp.	Notes	7.540	7/28/2004	5.0	1/22/2002
Kmart, Corp.	Notes	8.180	11/24/2003	4.0	1/22/2002
Kmart, Corp.	Notes	7.760	7/2/2002	3.0	1/22/2002
Kmart, Corp.	Notes	7.500	7/24/2002	3.0	1/22/2002
Kmart, Corp.	Notes	7.470	7/31/2002	3.0	1/22/2002
Kmart, Corp.	Notes	8.250	11/21/2006	2.0	1/22/2002
Kmart, Corp.	Notes	7.760	7/1/2002	2.0	1/22/2002
Kmart, Corp.	Notes	7.750	7/1/2002	2.0	1/22/2002
Kmart, Corp.	Notes	7.790	7/8/2004	2.0	1/22/2002
Kmart, Corp.	Notes	7.390	7/30/2003	2.0	1/22/2002
Kmart, Corp.	Notes	8.260	11/20/2006	1.5	1/22/2002
Kmart, Corp.	Notes	7.910	12/30/2003	1.5	1/22/2002
Kmart, Corp.	Notes	12.550	7/1/2010	1.3	1/22/2002
Kmart, Corp.	Notes	8.930	11/29/2016	1.0	1/22/2002
Kmart, Corp.	Notes	7.750	7/8/2003	1.0	1/22/2002
Kmart, Corp.	Notes	7.500	7/16/2002	1.0	1/22/2002
Kmart, Corp.	Notes	7.490	7/29/2002	1.0	1/22/2002
Knology Holdings	Senior Discount Notes	11.875	10/15/2007	379.9	9/19/2002
KPN Qwest	Senior Notes	8.125	6/1/2009	450.0	5/23/2002
Logix Communications Enterprises, Inc.	Senior Notes	12.250	6/15/2008	86.9	2/28/2002
Mattress Discounters Corp.	Senior unsecured notes	12.625	7/15/2007	140.0	7/15/2002

