

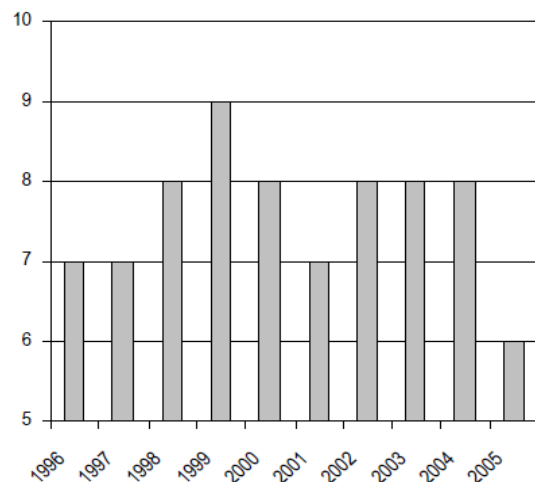
Advisor | Greg Nini Insurance and Risk Management

Topic | “Out with the Old Covenants, In with the Loose”<sup>1</sup>: What is the Fallout Related to Covenant-Lite Loans of 2005-2007?

## INTRODUCTION AND BACKGROUND

Figure 1. Decrease in Covenant Usage from Fitch Ratings Report

### Median Number of Covenants — Non-Investment Grade Loans



Source: Reuters/LPC and Fitch calculations.

Source: Graph taken from Fitch Ratings, 2006 p. 1

Carol Clouse’s play on the idiom “out with the old, in with the new” in her post on the Leverage Finance News Blog describes the loosening of covenants on loan agreements starting most noticeably in 2005. Those agreements with bond-like financial incurrence covenants instead of the more traditional financial maintenance covenants typically found in loan agreements have been coined “covenant-lite loans”<sup>2</sup>. In other words, a company can actually breach certain minimum ratios set in covenants, but given that the loan has incurrence rather than maintenance covenants, the firm isn’t in technical default unless it subsequently engages in activities common as affirmative covenants, such as issuing dividends, making an acquisition, or borrowing additional funds<sup>3</sup>.

According to data from Standard & Poor’s Leveraged Commentary & Data, there were just four covenant-lite loans (\$2.4 billion) in 2005<sup>4</sup>. Possibly because of lower interest rates, abundance of credit and increased lender competition<sup>5</sup>, these covenant-lite loans soon grew in popularity, and volume quadrupled over the course of a year, with 37 loans totaling \$23.5 billion in 2006, and then more than 120 loans totaling \$97 billion in just the first six months of 2007 (32% of overall loan issuance- up from 8% in the comparable period in 2006)<sup>6</sup>.

Fitch Ratings also documents starting in 2005 “visible erosion in covenant usage” especially amongst

<sup>1</sup> Clouse, Carol J., 2007, “Out With the Old Covenants, In with the Loose” mentions a study done by Moody’s Investors Services showing amendments to leverage covenants (loosened by 2/3s of one times Debt to EBITDA) between 2005 and 2007.

<sup>2</sup> International Monetary Fund (IMF), Oct. 2007 p. 14

<sup>3</sup> Standard & Poor’s Rating Direct, 2007, *The Leveraging of America: Covenant-Lite Loan Structures Diminish Recovery Prospects*

<sup>4</sup> Clouse, Carol J., 2007, “The Structure Du Jour, Or is Covenant Lite Here to Stay?”

