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**Special Comment**

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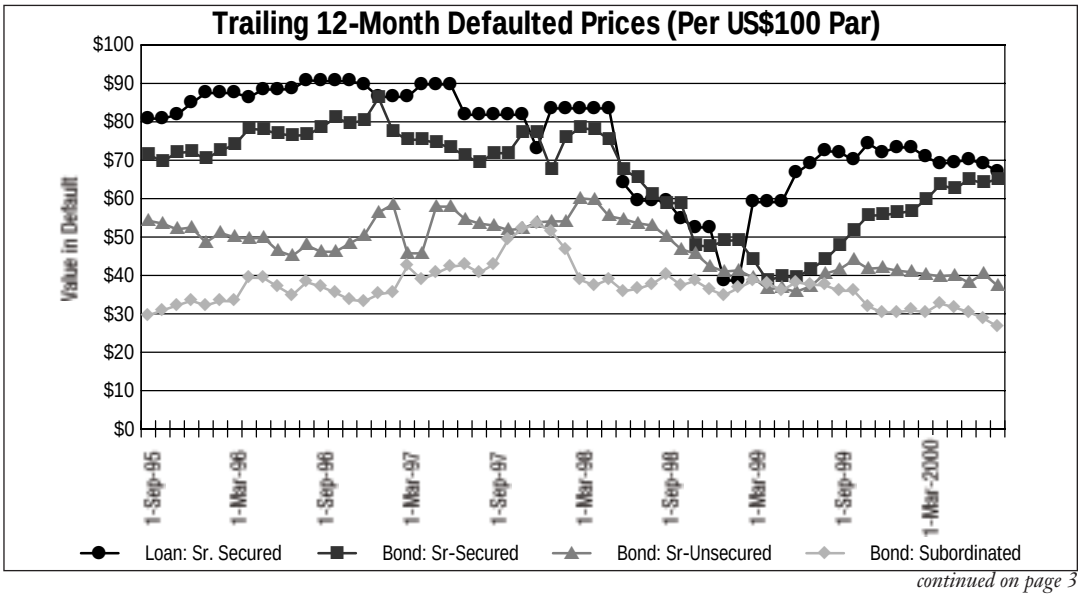
# Bank Loan Loss Given Default

## Summary

This study updates Moody's previous Loss Given Default (LGD) research for bank loans by more than doubling the number of observations from the 58 in our November 1996 study to 121 defaults (representing 181 loans). Here, we look to secondary market price quotes of bank loans one month after the time of default - allowing markets to process the default news and revalue the debt. This additional data allows not only a refinement of recovery rate estimates, but also an examination of the factors driving LGD. Briefly, this study finds that:

- The mean bank loan value in default is 69.5% for Sr. Secured and 52.1% for Sr. Unsecured, but experience away from these average values is material. The lowest 10th percentiles of recoveries were at 39.2% and 5.8% respectively.
- The average length of time to default resolution is just under 1½ years with prepackaged Chapter 11 bankruptcy filings averaging 1.07 years and traditional Chapter 11's averaging 1.62 years. Secured loan claims settled more quickly than unsecured loans: 1.3 versus 1.7 years respectively. Interestingly, the best predictor of resolution time is the original market perception of resolution value. Recovery value that is more distant from the average (either higher or lower) strongly suggests a more rapid resolution.
- The LGD for Sr. Unsecured loans can be materially different according to the number of loans outstanding to the defaulting borrower. That is, for single-loan defaulters, the Sr. Unsecured recovery rate is 63.4%, but for multiple loan defaulters, the Sr. Unsecured recovery rate is just 36.8%.
- The LGD experience by broad industry groups are not statistically significant different from one another. We speculate that LGD correlation mechanism over time (see below) may be causing other studies to find their differing patterns of industry-level LGD differences.
- A time series of the 12-Month Trailing Default Value Average shows a 0.78 correlation between the loss experience of defaulted Sr. Secured bank loans versus Sr. Secured public debt (top two lines). This intuitive relationship has been previously undocumented. This observation is important because positive LGD correlation increases investors' portfolio-level risk. This correlation held even after removing the (five) firms that conjoined both of these debt classes. Thus, this is a systemic rather than a name-specific result.

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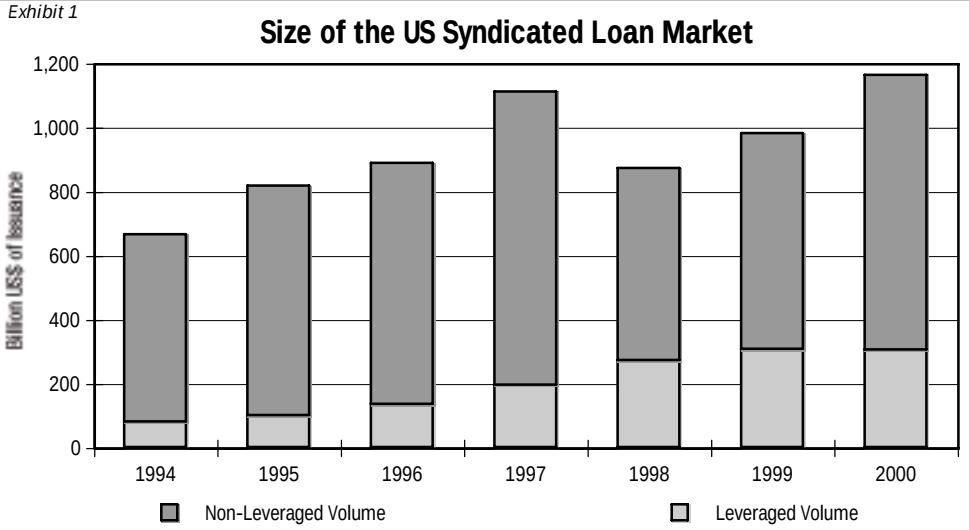
## Introduction

The US syndicated loan market continues to grow. This trend benefits investors who gain diversification by having access to different instrument type relative to public debt. In addition, banks benefit by both offloading overly concentrated exposures to high volume borrowers and receiving a concomitant relief in statutory risk capital requirements.

This trend also shifts the default risk management burden from the originating institutions (who commonly can have close and long-standing relationships with the borrower) to investors (who may not). This paper continues Moody's analysis of the bank loan market to the benefit of investor risk management understanding (see bibliography).

*Exhibit 1*




*Source: Loan Pricing Corporation*

**Exhibit 1** shows the growth and composition of the US syndicated loan market since 1994. Over time, growth has been steadier for leveraged issues. However, non-leveraged issues continue to constitute the bulk of the market.

Moody's rates a substantial and growing number of bank loans.[1] Moody's ratings incorporate an assessment of both the likelihood and the severity of default. While the likelihood of default is roughly the same for various debt obligations of the same[2] obligor, Moody's can readily differentiate obligation-types by their severity of loss in default. Thus, Moody's pays close attention to factors that include superior seniority, collateral, etc. of the instrument. Indeed, where Moody's believes that these factors for a loan are enough for a significantly better LGD relative to bondholders, a loan's rating would reflect that lower risk. It is common (though not guaranteed) that the rating of bank loans might be one or more notches better than ratings of that same obligor's public debt.

This report quantifies the LGD amount for large US bank loans. Our data comprise loans that are of the type that could be syndicated - whether or not they actually are. In addition, we do not restrict our view to only Moody's rated loans. Finally, to align this study more closely with the investment goals of investors in this area, we adopt a LGD definition that mimics the actual realization of an investor selling away loans soon after default. Thus, as Moody's started reporting in 1996,[3] we proxy the LGD using active secondary market quotes for defaulted loans one month after the date of default.

The date of default used here is the default date of the obligor's public debt (which is public knowledge) versus the default date specifically for the bank loans (which is commonly private information).[4] This seemingly minor issue of data definitions underscores a broader distinction between this report and Moody's public debt default studies.

*1 By its nature, bank lending includes many borrowers who are too small to seek a Moody's rating. To give greater assistance to investors in smaller borrowers, Moody's has developed a product that statistically estimates firm level default probabilities. See http://www.moodysrms.com/ for further information on RiskCALC™. This broadly based tool does not offer the refinement and long term view of Moody's analyst created ratings.*

*2 Although this is broadly true, the definition of default can change by obligation type. For bank loans, restrictive covenants often allow the lending institution to gain earlier intervention (relative to public debt) during a time of borrower credit distress. Indeed, the generally lower LGD of bank loans versus public debt is likely at least partially due to banks taking risk mitigating actions to reduce drawdowns, and secure or add collateral.*

*3 Carty and Lieberman (1996)*

*4 There is no uniformity across lending institutions in defining the exact date of default. Violations of loan covenants often define a "technical" default while one or more missed interest payments typically classify a loan as "non-accrual". An actual "write-off" of the loan is well after the default, commonly occurring only after all efforts at loan recovery are exhausted.*

Moody's defines a bond default as any missed or delayed disbursement of interest and/or principal, bankruptcy, receivership, or distressed exchange where (i) the issuer offered bondholders a new security or package of securities that amount to a diminished financial obligation (such as preferred or common stock, or debt with a lower coupon or par amount) or (ii) the exchange had the apparent purpose of helping the borrower avoid default.

In contrast, full default information is sometimes available for bank loans only if the borrower also has public debt. By their nature, bank loans are a private contract between the borrower and the lending institution. Exceptions to this include syndicated loans, and separately, those loans packaged into CBOs, which become more public. Nevertheless, as a rule, there is no assurance of capturing information on all defaulted bank loans and no study has done so. In effect, this somewhat skews our sample towards larger obligors, which may actually be a better alignment with the syndicated loan market.