**APPENDIX A**

**2002 DEFAULTED CORPORATE STRAIGHT DEBT**

<b>Company</b>	<b>Bond Issue</b>	<b>Coupon (%)</b>	<b>Maturity Date</b>	<b>Outstanding Amount (\$ MM)</b>	<b>Default Date</b>
Metromedia International	Senior Discount Notes	10.500	9/30/2007	210.6	9/30/2002
Millenium Seacarriers, Inc.	Guaranteed Senior Notes	12.000	7/15/2005	100.0	1/15/2002
Mpower Holding, Corp.	Senior Notes	13.000	4/1/2010	380.6	4/8/2002
Mpower Holding, Corp.	Senior Notes	13.000	10/1/2004	56.1	4/8/2002
National Steel Corp.	1st. Mortgage	9.875	3/1/2009	300.0	3/6/2002
National Steel Corp.	1st. Mortgage	8.375	8/1/2006	64.5	3/6/2002
Neon Communications, Inc.	Senior Notes	12.750	8/15/2008	180.0	2/15/2002
Nextel International, Inc.	Senior Notes	12.750	8/1/2010	456.0	2/1/2002
Nextel Intl Inc	Senior Discount Notes	12.125	4/15/2008	696.8	5/24/2002
Nextel Intl Inc	Senior Discount Notes	12.125	4/15/2008	0.3	5/24/2002
Nextel Intl Inc	Senior Discount Notes	12.125	4/15/2008	0.3	5/24/2002
Nextel Intl Inc	Senior Discount Notes	12.125	4/15/2008	0.3	5/24/2002
NRG Energy Inc.	Senior unsecured notes	8.250	9/15/2010	350.0	9/15/2002
NRG Energy Inc. - NRG South Central Generating LLC	Senior secured bonds series A	8.962	3/15/2016	450.8	9/15/2002
NRG Energy Inc. - NRG South Central Generating LLC	Senior secured bonds series B	9.479	9/15/2024	300.0	9/15/2002
NTL Inc / Diamond Cable Communications PLC	Senior unsecured discount notes	11.750	12/15/2005	518.6	4/1/2002
NTL Inc / Diamond Cable Communications PLC	Senior unsecured discount notes	10.750	2/15/2007	404.4	4/1/2002
NTL Inc / Diamond Cable Communications PLC	Senior unsecured discount notes	13.250	9/30/2004	267.5	4/1/2002
NTL Inc / Diamond Cable Communications PLC	Senior unsecured notes	9.125	2/1/2008	109.9	4/1/2002
NTL, Inc.	Senior Notes	9.750	4/1/2008	1299.0	4/1/2002
NTL, Inc.	Senior Notes	11.500	2/1/2006	1050.0	4/1/2002
NTL, Inc.	Senior Notes	11.500	10/1/2008	625.0	4/1/2002
NTL, Inc.	Senior Notes	11.875	10/1/2010	500.0	4/1/2002
NTL, Inc.	Senior Notes	12.375	10/1/2008	450.0	4/1/2002
NTL, Inc.	Senior Notes	10.000	2/15/2007	400.0	4/1/2002
NTL, Inc. / Intl Cable Tel	Senior Notes	12.750	4/15/2005	277.8	4/1/2002
Olympus Communications/ Adelphia Comm	Senior Notes	10.625	11/15/2006	200.0	5/15/2002
Orius, Corp.	Guaranteed Senior Notes	12.750	2/1/2010	150.0	2/1/2002
Panaco Inc,	Senior Notes	10.625	10/1/2004	99.5	7/16/2002
Pentacon, Inc	Guaranteed Senior Notes	12.250	4/1/2009	100.0	4/1/2002
Pinnacle Holdings	Senior Discount Notes	10.000	3/15/2008	315.4	5/21/2002
Polymer Group, Inc.	Guaranteed Senior Notes	9.000	7/1/2007	400.0	1/2/2002
Polymer Group, Inc.	Guaranteed Senior Notes	8.750	3/1/2008	200.0	1/2/2002
Pueblo Xtra International Inc.	Senior unsecured notes	9.500	8/1/2003	121.9	8/1/2002
Pueblo Xtra International Inc.	Senior unsecured notes series B	9.500	8/1/2003	55.4	8/1/2002
SF Holdings Group Inc.	Senior secured notes	12.75%	3/15/2008	144.0	3/1/2002
Simonds Industries, Inc.	Guaranteed Senior Notes	10.250	7/1/2008	100.0	1/1/2002
Spectrasite Holdings	Senior Discount Notes	12.000	7/15/2008	200.0	9/15/2002
Talton Holdings	Senior unsecured notes	11.000	6/30/2007	115.0	7/1/2002
Teleglobe Holdings(US) Corp	Guaranteed Senior Notes	7.200	7/20/2009	600.0	5/15/2002
Teleglobe Holdings(US) Corp	Guaranteed Senior Notes	7.700	7/20/2029	400.0	5/15/2002
Tri-Union	Company Guarantee	12.500	6/1/2006	110.0	6/1/2002
Tri-Union	Company Guarantee	12.500	6/1/2006	110.0	6/1/2002
Tri-Union	Company Guarantee	12.500	6/1/2006	110.0	6/1/2002
United Intl Holdings, Inc.	Senior Discount Notes	10.750	2/15/2008	1375.0	2/1/2002
United Intl Holdings, Inc.	Senior Notes	10.875	8/1/2009	800.0	2/1/2002
United Intl Holdings, Inc.	Senior Notes	11.250	2/1/2010	600.0	2/1/2002
United Intl Holdings, Inc.	Senior Notes	11.500	2/1/2010	300.0	2/1/2002
United Pan-Europe Communications NV 0/12.5s '09		12.5	8/1/2009	735.0	2/1/2002
United Pan-Europe Communications NV 0/13.375s '09		13.375	8/1/2009	478.0	2/1/2002