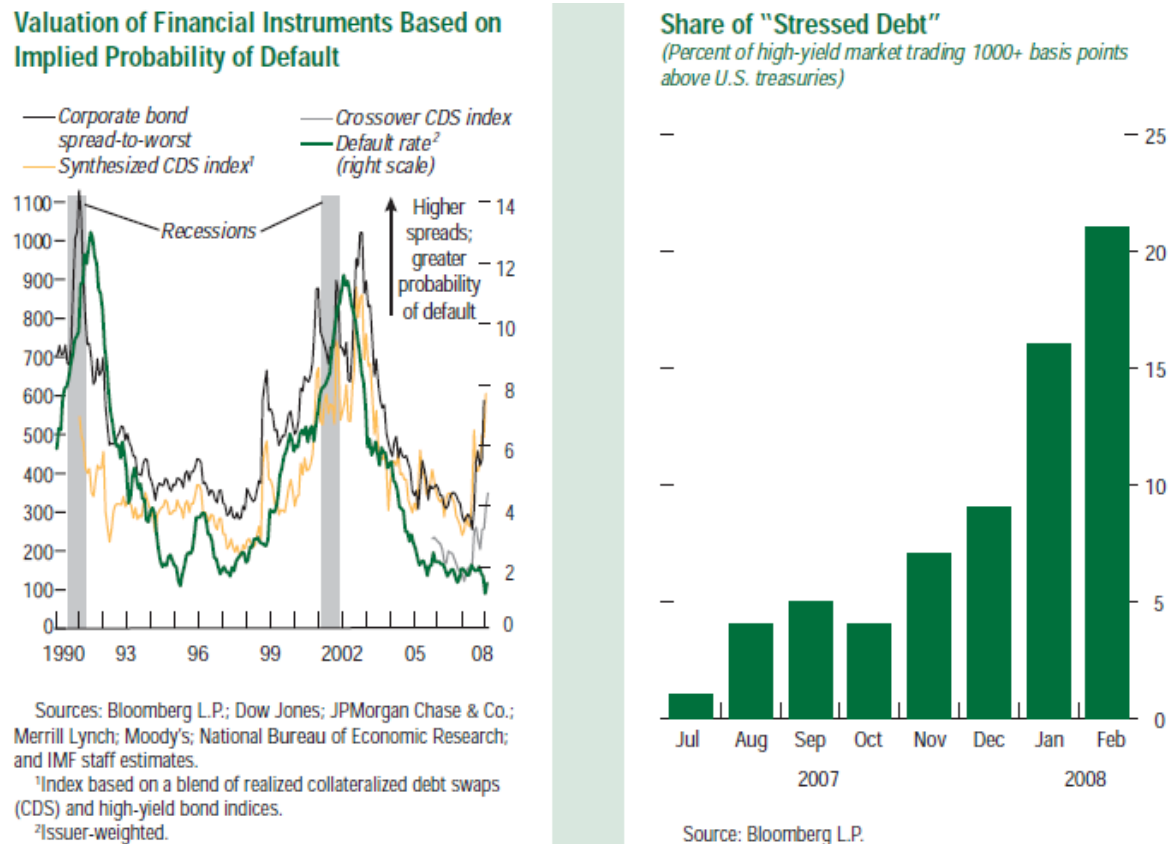
<sup>5</sup> “Improved market conditions, dramatically lower default rates and heightened competition have greatly increased banks’ risk tolerance.” See Fitch Ratings, 2006, p.1. “When credit was abundant, many banks felt they were taken advantage of...’the gun was at their heads to reduce fees and spreads’”. See Ryan, Vincent, 2009, *Tripped Up*

<sup>6</sup> See FN 3, p. 2 and p. 5.

non-investment grade syndicated loans. Figure 1 taken from their report shows a decline in the median number of covenants for non-investment grade loans from 8 for each of the years from 2002-2004 down to 6 for 2005. Also from 2004 to 2005, certain types of covenants saw declines. For instance, amongst leverage covenants, debt-to-cash flow restrictions fell to 57% from 68% and senior debt-to-cash flow restrictions fell to 15% from 24%<sup>7</sup>.

Since the onset of the credit crunch at the end of 2007 and accompanying significant decrease in liquidity however, the trend has reversed and banks have begun imposing more traditional (stiffer) covenants<sup>8</sup>. Standard & Poor’s “The Leveraging of America: Covenant-Lite Loan Structures Diminish Recovery Prospects” lists U.S. Foodservice and Thomson Learning as examples of transactions in even 2007 that had trouble getting through syndication without more conventional covenant packages. This said, even though the trend may have already reversed, it is worth wondering whether there were negative repercussions felt in relation to those covenant-lite loans- if any.

Figure 2. IMF Reports on Default Rates and Stressed Debt Leading into Recessions



Source: Graphs taken from International Monetary Fund (IMF), Apr. 2008, p 15

At first glance it would appear as though default rates have stayed relatively low leading into 2008- a fact when considered alone might lead one to believe that covenant-lite may not have been an issue-