*Exhibit 2*

**Moody's-Rated Bank Loans Involved in Bond Defaults - 2000 (YTD)**

| Defaulter | Default Date (of assoc. bond) | Bank Loan Description | Amount (US$) | Moody's Initial Rating | Bank Loan Date | Rating at Default |
|---|---|---|---|---|---|---|
| AmeriServe Food Distribution, Inc. | 01/31/2000 | Guaranteed Senior Secured Revolving Credit Facility | $125.00 | Ba3 | 07/02/97 | B1* |
| Cambridge Industries, Inc. | 05/10/2000 | Guaranteed Senior Secured Term Loan, Tranche B | $135.00 | B1 | 06/26/97 | Caa1 |
| | 05/10/2000 | Guaranteed Senior Secured Revolving Credit Facility | $75.00 | B1 | 06/26/97 | Caa1 |
| | 05/10/2000 | Guaranteed Senior Secured Term Loan, Tranche A | $70.00 | B1 | 06/26/97 | Caa1 |
| Carmike Cinemas, Inc. | 08/01/2000 | Guaranteed Senior Secured Revolving Credit Facility | $275.00 | Ba3 | 01/21/99 | B3 |
| | 08/01/2000 | Guaranteed Senior Secured Term Loan, Ser. B | $75.00 | Ba3 | 01/21/99 | B3 |
| Crown Paper Company | 03/01/2000 | Senior Secured Revolving Credit Facility | $150.00 | Ba3 | 08/07/95 | Caa1 |
| | 03/01/2000 | Senior Secured Term Loan, Tranche B | $100.00 | Ba3 | 08/07/95 | Caa1 |
| Genesis Health Ventures, Inc. | 03/20/2000 | Term Loan, Tranche B | $152.91 | Ba3 | 07/25/97 | B2 |
| | 03/20/2000 | Term Loan, Tranche C | $152.55 | Ba3 | 07/25/97 | B2 |
| Hedstrom Corporation | 04/11/2000 | Senior Secured Term Loan, Tranche A | $75.00 | B1 | 05/28/97 | Caa1 |
| | 04/11/2000 | Senior Secured Revolving Credit Facility | $70.00 | B1 | 05/28/97 | Caa1 |
| | 04/11/2000 | Senior Secured Term Loan, Tranche B | $65.00 | B1 | 05/28/97 | Caa1 |
| Laidlaw, Inc. | 05/15/2000 | Revolving Credit Facility | $1,400.00 | Baa2 | 09/16/97 | B2* |
| MacSaver Financial Services, Inc. | 08/01/2000 | Guaranteed Revolving Credit Facility | $140.00 | Ba1 | 01/25/99 | WR |
| Safelite Glass Corporation | 06/09/2000 | Guaranteed Senior Secured Term Loan, Tranche A | $150.00 | B1 | 12/10/98 | Caa1 |
| | 06/09/2000 | Guaranteed Senior Secured Revolving Credit Facility | $100.00 | B1 | 12/10/98 | Caa1 |
| | 06/09/2000 | Guaranteed Senior Secured Term Loan, Tranche B | $100.00 | B1 | 12/10/98 | Caa1 |
| | 06/09/2000 | Guaranteed Senior Secured Term Loan, Tranche C | $100.00 | B1 | 12/10/98 | Caa1 |
| Safety-Kleen Services, Inc. | 05/15/2000 | Guaranteed Senior Secured Revolving Credit Facility | $450.00 | Ba3 | 04/01/98 | Caa1 |
| | 05/15/2000 | Senior Secured Term Loan, Tranche A | $480.00 | Ba3 | 04/01/98 | Caa1 |
| | 05/15/2000 | Senior Secured Term Loan, Tranche B | $550.00 | Ba3 | 04/01/98 | Caa1 |
| | 05/15/2000 | Senior Secured Term Loan, Tranche C | $550.00 | Ba3 | 04/01/98 | Caa1 |
| Stage Stores, Inc. | 06/01/2000 | Revolving Credit Facility | $100.00 | Ba2 | | Caa2 |
| | 06/01/2000 | Revolving Credit Facility | $100.00 | Ba2 | | Caa2 |
| Tokheim Corporation | 07/31/2000 | Guaranteed Senior Secured Term Loan A | $120.00 | B1 | 01/13/99 | Caa1 |
| | 07/31/2000 | Guaranteed Senior Secured Revolving Credit Facility | $120.00 | B1 | 01/13/99 | Caa1 |
| United Artists Theatre Company | 04/15/2000 | Revolving Credit Facility | $100.00 | B1 | 04/09/98 | Caa3 |
| | 04/15/2000 | Term Loan A | $100.00 | B1 | 04/09/98 | Caa3 |
| | 04/15/2000 | Term Loan B | $100.00 | B1 | 04/09/98 | Caa3 |
| | 04/15/2000 | Term Loan C | $150.00 | B1 | 04/09/98 | Caa3 |

** Rating on Watch List at the time of default*

**Exhibit 2** lists 31 Moody's rated bank loan defaults from 13 borrowers for 2000 year-to-date.[5] We list bank loan information in this table with the default date of the borrower's public debt. This public debt default date is not necessarily the same date applicable to the bank loans - although they are typically close. For example, the default date for Safety-Kleen Services, Inc.'s bank loans is April 7, 2000 - five weeks before its May 15, 2000 bond default. The bank loan default date is not always reliably known. By itself, this timing issue is not a major concern.

*5 This study is not restricted to Moody's rated bank loans. For example, so far in 2000 there have been six unrated bank loan defaults involving three borrowers.*

## Recovery Rates

We focus here on the secondary market pricing of defaulted bank loans as quoted one month after the date of default. Importantly, we use name-by-name market quotes.[6] These prices are not "matrix" prices, which are broad broker created tables keyed off maturity, credit grade, and instrument type with no particular consideration of the specific issuer. Moody's chose to make these price observations at one month after default for three reasons:

1. This gives the market sufficient time to accurately assess the new post-default corporate information;
2. It is not so long after default that the market for quotes may become thinner; and
3. The period is short enough to align with many investors' goal of trading out of newly defaulted debt.

Of course, this latter point can be of critical importance to investors. There are typically very different "clienteles" (i.e., investor goals/temperaments) for holding bank loans pre-default versus post-default. Indeed, the reasonable pricing we observe in our dataset is likely attributable, at least partially, to trade volume that this investor turnover creates soon after default.

Thus, the focus of this study - loss given default - stands as a kind of transfer price between these two investor groups. Although it is beyond the scope of this paper, there have been several studies of the market's ability to price defaulted debt efficiently.[7] These studies have addressed public debt rather than loans and their results are not universally statistically significant. Collectively however, the weight of this evidence is strongly in support of the market's efficiently anticipating ultimate recoveries. Our own analysis supports market efficiency as well - albeit with a small sample size.

### DATA AND METHODOLOGY

This report examines 181 defaulted bank loans (of 121 defaulted issuers). Most of these borrowers filed for regular Chapter 11 protection, but a good proportion (18%) filed for prepackaged Chapter 11s. The earliest default in this sample is Lomas Financial Corporation which filed for Chapter 11 on Sep 1, 1989. The most recent is Carmike Cinemas, Inc.'s Aug 1, 2000 Chapter 11 filing. All together, this dataset includes 121 default events: 73 Chapter 11s, 22 prepackaged Chapter 11s, and 26 additional defaults that were not formal bankruptcies. There were 181 loans caught-up in these 121 firm-level defaults: 119 Sr. Secured loans, 33 Sr. Unsecured loans, and 29 additional loans that were unspecified.

*Exhibit 3*

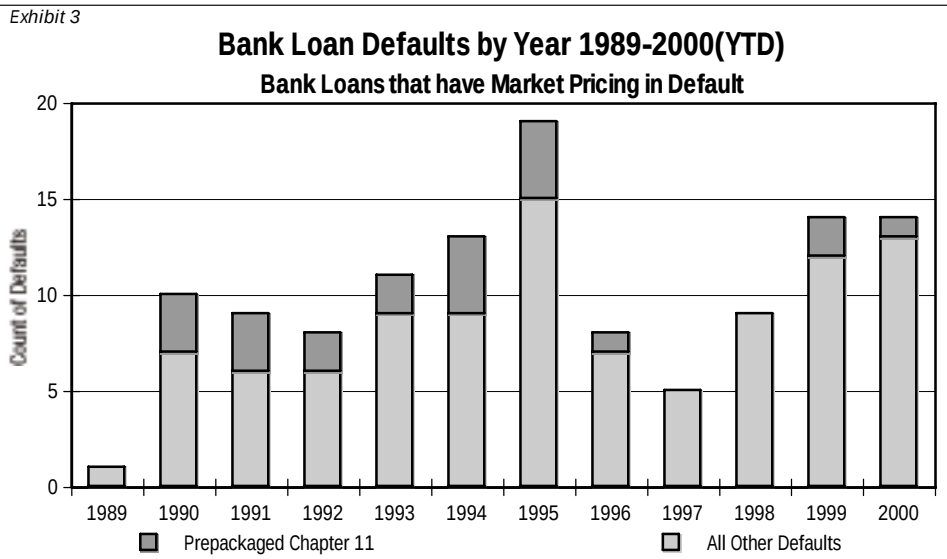



**Exhibit 3** shows the annual flow of bank loan default, which spans slightly more than the 1990's decade. Highlighted are the prepackaged Chapter 11 filings, which first appeared in 1990 and have seen less popularity in the second half of the 1990's. Prepackaged filings have proven to be an effective means of reducing the time in bankruptcy while offering other advantages such as mitigation of the "collective action problem".[8]