**APPENDIX A**

<b>2002 DEFAULTED CORPORATE STRAIGHT DEBT</b>		<b>Coupon</b>	<b>Maturity</b>	<b>Outstanding</b>	<b>Default</b>
<b>Company</b>	<b>Bond Issue</b>	<b>(%)</b>	<b>Date</b>	<b>Amount</b>	<b>Date</b>
				<b>(\$ MM)</b>	
United Pan-Europe Communications NV 0/13.75s '10		13.75	2/1/2010	1000.0	2/1/2002
US Airways Group Inc. - ETC Repackaging Trust, Series 1	Equipment trust certificates series	NA	7/18/2010	14.3	8/11/2002
US Airways Group Inc. - ETC Repackaging Trust, Series 1	Equipment trust certificates series C	9.503	7/18/2010	6.6	8/11/2002
US Airways Group Inc. - Piedmont Aviation Inc.	Equipment trust certificates series ABC	12.000	7/15/2010	19.7	7/15/2002
US Airways Group Inc. - US Airways Inc.	Equipment trust certificates series 1989 A	9.330	1/1/2006	168.8	8/11/2002
US Airways Group Inc. - US Airways Inc.	Equipment trust certificates series 1987 E	10.450	1/15/2011	10.9	8/11/2002
US Airways Group Inc. - US Airways Inc.	Equipment trust certificates series 1987 C	10.450	1/15/2011	10.8	8/11/2002
US Airways Group Inc. - US Airways Inc.	Equipment trust certificates series 1987 A	10.450	1/15/2011	10.8	8/11/2002
US Airways Group Inc. - US Airways Inc.	Equipment trust certificates series 1987 F	10.450	1/15/2011	10.8	8/11/2002
US Airways Group Inc. - US Airways Inc.	Equipment trust certificates series 1987 D	10.450	1/15/2011	10.7	8/11/2002
US Airways Group Inc. - US Airways Inc.	Equipment trust certificates series 1987 B	10.450	1/15/2011	10.0	8/11/2002
US Airways Group Inc. - US Airways Inc.	Equipment trust certificates series E - L	10.900	1/1/2010	9.4	8/11/2002
US Airways Group Inc. - US Airways Inc.	Equipment trust certificates series 1988 A - D	10.050	7/15/2010	7.8	8/11/2002
Velocita Corp/PF Net Communications Limited	Senior Notes	13.750	5/15/2010	168.4	7/20/2002
Velocita Corp/PF Net Communications Limited	Senior Notes	13.750	5/15/2010	56.6	7/20/2002
Verado Holdings, Inc.	Senior Discount Notes	13.000	4/15/2008	364.5	2/15/2002
Viasystems Group Inc.	Senior subordinated notes	9.750	6/1/2007	400.0	6/1/2002
Viasystems Group Inc.	Senior subordinated notes series B	9.750	6/1/2007	100.0	6/1/2002
Weirton Steel, Corp.	Senior Notes	11.375	7/1/2004	125.0	1/2/2002