<sup>7</sup> Fitch Ratings, 2006, p. 2

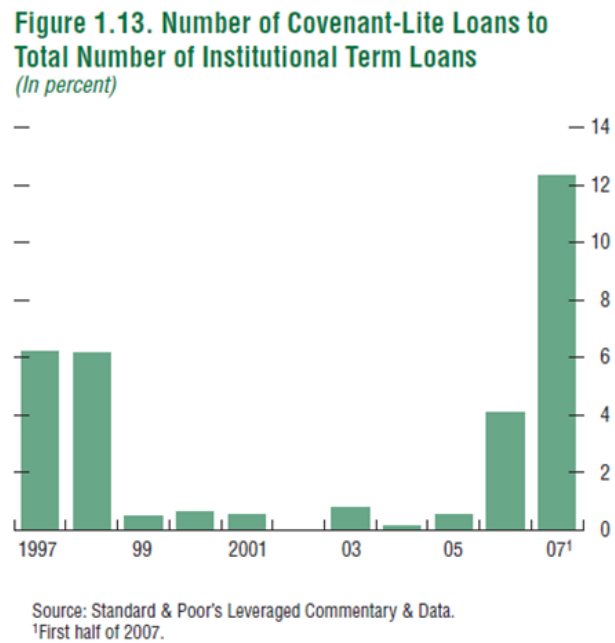
<sup>8</sup> Ryan, Vincent, 2009, *World Turned Upside Down*

especially bearing in mind that many believed that the quality of loans had simultaneously declined during the cheap credit period between 2005 and 2007. Looking at the two recent recessions, March-November 2001 and July 1990-March 1991 as defined by the National Bureau of Economic Research<sup>9</sup>, default rates tend to go up dramatically preceding the official start dates of the recessions. In the graph below on “Valuation of Financial Instruments Based on Implied Probability of Default” taken from IMF’s 2008 Report, it is clear that heading into 2008 the default rate (green line) are still around historical lows. Nevertheless, as IMF highlights immediately following this fact in its report, this doesn’t mean that defaults won’t start increasing dramatically in 2008 and onwards; IMF notes that “both macroeconomic and credit variables have been signaling a pickup in the default rate over the last year”<sup>10</sup> and notes the dramatic increase in stressed debt in high-yield markets in just the first two months of 2008.

**Possible Negative Consequences of Covenant-Lite Lending**

Coming into 2010 and after experiencing the surge in defaults in 2008 and 2009, it’s probably more believable that the increase in defaults often accompanying softening of the economy was merely delayed as a result of the loosening in covenants in many of the debt agreements formed in the years prior to the recent recession. In fact, many had mentioned the possibility of just such a delay in actual defaults in contrast to historical cycles.

Figure 3. IMF Bar Graph Depicting Percentage of Covenant-lite loans



Source: International Monetary Fund (IMF), Oct. 2007, p. 16

The International Monetary Fund (IMF) noted the loosening credit standards and the growth of covenant-lite loans resulted in “increased financing flexibility from the lender’s side may help to explain the unusually low number of defaults” in the years preceding the recession. *Figure 3 taken from IMF’s October 2007 Report is just another way of expressing the data on the increased use of covenant-lite loans discussed earlier from Standard & Poor’s Leveraged Commentary & Data (showing percentages calculated using total number of loans instead of total dollar loan issuance).* As a reminder, loans falling into the classification of “covenant-lite” are as defined by Standard & Poor’s Ratings Direct:

“Standard & Poor’s defines “covenant-lite” loans as those with no maintenance financial covenants-

<sup>9</sup> See <http://www.nber.org/cycles.html>

<sup>10</sup> International Monetary Fund (IMF), Apr. 2008 p. 14

such as maximum leverage, minimum fixed-charge coverage, and total debt limitations- that have to be maintained continuously throughout the term of the loan. Instead, covenant-lite loans have only so-called 'incurrence' covenants<sup>11</sup>."

In his article "Corporate Defaults: The LBO Zombies Set to Stalk the Market", Louise Bowman quotes Stephen Phillips, a partner in the financial restructuring and insolvency practice at White & Case: "If default settings had been where they were a few years ago, we would definitely have seen more defaults". Bowman believed that the widespread adoption of covenant loose loans would result in the creation of "zombie firms", companies that underperform but are able to continue destroying firm value without lender interference because traditional triggers that would normally prompt some level of restructuring are absent. He further quotes Philippe Lautenberg, director in the European Special Situations Group at Credit Suisse, at the October 2008 Loan Market Association Conference: "loose structures mean that as and when the business breaks down it will be much, much worse." Others warn that as a result, when companies do eventually default, recovery rates will probably be markedly lower than expected from historical comparisons. Simon Davies, vice-president at Blackstone Group adds that "loans with covenants are the early warning signal that should get everyone round the table, but this has been diluted...now the fire alarm will ring late and loud."