*6 These are bid-side quotes contributed by Goldman Sachs, Citibank, BDS Securities, Loan Pricing Corporation, Merrill Lynch and Lehman Brothers.*
*7 See Eberhart & Sweeney (1992), Wagner (1996) and Ward & Griepentrog (1993).*
*8 Bondholders do not always coordinate their efforts efficiently. Small bondholders may hold out since their individual decisions will not materially affect the outcome. Larger bondholders may hold out seeking to extract further obligor concessions. For a broader discussion of the issues leading firms to choose one course in bankruptcy versus another, see Chatterjee, Dhillon and Ramfrez (1995).*

We selected defaulted loans for this report with the requirement that they all have reliable secondary market pricing in default. This selected dataset is three times the 58 defaulted bank loan observations in Moody's comparable Nov-96 study. We wish to highlight here that this selection criterion (requiring a secondary market price) differs from the default definition used in Moody's annual default studies. In Moody's more broadly based annual default studies, a missed interest payment is sufficient to define a "default" - similar to a banker's "non-accrual" status.

As with any data selection "filter", it is important to understand and make explicit any potential change in the applicability of the study's results. Clearly, this dataset focuses on the ultimate borrowers behind syndicated loans, since secondary market pricing is most likely available for these types of loans. Thus, our findings are most directly applicable to the syndicated loan market.

This type of data filter also appears across the academic literature. Public debt is widely reported in both its pricing and default events. In contrast, bank loan pricing and default events are far less widely known. Consequently, loans are more likely to be included in our dataset if the default event also encompasses public debt. In contrast, an unrated defaulter with exclusively bank loan funding might be overlooked because there is no systematic reporting of defaulted loans external to the particular lending institution.[9] Despite these challenges, 30 of the 181 loans in our dataset are from 29 firms with no public debt.

Parenthetically, having a Moody's rating is not a restriction on our dataset. Moody's started rating bank loans in 1995 with the rise in syndicated loan activity. However, our dataset goes well beyond Moody's-rated bank loans (see Exhibit 2 for a list of recent loan defaults that carried a Moody's rating).

## PROFILING OF BANKRUPTCY EXPERIENCE

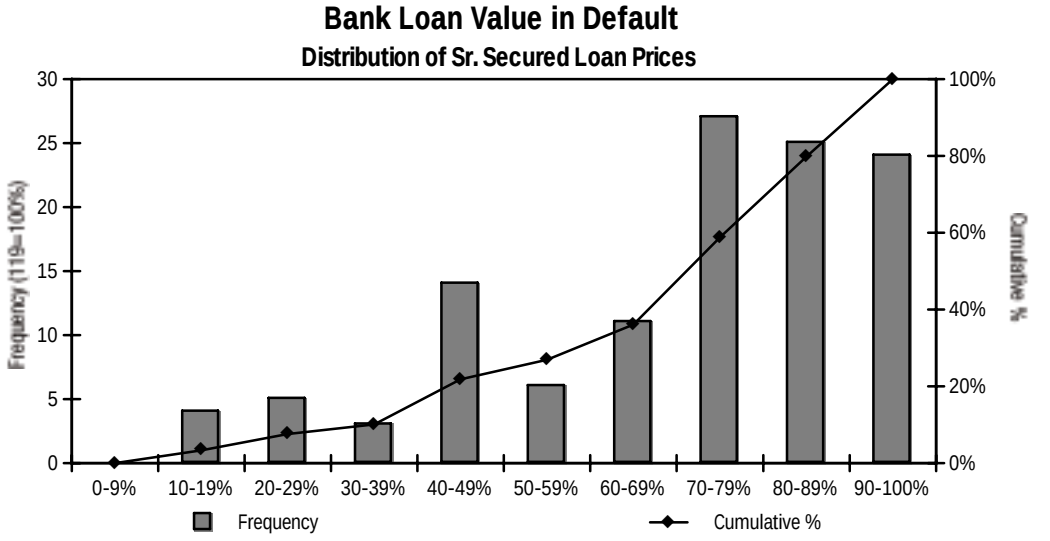
There is no good framework for predicting the outcome of default. This deficiency is so poignant because default outcomes are so broadly diverse. A defaulted loan might pay off essentially in full with accrued interest or it might pay off only 5¢ on the dollar. A resolution might be complete by the next month or it might take 4½ years. Investors need the best guidance available. Here, we summarize the historic record to quantify the distribution of outcomes that investors have faced, and then to investigate general rules for better projecting some features of LGD.

### *Defaulted Loan Price Distribution*

The two graphs here (Exhibit 4 and 5) show the wide distributions of recovery rates. We graph Sr. Secured loans separately from Sr. Unsecured loans to accommodate the difference in scaling of the vertical axis. Unsecured loans are much less common among defaulters.[10]

**Exhibit 4** and **5** show the distributions of bank loan valuations in default - both a histogram of recovery rates and a cumulative distribution curve. The average recovery rates for Sr. Secured and Sr. Unsecured are 69.5% and 52.1% respectively. However as these graphs illustrate, the range of valuation is broadly disbursed (interquartile ranges of 33.5 percentage points and 48.0 percentage points respectively) and skewed to the downside (skews of -0.84 and -0.35 respectively). We detail additional summary statistics for these graphs in Exhibit 6.

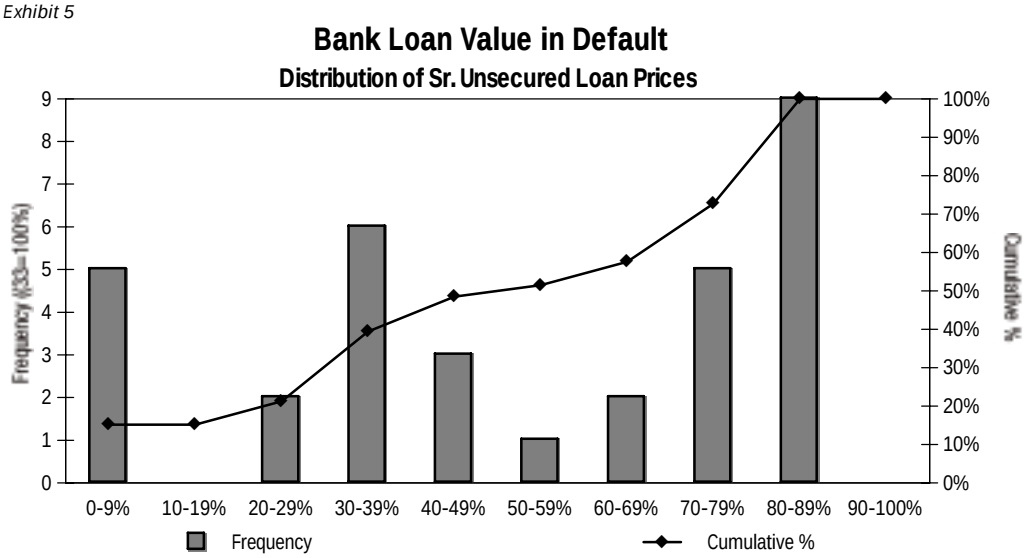
*Exhibit 4*




*9 Perhaps the largest collection of middle-market bank loans is in Moody's unique Credit Research Database (CRD) comprised of 28,000 private firm financial statements and over 1,600 private firm defaults. Other efforts include Loan Pricing Corporation and Risk Management Associates (formerly Robert Morris Associates). Nevertheless, capturing bank loan defaults is not as universal a process as with public debt.*
*10 Banks often seek to negotiate for enhanced security if the borrower declines in credit quality. This dataset sees only those loans that are in default. Separately, any material change in the loan terms - such as enhanced security - would trigger a re-evaluation of any Moody's rating for that loan.*

The very wide dispersions evident in these exhibits are a source of frustration for both investors and credit risk modelers alike. Sr. Secured bank loans to Stage Stores, Inc., Almac's, Inc. and Seaman Furniture Co., Inc. all received 15¢ on the dollar. In contrast, Cambridge Industries, Inc. loans were valued at 98¢ on the dollar. On the Sr. Unsecured loan side, an experience of 5¢ to 88¢ was just as wide merely lower.

*Exhibit 5*




Investors expend enormous energy divining the likely recovery of individual loans, while Value-at-Risk model builders are typically stuck with applying some average recovery rate and thereby overlooking any volatility in the loan recovery process. Understandably, for Value-at-Risk analysis, LGD volatilities might reasonably be set aside in large portfolios (with many diverse obligors) if they are uncorrelated across the portfolio since their effects will tend to cancel themselves.