Williams Communications Group, Inc.	Senior Notes	10.875	10/1/2009	1500.0	4/22/2002
Williams Communications Group, Inc.	Senior Notes	11.700	8/1/2008	575.0	4/22/2002
Williams Communications Group, Inc.	Senior Notes	10.700	10/1/2007	500.0	4/22/2002
Williams Communications Group, Inc.	Senior Notes	11.875	8/1/2010	419.9	4/22/2002
Williams Communications Group, Inc.	Senior Notes	11.875	8/1/2010	5.1	4/22/2002
Windsor Woodmont Black Hawk Resort Corp.	Senior secured first mortgage notes	13.000	3/15/2005	100.0	9/15/2002
WKI Holdings	Senior Subordinated Notes	9.625	5/1/2008	200.0	5/1/2002
WorldCom	Bonds	8.250	5/15/1931	4600.0	7/21/2002
WorldCom	Notes	7.500	5/15/2011	4000.0	7/21/2002
WorldCom	Senior Notes	6.400	8/15/2005	2250.0	7/21/2002
WorldCom	Notes	6.950	8/15/2028	1750.0	7/21/2002
WorldCom	Notes	6.500	5/15/2004	1500.0	7/21/2002
WorldCom	Notes	8.000	5/15/2006	1250.0	7/21/2002
WorldCom	Notes	8.250	5/15/2010	1250.0	7/21/2002
WorldCom	Notes	6.750	5/15/2008	1250.0	7/21/2002
WorldCom	Senior Notes	7.750	4/1/2007	1100.0	7/21/2002
WorldCom	Notes	7.875	5/15/2003	1000.0	7/21/2002
WorldCom	Notes	7.375	1/15/2003	1000.0	7/21/2002
WorldCom	Notes	7.375	1/15/2006	1000.0	7/21/2002
WorldCom	Senior Notes	7.550	4/1/2004	600.0	7/21/2002
WorldCom	Senior Notes	6.250	8/15/2003	600.0	7/21/2002
WorldCom	Debentures	7.125	6/15/2027	500.0	7/21/2002
WorldCom	Senior Notes	6.500	4/15/2010	500.0	7/21/2002
WorldCom	Senior Notes	7.250	5/15/2008	500.0	7/21/2002
WorldCom	Senior Notes	7.750	4/1/2027	300.0	7/21/2002
WorldCom	Debentures	7.750	3/15/2024	240.0	7/21/2002
WorldCom/Brooks Fiber	Senior Notes	10.000	6/1/2007	9.0	7/21/2002
WorldCom/Intermedia	Senior Discount Notes	11.250	7/15/2007	319.9	7/21/2002
WorldCom/Intermedia	Senior Discount Notes	11.250	7/15/2007	319.9	7/21/2002
WorldCom/Intermedia	Senior Discount Notes	11.250	7/15/2007	319.9	7/21/2002
WorldCom/Intermedia	Senior Sub Notes	12.250	3/1/2009	246.2	7/21/2002
WorldCom/Intermedia	Senior Notes	8.600	6/1/2008	198.6	7/21/2002
WorldCom/Intermedia	Senior Notes	8.500	1/15/2008	123.9	7/21/2002
WorldCom/Intermedia	Senior Notes	9.500	3/1/2009	122.6	7/21/2002
WorldCom/Intermedia	Senior Notes	8.875	11/1/2007	116.8	7/21/2002