However, as we observe in this report's opening exhibit, there is reasonable evidence of material positive LGD-correlation that arises even from different market instruments and non-overlapping sets of defaulters. Since these two market instruments were both secured by underlying assets, we might speculate that broad economic factors that might raise or lower the values of assets underlying the security.[11]

*Exhibit 6*

**Descriptive Statistics for the Time to Default Resolution**

| Bank Loans | Count | Average | Median | Maximum | 10th Percentile | Minimum | Standard Deviation |
|---|---|---|---|---|---|---|---|
| Sr. Secured | 119 | $69.5 | $74.0 | $98.0 | $39.2 | $15.0 | $22.5 |
| Sr. Unsecured | 33 | $52.1 | $50.0 | $88.0 | $5.8 | $5.0 | $28.6 |
| **Long Term Public Debt (of these same Bank Loan Borrowers)** | | | | | | | |
| Sr. Secured | 6 | $59.1 | $49.0 | $98.5 | $30.0 | $0.1 | $32.6 |
| Sr. Unsecured | 51 | $45.1 | $44.0 | $104.8 | $16.0 | $0.5 | $25.7 |
| Sr. Sub | 55 | $29.4 | $24.0 | $98.0 | $4.0 | $0.5 | $23.6 |
| Sub | 32 | $29.1 | $29.3 | $87.5 | $4.5 | $0.5 | $20.6 |
| Jr. Sub | 5 | $10.8 | $12.5 | $20.8 | $3.7 | $1.5 | $7.2 |

**Exhibit 6** shows a tabulation of additional statistics for the bank loans illustrated in Exhibit 4 & 5. Shown also is the public debt of just the 121 firms in this bank loan study. Compared to obligors in our entire bond default database, this group of bank loan borrowers held far less Sr. Secured public debt relative to the more subordinated grades of public debt. Public debt showed its typical pattern of decreasing recoveries going down the seniority scale.[12]

*11 Parenthetically, the 0.78 correlation figure quoted on page 1 is at an index level and so one should expect correlation values between individual defaulters to be lower. This is because the construction of any index effectively cancels diversifiable firm-level volatility.*
*12 Refer to Hamilton & Carty (1999) for a more complete exposition of LGD for public debt.*

Generally, bank loans had a better LGD in the 151 cases where a defaulting firm also made use of public debt funding. Sr. Secured loans recovered 71.5% when the borrower also had issued bonds, but only 59.1% when the only funding was bank credit facilities. Seniority seems to be the pivotal factor since the outcome for Sr. Unsecured bank loans is just the reverse. Sr. Unsecured loan recoveries were only 50.9% when forced to compete with public debt, but 61.0% in cases where there was only bank funding.

### *Descriptive Statistics Of Time In Default*

The length of time to bankruptcy resolution can have a significant influence on the valuation of defaulted bank loans. For instance, interest accruals (if any) are typically not paid until the final resolution. Indeed, payments seldom accrue for unsecured claimants and sometimes not even for secured claimants. As a separate issue, even if creditors could be confident of the payment amounts, the uncertain timing of settlement would limit the appeal of bankrupt debt to many investors (e.g., investors seeking current income).

*Exhibit 7*

**Descriptive Statistics for the Time to Default Resolution**

| By Bankruptcy Type | Count | Average (yrs.) | Median (yrs.) | Minimum (yrs.) | Maximum (yrs.) | Standard Deviation (yrs.) |
|---|---|---|---|---|---|---|
| Prepackaged Chapter 11 | 22 | 1.07 | 0.94 | 0.07 | 2.47 | 0.84 |
| Chapter 11 | 73 | 1.62 | 1.53 | 0.31 | 4.54 | 0.96 |
| **By Seniority Type** | | | | | | |
| Sr. Secured | 78 | 1.30 | 1.09 | 0.10 | 4.54 | 0.94 |
| Sr. Unsecured | 24 | 1.70 | 1.61 | 0.07 | 4.16 | 1.07 |
| **Overall** | | | | | | |
| | 121 | 1.44 | 1.43 | 0.07 | 4.54 | 0.95 |

**Exhibit 7** lists descriptive statistics for the length of time spent in default. We first break out two bankruptcy types: Chapter 11 filings versus prepackaged Chapter 11. By all measures, the prepackaged form of Chapter 11 has realized its promise of delivering swifter bankruptcy resolutions. In fact, the median duration was a little more than seven months shorter for prepackaged Chapter 11's. Separately, we show a smaller distinction between the resolution times of Sr. Secured versus Sr. Unsecured loans. This less significant differentiation between security levels in augmented by the wider range of their resolution times (their standard deviations).

The prospect of resolution durations that can top four years is daunting to investors. Indeed, for some applications such as the structuring of a CLO pool, it would be pivotal if resolution cash flows are relied upon for servicing the CLO. More generally, investors need to project the timing of their payoffs as diligently as they can. Therefore, we look at detail behind this wide dispersion in resolution times.

*Exhibit 8*

**Bank Loan Resolution Time vs. Default Value**

**Highlighing Prepackaged Chaper 11 Filings**

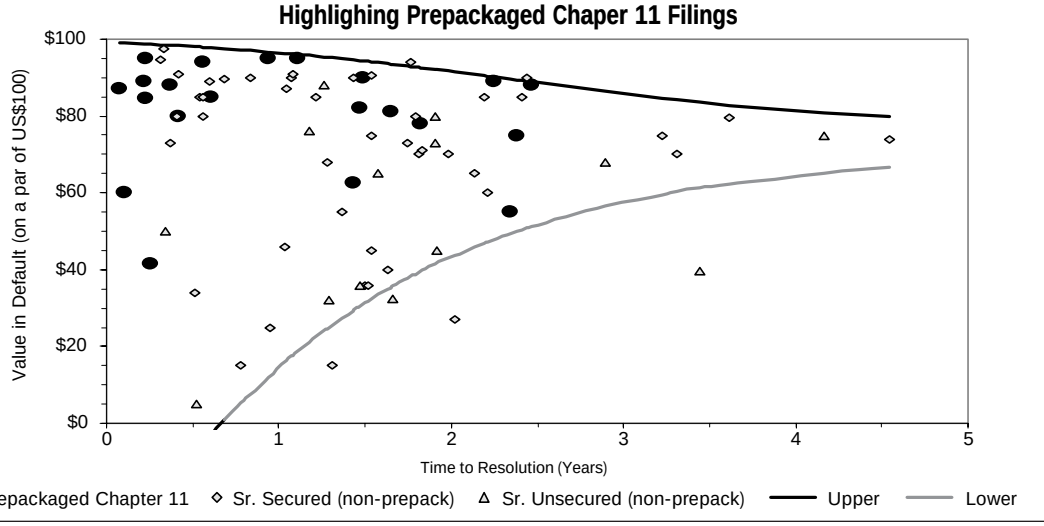


**Exhibit 8** shows the length of bankruptcy resolution versus the valuation of defaulted bank loans. Shown here are only the 80 firms that have completed the resolution process in our sample of 121 firms. Highlighted are the very different experiences of prepackaged Chapter 11 bankruptcies. Evident here is the general tendency for extreme recovery valuations (i.e., market valuations away from the middle range of around $70) to wrap-up more quickly. Resolutions yielding in the more central valuation range of $70-to-80 are amongst the longest to resolve and are generally longer on average. On the other end, six issuers reached resolution within 3 months of default. The most rapid, Memorex Telex Corporation's prepackaged Chapter 11, was just under 6 weeks. The longest resolution took just over 4½ years involving Dow Corning Corporation amidst complex litigation of silicon breast implant cases.

Exhibit 8 points directly to the single best predictor of the length of time in default. That simply is whether the market prices reflect a perception that it will be resolved with an "average" recovery value. More specifically, for defaulted loans with market pricing in the range of at least $70 but less than $80, the time in default was lengthy; averaging 2.36 years (s=1.16). In sharp contrast, defaulted loans with pricing >=$80 or <$70 resolved almost twice as quickly averaging 1.22 years (s=0.76). Indeed, this one simple rule explains 22% of the volatility around the time to resolution. It is also more powerful than the splits shown in Exhibit 7.

The intuition behind this relationship between resolution value and resolution time might be that market prices would not be extreme unless most market participants agree. Thus, the resolution will be more straightforward. In contrast, if the market price is around average, then this might well be the middle point of very diverse views across market participants. Thus, the resolution might be less clear with resolution times spanning the ambit.

## RECOVERY RATE FACTORS

Of practical value to investors and analysts, are guidelines for better estimating LGD beyond the immediate instances in this report. So far, we have discussed segmenting recovery experience by seniority. In the following section, we will examine three additional factors:

1. The influence, especially upon unsecured loans, of a firm's having multiple loan obligations;
2. The influence of broad industry groups; and
3. The information content of Moody's ratings.

Taken together, these factors can aid in better estimating the likely LGD of defaulted bank loans.

### *Influence Upon Security Of Having Multiple Loans*

Do recoveries shift if there are other bank loan borrowings within the defaulter's capital structure? These other debts effectively compete for the limited funds that a firm can make available in default. Looking back to Exhibit 6, we add a further dimension to describe each defaulter's debt structure.

We separate firms into two groups according to whether they had a single loan outstanding at the time of default or more than one loan. Importantly, this type of indicator might also suggest several things about the defaulting firm that could potentially confound the analysis. Holding more than one bank loan might suggest:

- A larger than average firm size;
- Financial "sophistication" or perhaps "aggressiveness"; and/or
- The potential for multiple security levels across loans (i.e., Sr. Secured side-by-side with Sr. Unsecured).

Whatever the active causes, these factors do, in fact lead to a substantial 26.6% difference in LGD for Sr. Unsecured loans.[13] In stark contrast, there is essentially no difference (2.8%) in the recovery experience among Sr. Secured loans.

*13 This distance between mean Sr. Secured recoveries in these two groups is statistically different from zero at the 2% level applying a Wilcoxon rank-sum test. This and other distinguishing features are an active topic of our continued research.*

*Exhibit 9*

**Bank Loan - Loss Given Default**

| # of Loans | Data | Sr. Secured | Sr. Unsecured | All Other | All Other |
|---|---|---|---|---|---|
| **Single** Loan Caught up in Default Event | Count | 51 | 19 | 14 | 84 |
| | Mean | $71.1 | $63.4 | $64.0 | $68.2 |
| | Median | $79.5 | $73.0 | $72.5 | $75.0 |
| | Maximum | $97.5 | $88.0 | $89.0 | $97.5 |
| | 10th Percentile | $36.0 | $32.4 | $29.7 | $33.0 |
| | Minimum | $15.0 | $30.0 | $7.0 | $7.0 |
| | StDev | $23.5 | $21.3 | $26.1 | $23.5 |
| **Multiple** Loans Caught up in Default Event | Count | 68 | 14 | 15 | 97 |
| | Mean | $68.3 | $36.8 | $65.4 | $63.3 |
| | Median | $72.8 | $28.5 | $70.0 | $72.0 |
| | Maximum | $98.0 | $80.0 | $90.0 | $98.0 |
| | 10th Percentile | $41.5 | $5.0 | $39.7 | $24.8 |
| | Minimum | $20.0 | $5.0 | $38.0 | $5.0 |
| | StDev | $21.8 | $30.8 | $19.5 | $25.2 |
| Total | Count | **119** | **33** | 29 | 181 |
| | Mean | **$69.5** | **$52.1** | $64.7 | $65.6 |
| | Median | **$74.0** | **$50.0** | $70.0 | $73.0 |
| | Maximum | **$98.0** | **$88.0** | $90.0 | $98.0 |
| | 10th Percentile | **$39.2** | **$5.8** | $37.6 | $30.0 |
| | Minimum | **$15.0** | **$5.0** | $7.0 | $5.0 |
| | StDev | **$22.5** | **$28.6** | $22.5 | $24.5 |

**Exhibit 9** shows summary statistics for the value of defaulted bank loans as we make the usual grouping by seniority groups. We show the overall results for Sr. Secured and Sr. Unsecured in the bolded font. These figures in bold replicate the relevant portion of Exhibit 6. The new split in our dataset is between defaulters who held a single bank loan at the time of default versus multiple bank loans. In the underlined figures, we highlight that security is strikingly significant in cases where there are multiple bank loans.

Thus, (for the data set that we examine here) the presence or absence of loan security is far more relevant if there are multiple bank loans caught-up in the default. In contrast, for secured loans, the number of loans caught up in default is largely irrelevant. The absence of security makes the most difference when there are obligations that must compete with one another in default. In retrospect, this type of finding is intuitive and is further evidence in support of Moody's practice of notching bank loan ratings where there is superior realizable value due to security or other advantageous factors.

### *Is Industry A Discriminating Factor?*

As another factor commonly thought to influence LGD, we examine industry groupings. Of course, it is intuitively appealing to believe that the borrower's industry should help predict LGD. After all, many asset types differ between industries. Indeed the highest value for an asset caught in default may be from its redeployment within the industry. For example, a used Boeing 727 recovered in one airline's default only really might have value to the extent that another airline can reuse it.[14]

However, we found no evidence here that industries have different LGD. In our testing, we first applied a series of t-tests and confirmed the visual result that the industries' mean LGDs were not statistically distinguishable. We tested further because the data is not statistically Normally distributed. We applied a more robust non-parametric test, the Kruskal-Wallis Rank Sum test, which also rejected the hypothesis that any industry grouping might be different from the aggregate population.

*14 For a compelling (but single industry) argument for recovery correlations, refer to Borenstein and Rose (1995).*

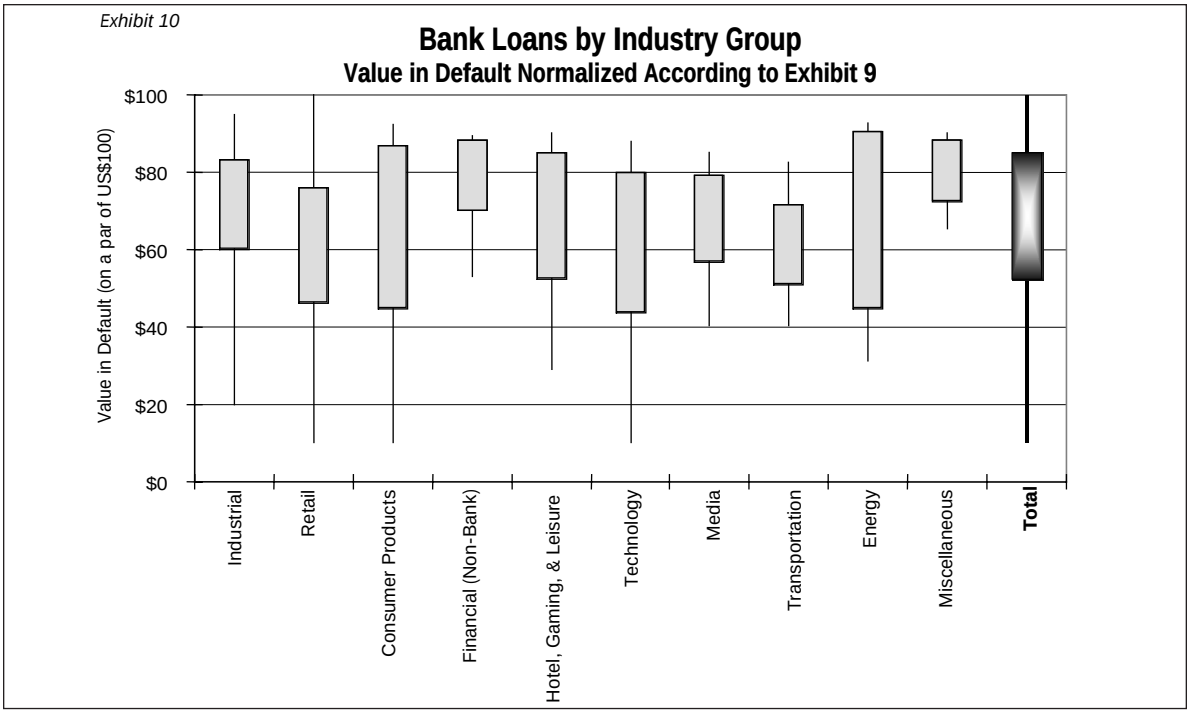



**Exhibit 10** shows the dispersion of default values broken out by 10 industry groups.[15] For each industry, the vertical lines show the maximum and minimum defaulted values, while the vertical shaded rectangles show the inter-quartile range. Visually, there is a substantial overlap in the experience of one industry versus another. Quantitatively, we applied 1) a series of parametric t-tests on the industry means and 2) a non-parametric Kruskal-Wallis Rank Sum test across each industry's full range. Neither set of tests showed that any industry group was statistically different from the overall experience.

At least two other studies have broken out LGD by industry, but both of these were broader studies across debt class, not just bank loans. The first Altman and Kishmore (1996) found statistically higher recovery values for two groups: "Public utilities" and "Chemicals, petroleum, rubber and plastic products". A more recent study, Izvorsky (1997), tabulates above average recovery rates for seemingly similar industry groups in potential confirmation of Altman and Kishmore's result.[16]

The null industry result that we find here might be attributable to a number of factors:

- The effects of our strong focus on (predominantly Sr. Secured) bank loans,
- The relatively small sample sizes.
- Differences in our industry group definitions,
- LGD cyclicality[17] may confound the comparability of studies that draw from different periods, and
- Random variability in the defaults included.

Certainly, differences in LGD by industry group are an important question that we will continue to investigate.

### *LGD By Moody's Rating At The Time Of Default*

As a final factor influencing LGD, we examine Moody's ratings themselves. A basic tenant is that Moody's intends ratings to address all the factors leading to credit losses and not just one component such as the likelihood of default. If this is true, then a Moody's rating should have some predictive value regarding credit losses even after one component of credit losses is settled. More specifically, if we focus on defaulted obligations, then the likelihood-of-default "component" is settled (i.e., realized to be 100% likely). Thus, the Moody's credit rating might continue to predict the remaining component(s) of credit risk - such as the average LGD. The test of this is to average the LGD by rating grade and see if there is some correlation between the two.

*15 We represent all 181 loans here. The different security classes of bank loans are aggregated in this exhibit by adding back the security classes' mean differences, thus bringing all loans up to the level of Sr. Secured.*
*16 Industry labels are notoriously ad hoc and difficult to compare. Izvorsky (1997) refers to "Plastic products, nec" with an average recovery rate of 69.20% and indeed this was the highest of Izvorsky's industry groupings. This appears to corroborate A&K's "Chemicals, petroleum, rubber and plastic products" finding. Izvorsky's "Electric services" with an average recovery rate of 42.27% might be comparable with A&K's "Public utilities". However, although this was above Izvorsky's overall average recovery rate of 35.35%, it was only the sixth highest placing industry group.*
*17 There is evidence of LGD varying over time as evidenced by our exhibit on page one of this report.*

*Exhibit 11*

**Recoveries for Moody's-Rated Bank Loans**

| Moody's Rating at Default | Average Price in Default | Loan Count |
|---|---|---|
| B1 | $86.8 | 2 |
| B2 | $80.0 | 4 |
| B3 | $73.5 | 6 |
| Caa (old format) | $90.3 | 2 |
| Caa1 | $67.3 | 12 |
| Caa2 | $45.3 | 3 |
| Caa3 | $53.5 | 3 |

**Exhibit 11** shows LGD aggregated by the Moody's bank loan rating at the time of default. As predicted, the recovery values generally decline with lower credit ratings.[18] A previous and more broadly based Moody's study also shows this effect.[19] Two of the 32 loans in Exhibit 11 are Sr. Unsecured. We have commingled their recovery values with the Sr. Secured loans on a one-to-one basis on the argument that the rating (notched if the analyst deemed necessary) controls for the effect of security.