**APPENDIX A**

<b>Company</b>	<b>2002 DEFAULTED CORPORATE STRAIGHT DEBT Bond Issue</b>	<b>Coupon (%)</b>	<b>Maturity Date</b>	<b>Outstanding Amount (\$ MM)</b>	<b>Default Date</b>
WorldCom/MCI	Debentures	7.750	3/23/2025	450.0	7/21/2002
WorldCom/MCI	Debentures	7.500	8/20/2004	400.0	7/21/2002
WorldCom/MCI	Senior Notes	6.950	8/15/2006	300.0	7/21/2002
WorldCom/MCI	Debentures	8.250	1/20/2023	200.0	7/21/2002
York Research Corp	Senior Secured Notes	12.000	10/30/2007	150.0	6/7/2002
Ziff Davis Media	Company Guarantee	12.000	7/15/2010	250.0	7/15/2002

Less: <sup>a</sup> Outstanding Amounts in Grace Period

-388.0

<b>Total</b>	<b>83,086.1</b>
<b>Total Number of Issues</b>	<b>288</b>
<b>Total Number of Companies</b>	<b>92</b>

<sup>a</sup> Coupon is in grace period.

## APPENDIX B

### QUARTERLY DEFAULT RATE COMPARISON: ALTMAN/SBC VS. MOODY'S HIGH YIELD DEBT MARKET 1990 - 2002 Q3

QUARTER		PAR VALUE DEBT DEFALTE		QUARTERLY	ALTMAN/NYU-S	MOODY'S
		OUTSTANDING BY QUARTER	(\$BILLIONS)	DEFAULT	12M MOVING	12M MOVING
		(\$BILLIONS)		RATES (%)	AVERAGE	AVERAGE
1990	1Q	\$185.00	\$4.16	2.25%		6.51%
	2Q	\$185.00	2.51	1.36%		7.93%
	3Q	\$181.00	6.01	3.32%		8.99%
	4Q	\$181.00	<u>5.67</u>	3.13%	10.14%	9.74%
			\$18.35			
1991	1Q	\$182.00	\$8.74	4.80%	12.67%	12.28%
	2Q	\$182.00	2.75	1.51%	12.73%	13.00%
	3Q	\$183.00	5.01	2.74%	12.18%	11.97%
	4Q	\$183.00	<u>2.36</u>	1.29%	10.31%	10.42%
			\$18.86			
1992	1Q	\$183.20	\$3.33	1.82%	7.35%	7.76%
	2Q	151.10	1.26	0.83%	6.52%	6.19%
	3Q	163.00	0.37	0.23%	4.84%	5.58%
	4Q	151.89	<u>0.59</u>	0.39%	3.40%	5.16%
			\$5.55			
1993	1Q	\$193.23	\$0.38	0.20%	1.71%	4.98%
	2Q	193.23	1.33	0.69%	1.39%	4.59%
	3Q	206.91	0.05	0.03%	1.22%	4.23%
	4Q	190.42	<u>0.52</u>	0.27%	1.10%	3.84%
			\$2.29			
1994	1Q	\$232.60	\$0.67	0.29%	1.35%	3.14%
	2Q	230.00	0.16	0.07%	0.60%	2.02%
	3Q	235.00	0.41	0.17%	0.76%	2.33%
	4Q	235.00	<u>2.18</u>	0.93%	1.45%	2.07%
			\$3.42			
1995	1Q	\$240.00	\$0.17	0.07%	1.24%	1.40%
	2Q	240.00	1.68	0.70%	1.85%	2.39%
	3Q	240.00	0.98	0.41%	2.09%	2.70%
	4Q	240.00	<u>1.72</u>	0.72%	1.90%	3.65%
			\$4.55			
1996	1Q	\$255.00	\$0.44	0.17%	2.01%	3.80%
	2Q	\$255.00	\$0.89	0.35%	1.58%	3.08%
	3Q	\$271.00	\$0.41	0.15%	1.36%	2.29%
	4Q	\$271.00	<u>1.59</u>	0.59%	1.23%	1.93%
			\$3.34			
1997	1Q	\$296.00	\$1.85	0.63%	1.75%	1.85%
	2Q	\$318.40	\$0.60	0.19%	1.51%	1.89%
	3Q	\$335.40	\$1.48	0.44%	1.74%	2.40%
	4Q	\$335.40	<u>0.27</u>	0.08%	1.25%	2.17%
			\$4.20			
1998	1Q	\$379.00	\$2.37	0.63%	1.41%	2.66%
	2Q	\$425.70	\$1.22	0.29%	1.41%	2.99%
	3Q	\$465.50	\$1.62	0.35%	1.29%	2.75%
	4Q	\$481.60	<u>2.26</u>	0.47%	1.60%	3.81%
			\$7.46			

1999	1Q	\$515.00	\$4.76	0.92%	2.05%	3.87%
	2Q	\$537.20	\$8.42	1.57%	3.31%	5.12%
	3Q	\$567.40	\$5.24	0.92%	3.85%	5.91%
	4Q	\$580.00	<u>\$5.11</u>	0.88%	4.15%	5.77%
			\$23.53			
2000	1Q	\$584.00	\$6.06	1.04%	4.28%	5.69%
	2Q	\$595.60	\$9.97	1.67%	4.52%	5.52%
	3Q	\$597.50	\$4.32	0.72%	4.27%	5.23%
	4Q	\$608.15	<u>\$9.95</u>	1.64%	5.07%	5.65%
			\$30.29			
2001	1Q	\$613.20	\$18.07	2.95%	6.96%	7.42%
	2Q	\$648.60	\$12.82	1.98%	7.37%	7.92%
	3Q	\$649.00	\$14.65	2.26%	8.56%	9.17%
	4Q	\$647.70	<u>\$18.07</u>	2.79%	9.80%	10.19%
			\$63.61			
2002	1Q	\$669.00	\$18.54	2.77%	9.89%	10.35%
	2Q	\$674.00	\$27.07	4.02%	11.71%	10.28%
	3Q	\$757.00	<u>\$37.48</u>	4.95%	15.01%	9.23%
			\$83.09			

Source: Altman (1990 - 2002), Salomon Smith Barney and Moody's (New York).