As a caveat to this, there are many factors directly contributing to the realized LGD that are not known to a credit analyst at the time a rating is determined. For example, whether or not the firm chooses to file a prepackaged Chapter 11 could have a material impact on the debtholder's realized value in default and yet this choice cannot be determined ahead of the event.

## Conclusion

Moody's rates bank credit facilities with a clear focus on factors that include superior seniority, collateral, etc. that commonly yield a rating of one or more notches better than that firm's publicly held debt. This study further supports this practice. Moody's analyzed a population of 181 bank loans involving 121 separate defaults for large public companies from 1989 to the present. These defaults included Sr. Secured as well as Sr. Unsecured bank loans and incorporated data as to their timing, value, industry, nature of resolution, and security.

The data used for this study is most comparable with (and in fact is an extension of) the dataset used in Moody's 1996 "Defaulted Bank Loan Recoveries" research.[20] Our finding of a 69.5% recovery rate for Sr. Secured loans is essentially the same as the previous 1996 report's finding of 71%. In addition, this research was able to estimate a recovery rate for Sr. Unsecured of 52.1% and to expand the analysis to establish some of the determinants of LGD.

Our findings include:

- The presence of multiple loans within a borrower's debt structure: where the complexity of multiple loans gives a strong (and negative) influence on the recovery of Sr. Unsecured loans, but has no appreciable influence on Sr. Secured loans.
- The nature of the bankruptcy filing: where the prepackaged Chapter 11 form of filing is a strong (and beneficial) influence on both LGD as well as the rapidity of default resolution.
- The relationship between LGD and resolution time: where defaults with "average" LGD levels are among the longest to resolve.
- The presence of security: the LGD is 17.4% better for secured versus unsecured bank loans.
- Moody's ratings: where the rating at default acted as a predictor of LGD.
- As an important but null finding, broad industry groupings showed no statistically significant influence on LGD estimates within this dataset.

The overall average recovery rate estimates for this study differ from certain of Moody's previous research because of differences in methodology and data. This study focuses on the secondary market pricing of defaulted loans, which is a data definition clearly focused on loan investors seeking to determine their valuation in market terms. Loan investors with a hold-through-resolution strategy may well prefer different Moody's research and datasets such as was assessed in the June-1998 "Bankrupt Bank Loan Recoveries" Special Comment.[21]

*18 Jokivuolle and Peura (2000) assumed an opposite set of assumptions from this investigation and made the reverse prediction. J & P predicted that LGD would improve for lower rating grades based on their assumption that lenders would tend to negotiate more/better security as borrowers neared default. In contrast, Moody's practice is to restate the rating upon material changes in loan terms including enhanced security.*
*19 See Table 1 of Carty, Lieberman, and Fons (1995).*
*20 Carty and Lieberman (1996).*
*21 Carty, et. al. (1998).*

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# Detailed Description Of Bank Loan Defaults, Since 1999 Grouped By Default Year And Sorted Alphabetically By Firm

## 1999 Bank Loan Defaults

### Breed Technologies, Inc. — Manufacturer of automotive systems

$150.0 million % Guaranteed Senior Secured Revolving Credit Facility due 4/15/2004

$325.0 million % Guaranteed Senior Secured Term Loan, Tranche A due 4/15/2004

$200.0 million % Guaranteed Senior Secured Term Loan, Tranche B due 4/15/2006

The continuing deterioration of Breed Technologies, Inc.'s operating performance and lack of a substantial turnaround in the company's business led to a Chapter 11 filing with the US Bankruptcy Court for the District of Delaware on September 20, 1999. As a result of its uneconomic debt-funded acquisition program and lower sales in Europe and North America, primarily due to a series of negative events (such as the GM strike), difficulties related to numerous product launches, and loss of business at certain subsidiaries, Breed has experienced significant losses. These events have also resulted in onerous leverage, which haschoked its cash flow flexibility. Breed Technologies, Inc., headquartered in Lakeland, Florida, designs, develops, manufactures and sells automotive systems and components globally.

05/15/1999 Breed Technologies, Inc., missed dividend payment on its TOPRS (issued through BTI Capital Trust)

09/20/1999 Chapter 11

### Favorite Brands International, Inc. — Confections manufacturer

$75.0 million % Guaranteed Senior Secured Revolving Credit Facility due 2004

$150.0 million % Guaranteed Senior Secured Term Loan B due 11/20/2005

Favorite Brands International, Inc., based in Lincolnshire, Illinois, is a leading US confections manufacturer of non-chocolate candy, including marshmallows, fruit snacks, gummi products and general line candy. The company faced significant turmoil in the past year with members of senior management team being replaced and from the challenge of integrating five acquisitions made in a nine month span. More specifically, the impact of ongoing business operating difficulties has adversely affected operating performance and strained liquidity as efficiencies and cost savings have been slow to be realized. The dramatic shortfall in performance, coupled with debt service requirements, planned capital expenditures and ongoing expenses related to the building of the company's infrastructure placed severe pressure on

03/30/1999 Chapter 11

12/06/1999 Acquired by Nabisco, Inc.

### Forcenergy Inc. — Oil and natural gas company

$320.0 million % Senior Secured Revolving Credit Facility due 3/31/2002

Forcenergy Inc., located in Miami, Florida, is an independent oil and gas company engaged in the exploration, acquisition, development, exploitation and production of oil and natural gas properties. Historically, the company has grown through mainly debt-financed acquisitions and by employing an aggressive drilling strategy. A principal risk was high debt leverage on short-lived reserves requiring substantial reserve replacement capex to avoid erosion of the asset base. Forcenergy's financial position deteriorated, as indicated by three rating downgrades, due to the combination of very high leverage, short-lived reserves, continued weak pricing affecting cash flow, and inherently high capital expenditures. This resulted in internal funding shortfalls of high capex and further increased the need for external financing. Having reached its borrowing limit under the bank revolver and not being able to arrange new private equity funding, on March 3, 1999 Forcenergy announced a new business plan and hired Donaldson Lufkin & Jenrette as its strategic advisor. Subsequently, on March 21, 1999 the company found it necessary to file for protection under Chapter 11.

03/21/1999 Chapter 11

01/19/2000 Reorganization plan confirmed

02/15/2000 Emerges from Chapter 11

## Fruit of the Loom, Inc. — Apparel company

$600.0 million % Senior Secured Revolving Credit Facility, Tranche A due 9/19/2002

$60.0 million % Senior Secured Term Loan Facility due 9/18/2002

Seasonal working capital funding requirements, as well as already high leverage and strained liquidity, prompted Fruit of the Loom, Inc. to file for Chapter 11 protection from its creditors on December 29, 1999. The company has experienced significant operating difficulties particularly during the last five quarters. Production curtailments and inclement weather also resulted in an inability to meet customer demand in 1999. Fruit of the Loom, Inc., headquartered in Chicago Illinois, is the principal operating subsidiary of Fruit of the Loom, Ltd., a Cayman Islands company. The company is a major producer of underwear, active-wear, jeans-wear, and sports-wear sold under a variety of brand names, including Fruit of the Loom, BVD, Gitano

12/29/1999 Chapter 11

## Goss Graphic Systems, Inc. — Manufacturer of printing press systems

$200.0 million % Senior Secured Revolving Credit Facility due 1/29/2003

As a result of poor operating performance in 1998 and into fiscal 1999, primarily in the US, the company has-continued to endure tightening liquidity and deteriorating protection in terms of being able to service its substantial debt burden. On July 30,1999 Goss Graphic Systems voluntarily filed a prepackaged Chapter 11, including agreement to restructure its debt obligations. As part of the agreement, holders of the company's $225 million subordinated notes, due 2006, agreed to receive $500 in cash for each $1,000 par amount plus additional equity in the restructured entity. Goss Graphic Systems, Inc., headquartered in Westmont, Illinois, makes web offset systems worldwide for the newspaper and commercial printing

07/30/1999 Prepackaged Chapter 11 and distressed exchange: bondholders agreed to receive $500 in cash for each $1,000 par amount of the 12% subordinated notes due 2006

10/22/1999 Reorganization plan confirmed

## Harnischfeger Industries, Inc. — Manufacturer of mining equipment

$225.0 million % Senior Secured Term Loan Facility due 2/5/2000

$500.0 million % Secured Senior Revolving Credit Facility due 10/17/2002

Harnischfeger Industries, Inc., headquartered in St. Francis, Wisconsin, is a holding company whose subsidiaries produce pulp and paper making equipment (Beloit), surface mining equipment (P&H Mining Equipment) and underground mining equipment (Joy). Harnischfeger's weak operating performance reflected continued depressed demand for its paper making machinery and mining equipment with few signs of a meaningful upturn in its businesses in the near term. Although the company had significantly cut costs, it was reporting operating losses and minimal cash flow from operations. At the same time, the company was having difficulty obtaining needed liquidity. In order to preserve the company's assets and to reverse its deteriorating financial condition, Harnischfeger and its US-based subsidiaries sought protection

06/07/1999 Chapter 11

## Hvide Marine, Inc. — Marine services provider

$175.0 million % Senior Secured Revolving Credit Facility due 9/30/2002

Inability to improve its cash position and inability to negotiate improved terms from its banks or unsecured noteholders precipitated Hvide Marine's decision to not make its interest payment due August 20, 1999 on its $300 million unsecured notes maturing in 2008. The company suffers from the cumulative severe cash flow, leverage, and liquidity impact of an aggressive leveraged acquisition program whose subsequent deleveraging program was blocked by a sector equity market collapse after the oil price collapse of late 1997 through 1Q99. Hvide Marine, Inc., headquartered in Ft. Lauderdale, Florida, grew from a 23-vessel fleet in 1993 to 283 vessels as of 3/15/99 and provides marine support and transportation services primarily

08/16/1999 Missed interest payment on its 8.375% senior notes maturing in

09/09/1999 Chapter 11

12/09/1999 Reorganization plan confirmed

12/15/1999 Emerged from Chapter 11

## Iridium Operating LLC — Satellite telecommunications company

$800.0 million % Term Loan due 12/23/2000

$275.0 million % Guaranteed Revolving Credit Facility due 12/23/2001

A unit of Iridium LLC. See accompanying critique under Iridium LLC.

07/15/1999 Missed interest payment on all of its outstanding senior notes

08/11/1999 Missed payments on more than $1.5 billion in bank loans

08/13/1999 Chapter 11

## Just For Feet, Inc. — Operator of specialty retail stores

$200.0 million % Senior Secured Revolving Credit Facility due 12/10/2001

On November 4, 1999 Just For Feet, Inc. filed for a prepackaged Chapter 11. In 1998, Just for Feet purchased the Sneaker Stadium chain of superstores. The company took on additional debt to purchase and convert these locations into Just for Feet superstores. Over the late Spring and Summer, the company embarked on an inventory reduction program through its superstore locations to shed excess merchandise ordered earlier this year by its specialty store division. However, the clearance strategy was not able to generate sufficient liquidity to continue normal operations. Under its Chapter 11 plan, the interest payment due November 1 on its subordinated notes will not be disbursed, and the full amount of the notes will be converted into a 100% equity stake in the company. Just For Feet (JFF), headquartered in Birmingham,

11/01/1999 Missed interest payment

11/04/1999 Prepackaged Chapter 11

## Loewen Group International, Inc. — Funeral services company

$750.0 million % Guaranteed Senior Secured Revolving Credit Facility due 5/29/2001

A unit of Loewen Group, Inc.. See accompanying critique under Loewen Group, Inc.

06/01/1999 Loewen Group, Inc., the parent company, filed for Chapter 11 of the U.S. Bankruptcy Code and applied for creditor protection under the Companies' Creditors Arrangement Act (CCAA) in Canada

## Mariner Health Group, Inc. — Provider of healthcare services

$250.0 million % Senior Secured Reducing Revolving Credit Facility due 9/30/2000

$210.0 million % Senior Secured Term Loan due 9/30/2000

A unit of Mariner Post-Acute Network, Inc. See accompanying critique under Mariner Post-Acute Network,

10/01/1999 Missed interest payments on its senior subordinated notes due 2006 and its bank loans due 2000; Announced that it would not make interest payments due 11/1/99 on its senior subordinated notes due 2007 (issued through Mariner Post-Acute Network, Inc.)

01/18/2000 Chapter 11

## Purina Mills, Inc. — Manufacturer of animal nutrition products

$100.0 million % Senior Secured Revolving Credit Facility due 3/12/2005

$100.0 million % Senior Secured Tranche A Term Loan due 3/12/2005

$100.0 million % Senior Secured Tranche B Term Loan due 3/12/2007

Purina Mills, Inc. did not make the coupon payment due September 15, 1999 on its subordinated notes maturing 2010. The company also deferred a principal payment due September 30, 1999, to its bank group, but has continued to make scheduled interest payments on its bank debt. Purina is continuing the financial restructuring discussions that were initiated in early September with its banks and noteholders. Extremely depressed hog prices have negatively impacted the company, which has significant swine market exposure, greatly weakening cash flow generation and financial flexibility. Purina Mills, Inc., headquartered in St. Louis, Missouri, is a wholly owned subsidiary of Koch Agriculture, a unit of Koch Industries, Inc., and is a

09/14/1999 Announced that it would miss interest payment due 9/15/99

09/15/1999 Missed interest payment

09/30/1999 Missed principal payments on its bank debt

10/28/1999 Chapter 11

04/05/2000 Reorganization plan confirmed

06/29/2000 Emerged from Bankruptcy

## United Companies Financial Corporation — Consumer finance company

$850.0 million % Revolving Credit Facility due 4/10/2000

United Companies Financial Corporation (UC), headquartered in Baton Rouge, Louisiana, is a consumer finance company which specializes in originating, securitizing, and servicing non-prime home equity and manufactured housing loans. With its high debt burden and negative cash flow from operations, UC's funding flexibility has been persistently under pressure. Over the past few years, an increased level of delinquencies in its home equity portfolio and tightened competitive business environment have hurt UC's operating performance. Moreover, higher than expected loan prepayments and increased expenses related to the expansion of the company's retail franchise also contributed to the erosion of cash flow. The restructuring plan launched in October 1998 aimed at improving the company's profitability and cash flow has not been effective and failed to provide sufficient liquidity to improve loan production. Consequently, on

01/01/1999 Missed dividend payment on preferred stock

03/01/1999 Chapter 11

## Vencor, Inc. — Healthcare provider

$125.0 million % Senior Secured Revolving Credit Facility due 4/23/2003

$250.0 million % Senior Secured Term Loan, Tranche A due 4/23/2003

$250.0 million % Senior Secured Term Loan, Tranche B due 4/23/2003

Parent of Vencor Operating, Inc.. See accompanying critique under Vencor Operating, Inc.

05/03/1999 Missed interest payment on its senior subordinated notes maturing in 2005, issued through Vencor Operating, Inc., its subsidiary

09/13/1999 Chapter 11

## 2000 Bank Loan Defaults

### AmeriServe Food Distribution, Inc. — Foodservice systems distributor

$125.0 million FLT% Guaranteed Senior Secured Revolving Credit Facility due 6/30/2003

$205.0 million FLT% Guaranteed Term Loan due 9/15/2006

As part of an ongoing effort to restructure its operations, AmeriServe Food Distribution, Inc., filed for Chapter 11 bankruptcy protection on January 31, 2000. The company, already highly leveraged from debt-funded acquisitions in 1998 and 1997, undertook a business plan in 1999 that focuses on achieving operational efficiencies through integrating the distribution systems of the acquisitions. Efficiencies are planned from opening new modern warehouses and installing a networked computer system. However, the financial benefits of the integration have not materialized as quickly as expected. A deterioration of liquidity from delayed realization of operational efficiencies caused a decrease of confidence among vendors and prompted the bankruptcy filing. AmeriServe, headquartered in Addison, Texas, operates 39 distribution centers serving the quick service restaurant industry and 14 distribution centers serving the casual dining

01/31/2000 Chapter 11

### Cambridge Industries, Inc. — Plastic composites supplier

$75.0 million % Guaranteed Senior Secured Revolving Credit Facility due 6/30/2002

$47.8 million % Guaranteed Senior Secured Term Loan, Tranche A due 6/30/2002

$132.0 million % Guaranteed Senior Secured Term Loan, Tranche B due 6/30/2005

On May 10, 2000 Cambridge Industries, Inc. filed for Chapter 11, listing assets of $345.4 million and liabilities of $459.8 million. The company's financial performance has deteriorated significantly over the past two years due to several factors, including labor inefficiencies at Cambridge's key plants and substantial costs associated with new launches and future business. Cambridge has reported losses since 1997 and has been struggling under high leverage from recent debt funded acquisitions, which has rendered capital investment requirements difficult to cover from cash flow. Cambridge, headquartered in Madison Heights, Michigan, is a Tier I designer and producer of plastic components and composite

05/10/2000 Chapter 11

07/17/2000 The company sold substantially all of its assets to Meridian Automotive Systems, Inc.