## APPENDIX C

### Chapter 11 filings in 2002 (YTD) List by liability size - liabilities greater than \$100 million

WORLDCOM INC.	Jul-02	\$	45,984.00
ADELPHIA COMMUNIATIONS CORP.	Jun-02	\$	17,349.10
GLOBAL CROSSING, LTD.	Jan-02	\$	14,639.00
NTL, INC.	May-02	\$	14,134.00
US AIRWAYS GROUP	Aug-02	\$	10,640.00
KMART	Jan-02	\$	10,263.00
WILLIAMS COMMUNICATIONS GROUP, INC.	Apr-02	\$	7,153.80
XO COMMUNICATIONS, INC.	Jun-02	\$	5,851.06
MCLEOD USA, INC.	Jan-02	\$	4,419.20
BUDGET GROUP	Aug-02	\$	4,333.61
METROMEDIA FIBER NETWORK,INC	May-02	\$	4,007.00
GLOBALSTAR L.P.	Feb-02	\$	3,328.40
KAISER ALUMINUM, CORP.	Feb-02	\$	3,129.40
FLAG TELECOM HOLDINGS, LTD.	Apr-02	\$	3,046.74
COVANTA ENERGY, CORP.	Apr-02	\$	3,031.40
NEXTEL INTERNATIONAL Inc.	May-02	\$	3,000.00
AEI RESOURCES, INC.	Feb-02	\$	2,746.20
EXIDE TECHNOLOGIES, INC.	Apr-02	\$	2,524.20
FARMLAND INDUSTIES	May-02	\$	2,351.50
CENTURY COMMUNICATIONS CORP	Jun-02	\$	2,229.60
NATIONAL STEEL CORP.	Mar-02	\$	2,118.90
DADE BEHRING HOLDINGS INC	Aug-02	\$	1,808.60
ADELPHIA BUSINESS SOLUTIONS, INC.	Mar-02	\$	1,654.30
IMPSAT FIBER NETWORKS, INC.	Jun-02	\$	1,216.00
IT GROUP, INC.	Jan-02	\$	1,086.55
WKI HOLDING COMPANY, INC	May-02	\$	1,002.35
PINNACLE HOLDINGS	May-02	\$	950.60
METROCALL	Jun-02	\$	936.98
STOCKWALK GROUP, INC.	Feb-02	\$	903.48
FORMICA, CORP.	Mar-02	\$	816.50
OXFORD AUTOMOTIVE, INC.	Jan-02	\$	771.32
FRONTLINE CAPITAL GROUP	Jun-02	\$	760.13
GALEY & LORD, INC.	Feb-02	\$	755.10
CONSOLIDATED FREIGHTWAYS CORPORATION	Sep-02	\$	732.50
SLI INC.	Sep-02	\$	725.80
GLOBIX, CORP.	Mar-02	\$	716.68
SPECIAL METALS, CORP.	Mar-02	\$	666.83
BIRMINGHAM STEEL CORP	Jun-02	\$	653.97
PEREGRINE SYSTEMS INC	Sep-02	\$	614.00
MOTIENT, CORP.	Jan-02	\$	610.10
APW LTD	May-02	\$	587.69
ANCHOR GLASS CONTAINER, CORP.	Apr-02	\$	578.38
GENEVA STEEL HOLDINGS	Sep-02	\$	570.80
MPOWER HOLDING, CORP.	Apr-02	\$	518.29
BENEDEK COMMUNICATIONS, CORP.	Mar-02	\$	515.30
LEINER HEALTH PRODUCTS, INC.	Feb-02	\$	497.41
KNOLOGY BROADBAND	Sep-02	\$	454.78



KELLSTROM INDUSTRIES, INC.	Feb-02	\$	432.00
GUILFORD MILLS, INC.	Mar-02	\$	409.60
PHYCOR, INC.	Jan-02	\$	406.84
ZILOG, INC.	Feb-02	\$	381.50
DESA HOLDINGS CORP	Jun-02	\$	360.90
DIVA SYSTEMS	May-02	\$	337.86
PRANDIUM, INC	May-02	\$	336.50
VERADO HOLDINGS, INC.	Feb-02	\$	335.06
AMERICAN HOME PATIENT	Aug-02	\$	322.00
VELOCITA	Jul-02	\$	313.00
COHO ENERGY, INC.	Feb-02	\$	304.76
COMPLETEL EUROPE,NV	May-02	\$	297.70
USINTERNETWORKING, INC.	Jan-02	\$	290.96
US AGGREGATES, INC.	Mar-02	\$	289.60
CONTOUR ENERGY CO.	Jul-02	\$	272.10
KASPER ASL, LTD.	Feb-02	\$	255.15
NETWORK PLUS, CORP.	Feb-02	\$	250.91
NEON COMMUNICATIONS INC.	Jun-02	\$	245.90
ORBITAL IMAGING, CORP.	Apr-02	\$	242.69
LOGIX COMMUNICATIONS ENTERPRISES, INC.	Feb-02	\$	238.29
HARVARD INDUSTRIES, INC.	Jan-02	\$	234.34
JACOBSON STORES, INC.	Jan-02	\$	225.49
YORK RESEARCH CORP	Jun-02	\$	217.05
BIRCH TELECOM	Aug-02	\$	214.83
ARCHIBALD CANDY CORP	Jun-02	\$	212.84
PENTACON	May-02	\$	190.51
NEWCOR, INC.	Feb-02	\$	186.61
HCI DIRECT, INC.	Apr-02	\$	180.33
PANACO INC.	Jul-02	\$	170.25
INTERNATIONAL FIBERCOM, INC.	Feb-02	\$	168.90
PROVELL, INC	May-02	\$	161.51
FLORSHEIM GROUP, INC.	Mar-02	\$	156.77
INTERLIANT	Aug-02	\$	145.70
PRESIDENT CASINOS, INC.	Jun-02	\$	141.66
ICH CORP.	Feb-02	\$	136.75
QUESTRON TECHNOLOGY, INC.	Feb-02	\$	131.03
NEW POWER HOLDINGS, INC.	Jun-02	\$	116.60
EARTHCARE, CO.	Apr-02	\$	104.81
NAPSTER, INC	Jun-02	\$	100.00
TELEGLOBE HOLDINGS(US) CORP.	May-02	\$	100.00
HOULHAN'S RESTAURANTS, INC.	Jan-02	\$	100.00
AETNA INDUSTRIES, INC.	Feb-02	\$	100.00
		\$	197,299.77

Note: Financial Insitutions are not included in this list.