### Carmike Cinemas, Inc. — Movie theater operator

$275.0 million % Guaranteed Senior Secured Revolving Credit Facility due 11/10/2002

$74.1 million % Guaranteed Senior Secured Term Loan, Ser. B due 3/30/2005

On August 1, 2000, Carmike Cinemas, Inc. was unable to make the interest payment on its 9.375% senior subordinated notes due 2009 after the payment was blocked by the agent under its bank credit facilities. On August 8, the company filed for protection from creditors under Chapter 11 of the US Bankruptcy Code. The company has suffered from weak operating results mainly due to excess capacity of new movie screens and a failure to close enough older, under-performing screens. In addition, the company's poor performance was negatively affected by the heightened competitive environment and generally poor box office performance. Carmike Cinemas, headquartered in Columbus, Georgia, is one of the country's largest

08/01/2000 Lenders blocked the August 1 interest payment on Carmike's senior notes due 2009

08/08/2000 Chapter 11

## Crown Paper Company — Producer of value-added paper products

$150.0 million % Senior Secured Revolving Credit Facility due 6/20/2002

$100.0 million % Senior Secured Term Loan, Tranche B due 6/20/2003

On March 1, 2000 debt-laden Crown Paper Company failed to make the interest payment on its senior subordinated notes due 2005. Despite a period of rising paper prices, increases in pulp and energy costs more than offset the revenue increases. In 1999 the company experienced a series of negative events that led to significant operating problems, including a temporary mechanical failure at its kraft pulp mill, an explosion at its principal facility in St. Francisville, Ohio and the closing of the Berlin-Gorham facility, which had been providing the company with pulp. Shortly after it sold the facility, pulp prices rose sharply, and it had to buy it at the new, higher prices. These operating difficulties led to covenant violations and substantially reduced liquidity. Crown Paper and Crown Vantage, the parent, headquartered in Cincinnati, Ohio, manufacture and market papers for printing, publishing and specialty packaging and converting

03/01/2000 Missed interest payment

03/15/2000 Chapter 11

## Genesis Health Ventures, Inc. — Healthcare services provider

$152.1 million % Term Loan, Tranche B due 9/30/2004

$151.3 million % Term Loan, Tranche C due 6/1/2005

03/20/2000 Missed a $3.8 million interest payment to its senior debt lenders due March 20, 2000 and announced together with its subsidiary that it would not make principal and interest payments on its

## Hedstrom Corporation — Toy manufacturer

$51.5 million % Senior Secured Term Loan, Tranche A due 6/30/2003

$63.4 million % Senior Secured Term Loan, Tranche B due 6/30/2005

$70.0 million % Senior Secured Revolving Credit Facility due 6/30/2003

On April 11, 2000 Hedstrom Corporation filed for Chapter 11 in the U.S. Bankruptcy Court in Delaware. Hedstrom's recent debt-funded acquisitions generated disappointing revenues, due to an unfavorable product sales mix, manufacturing problems, close out sales of certain products, and high materials costs and employee-related expenses. Declining sales because of substantial inventory reductions at its top four customers such as Toys R Us, as well as product quality problems associated with battery-operated ride-onvehicles additionally contributed to Hedstrom's depressed present condition. Hedstrom, headquartered in Mount Prospect, Illinois, is a leading manufacturer and marketer of children's leisure and activity products in

04/11/2000 Chapter 11

## Laidlaw, Inc. — Bus transportation company

$1,400.0 million % Revolving Credit Facility due 2/28/2001

On May 15, 2000 Laidlaw, Inc. failed to make interest payments on three of its bonds maturing 2023, 2003 and 2006. Although the company is repositioning itself as a transportation company by attempting to reduceits $3.4 billion debt burden - resulting from several debt-financed acquisitions --, through the sale of is healthcare operations and its remaining 44% interest in Safety-Kleen Corporation, asset sale proceeds remain under pressure. Recently, the investment in Safety-Kleen was written down to the market trading level of approximately $60 million (from $593 million), and Safety-Kleen filed for bankruptcy on June 9, 2000. Laidlaw, headquartered in Burlington, Ontario, Canada, is North America's largest provider of school busing, municipal transit services, patient transport, and emergency room physician management.

05/15/2000 Missed interest payment on three of its bonds maturing 2023, 2003 and 2006

05/18/2000 Announced an interest payment moratorium on all of its bank and public debt

## MacSaver Financial Services, Inc. — Retail finance company

$140.0 million % Guaranteed Revolving Credit Facility due 5/24/2001

On August 1, 2000, Heilig-Meyers Company announced that it would not make the interest payments due August 1 and August 15 on all of its outstanding senior notes issued through MacSaver Financial Services, Inc., its financial subsidiary. On August 16, the parent company filed for Chapter 11. Heilig-Meyers has had ongoing difficulty improving its financial performance. Its problems stem from unsuccessful attempts to expand by acquisition in the mid-1990's, and in part from difficulties in improving its core business and in-house credit program due to the recent economic environment. A robust economy encouraged Heilig-Meyers' wealthier customers to use third-party credit providers, reducing the income and increasing the risk of its in-house credit program, through which approximately 75% of Heilig-Meyers' sales are made. Moreover, the company's core operations also suffered disappointing results in recent periods. Headquartered in Richmond, Virginia, Heilig-Meyers is a major retailer of furniture and related items in the

08/01/2000 Heilig-Meyers Company announced that it would not make the August 1 and August 15 interest payments on all of the outstanding senior notes issued through its subsidiary, MacSaver Financial

08/16/2000 The parent company, Heilig-Meyers Company, filed for Chapter 11

## PennCorp Financial Group, Inc. — Insurance holding company

$395.0 million % Revolving Credit Facility due 5/31/00

On February 7, 2000 PennCorp Financial Group, Inc. signed an agreement with Reassurance America Life Insurance Company for the sale of Southwestern Life Insurance as well as other assets. Under the terms of the agreement, the company filed for reorganization under Chapter 11 of the US Bankruptcy Code in connection with the sale. The proceeds will be used by the company to pay off bank and subordinated debt. PennCorp had experienced financial difficulties as a result of numerous debt-financed acquisitions completed in recent years. PennCorp, headquartered in New York, is an insurance holding company, which, through its subsidiaries, sold life and health insurance products primarily to lower-income

02/07/2000 Chapter 11

06/06/2000 Reorganization plan confirmed

## Safelite Glass Corporation — Provider of automotive glass repair services

$100.0 million % Guaranteed Senior Secured Revolving Credit Facility due 12/17/2003

$135.0 million % Guaranteed Senior Secured Term Loan, Tranche A due 12/17/2003

$99.3 million % Guaranteed Senior Secured Term Loan, Tranche B due 12/17/2004

$99.3 million % Guaranteed Senior Secured Term Loan, Tranche C due 12/17/2005

On June 9, 2000 Safelite Glass filed for Chapter 11 as part of a pre-negotiated plan to restructure its debt. Listed in the petition were $559.2 million in assets and $591.4 million in debts. Integration costs from the Vistar, Inc. acquisition in 1997, intense industry pricing pressures, weak demand, and the expected loss of an extensive portion of business from its largest customer upon expiration of the related contract in October 2000, led to the company's financial difficulties. Safelite, headquartered in Columbus, Ohio, is the largest provider of automotive glass and repair services in the United States.

06/09/2000 Prepackaged Chapter 11

09/12/2000 Reorganization plan confirmed

09/29/2000 Emerged from Chapter 11

## Safety-Kleen Services, Inc. — Waste services company

$368.0 million % Senior Secured Term Loan, Tranche A due 4/3/2004

$540.4 million % Senior Secured Term Loan, Tranche B due 4/3/2005

$540.4 million % Senior Secured Term Loan, Tranche C due 4/3/2006

$450.0 million % Senior Secured Revolving Credit Facility due 4/3/2004

04/07/2000 Missed interest payments on its bank debt

05/15/2000 Safety-Kleen Corporation, the parent missed interest payment on its 9.25% senior notes maturing 2009

06/09/2000 Chapter 11

## Stage Stores, Inc. — Apparel store operator

$200.0 million % Revolving Credit Facility due 6/14/2002

06/01/2000 Chapter 11

06/02/2000 Specialty Retailers, Inc., the subsidiary filed for Chapter 11

## Tokheim Corporation — Petroleum dispensing devices producer

$120.0 million % Guaranteed Senior Secured Term Loan A due 9/30/2003

$120.0 million % Guaranteed Senior Secured Revolving Credit Facility due 9/30/2003

On July 31, 2000, Tokheim Corporation announced that it would miss the August 1 interest payments on its senior notes due 2008. The company's liquidity problem was mainly attributed to a substantial downturn in demand for petroleum dispensing systems. The decline in demand led to lower than expected operating cash flow during 1999, which exacerbated the company's already high leverage and thin cash flow coverage of interest. Furthermore, its mostly debt-financed acquisitions, including the acquisition of Retail Petroleum System (RPS) from Schlumberger, added significant debt load to the company while bringing only a relatively small amount of operating earnings. Based in Fort Wayne, Indiana, Tokheim is one of the three

07/25/2000 Distressed exchange offer

07/31/2000 Tokheim announced that it would defer its August 1 interest payments on its senior notes due 2008

08/01/2000 Missed interest payments on its senior notes due 2008

08/28/2000 Chapter 11

## United Artists Theatre Company — Operator of movie theater chains

$100.0 million % Revolving Credit Facility due 4/21/2005

$100.0 million % Term Loan A due 4/21/2005

$100.0 million % Term Loan B due 4/21/2005

$150.0 million % Term Loan C due 4/21/2005

United Artists (UA) Theatre Company's senior secured lenders blocked the coupon payment due April 15, 2000 on the company's senior subordinated notes maturing 2008. UA, which a few years ago embarked on a program of closing under-performing theaters and renovating and increasing screen counts at its remaining theaters, has been facing tightening liquidity over the last year stemming from the continued under-performance of its aging theater network and an increasingly competitive operating environment. The company's highly leveraged balance sheet, particularly after adjusting for its significant long-term operating lease obligations and following its arguably imprudent recapitalization of 1997, has now resulted in insufficient debt service coverage levels that had already been thin for some time, ultimately rendering it effectively insolvent at present. United Artists, headquartered in Englewood, Colorado, is a leading operator

04/15/2000 Missed interest payment on its senior subordinated notes maturing

09/05/2000 Chapter 11

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