Source: Authors' Compilations

**APPENDIX D**  
**DEFAULTS BY INDUSTRY**  
**2002 Q3**

**COMPANY**

**INDUSTRY**

AAIFostergrant, Inc.	Wholesale Commercial Supplies
Adelphia Business Solutions, Inc.	Cable TV
Advanced Glassfiber Yarns LLC	Textile
Advantica Restaurant Group, Inc.	Retail - Restaurants
AEI Resources, Inc.	Mining
Aetna Industries, Inc.	Automotive - Parts
American Home Patient	Diagnostic equipment
Anchor Glass Container, Corp.	Glass - Products
Anker Coal Group Inc.	Mining
Archibald Candy, Corp.	Confectionery Products
AT&T Canada Inc.	Telecom
Atlantic Express Transportation Corp.	Transport Services
Avado Brands Inc.	Retail - Restaurants
BGF Industries	Textile Fabrics
Birch telecom	Telecomm Services
Budget Group	Auto rental and leasing
Budget Group, Inc.	Services - Auto Rental & Leasing
Carrier1 International S.A.	Telecomm Services
Completel Europe, NV	Telecomm Services
Condor Systems	Navigation, Guidance, Aeronautical Systems
Conseco	Insurance
Consolidated Freightways Corp.	Road transportation
Contour Energy Company	Natural Gas Transmission
Covanta Energy Corp./Ogden	Power Generation & Producer
Dade Behring Holdings Inc.	IV fluid manufacturer / Health Care
Desa International, Inc.	Heating Equipment
Diva Systems	Cable TV
Doe Run Resources, Corp.	Metal Mining
Doman Industries, Ltd.	Paper Products
Energis PLC	Telecomm Services
Evenflo, Co.	Miscellaneous Manufacturer
Exide Technologies, Inc.	Electrical Storage
Flag Telecom Holdings, Ltd.	Telecomm Services
Florsheim Group, Inc.	Retailer - Footwear
Formica, Corp.	Plastic Products
Galey & Lord, Inc.	Textiles - Mills
Gaylord Container Corp.	Paperboard containers & Boxes
Geneva Steel Holdings	Steel - Producers
Gentek Inc	Auto Parts
Glasstech Holding Company	Glass - Products
Global Crossing, Ltd.	Telecomm Services
Globix Corp.	Internet Services
Grant Geophysical Inc	Seismic measurement

Heafner Tire Group, Inc.	Tires Manufacturer
Holley Pref Prod	Miscellaneous Manufacturer
HQ Global Holdings, Inc.	Operator Non-residential Buildings
Hudson Respiratory Care, Inc.	Surgical and Medical Instruments
Insilco Holding, Co.	Electronic Components
Interliant	Managed infrastructure solutions
IT Group, Inc.	Waste Mangement
ITC DeltaCom, Inc.	Telecomm Services
Kaiser Aluminium, Corp.	Aluminium - Producers
Kasper ASL, Ltd.	Textiles - Products
Kmart, Corp.	Retail - Variety Stores
Knology Broadband	Telecomm Services
Logix Communications Enterprises, Inc.	Telecomm Services
Mattress Discounters Corp.	Home furnishings
Millenium Seacarriers, Inc.	Deep Sea Transportation
Mpower Holding, Corp.	Telecomm Services
National Steel, Corp.	Steel - Producers
Neon Communications, Inc.	Telecomm Equipment
Nextel International, Inc.	Telecomm Services
NRG Energy	Energy
NTL, Inc.	Cable TV
Orius, Corp.	Electrical Services
Panaco	Oil & Natural Gas
Pentacon, Inc	Wholesale Hardware
Peregrine Systems	Supply Chain Management Software
Pinnacle Holdings	REIT
Polymer Group, Inc.	Textiles - Products
Prandium	Retail - Restaurants
Pueblo Xtra International Inc.	Food - Retail
SF Holdings Group Inc.	Paperboard containers & Boxes
Sheldahl, Inc	Technology - PCBs
Simonds Industries, Inc.	Metalworking Machinery & Equip.
SLI Inc.	Lighting Systems
Spectrasite	Communication services
Taltomn Holdings	Telecom
Teleglobe Holdings(US) Corp	Telecomm Services
United Intl Holdings, Inc.	Cable Services
US Airways Group	Airlines
Vanguard Airlines	Airlines
Velocita	Telecomm Services
Verado Holdings, Inc.	Internet Services
Viasystems Group Inc.	Technology - PCBs
Weirton Steel, Corp.	Steel - Producers
Williams Communications Group, Inc.	Telecomm Services
Windsor Woodmont Black Hawk Resort Corp.	Casino
WKI Holdings	Glass Products
WorldCom / MCI	Telecomm Services
York Research Corp	Power Generation & Producer
Ziff Davis Media	Publishing

# of Firms 92

# of Communications Firms 22

Source: Author's Compilations