## METHODOLOGY AND DATA

---

This research project will seek to answer broadly the question regarding possible implications of loosened covenant structures from the easy credit period from 2005-2007. As mentioned before, many predict or at least believe the implications of loosened covenant structure will manifest as a more dramatic deterioration of firm financial health before the occurrence of technical default. One way to infer the economic health of a firm is through analysis of financial ratios. Research has shown that financial statement derived variables can contain useful information for predicting stock returns<sup>12</sup> and are commonly used in general valuation; for instance, Ou and Penman (1989) identify ratios that had strong predictive value for earnings changes in the future and Nissim and Penman (2001) outline financial statement analysis for use in equity valuation. Many papers have also delineated use of financial ratios specifically in the prediction of distress or firm failures or documented correlation between levels of specific ratios and bankruptcy<sup>13</sup>.

Drawing on this research, I chose to use financial ratios as indicators of financial health, and as such, use these ratios as a basis for comparison between firms violating covenants in past years versus firms in violation more recently. Based on our hypothesis, because of the loosening in covenants from 2005-2007, financial ratios should indicate greater deterioration in financial health at the time of violation for firms in the recent recession versus those that were in violation in the past.

---

<sup>11</sup> See FN 3, p. 2.

<sup>12</sup> Ou, J. and S. Penman (1989), Holthausen, R. and D. Larcker (1992), Lev, B. and S.R. Thiagarajan (1993).

<sup>13</sup> Beaver(1966), Beaver et al. (2005), Lau (1987)and Deakin (1972).

### Specific Methodology

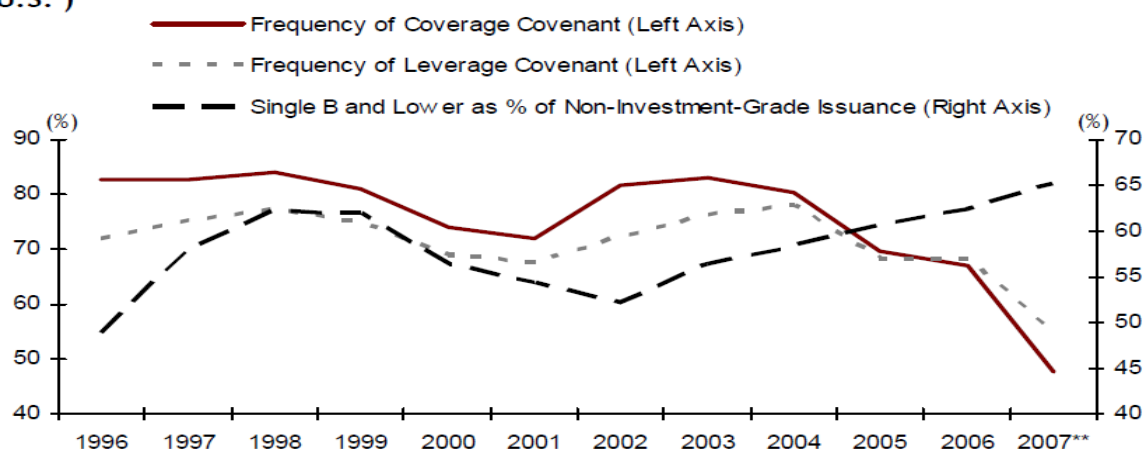
A mixture of profitability, leverage and liquidity or cash flow generation ratios were chosen for comparison based on existing research detailing use of financial statement information or calculated ratios in predicting bankruptcy or failure. Under profitability, I looked primarily at return on assets (ROA) defined as earnings before interest divided by total assets at the beginning of the year, with a higher ROA indicating in general greater financial health. Under leverage, I chose to look at the debt to assets ratio (D/A) defined as total debt divided by total assets. Other measures of leverage, including book Debt to Equity ratio (D/E) and LTA, which Beaver et al. (2005) defines as total liabilities, as opposed to just debt, divided by total assets, as well as ETL, a measure of a firm's ability to service debt defined as EBITDA divided by total liabilities at the beginning of the year were also chosen for comparison. Liquidity ratios picked for comparison were the current ratio (defined as current assets over current liabilities), quick ratio (defined as the sum of cash and receivables divided by current liabilities), and then working capital over total assets (defined as current assets minus current liabilities, over total assets). These liquidity ratios are common ratios examined by analysts in valuation, and were also amongst the lowest in percentage error in predicting firm failure in a discriminant analysis done in Deakin (1972).

I wanted to look into the financial state of firms in violation of looser covenants set during 2005 to 2007, so logically, I would need to examine firms in 2008. But, with 2008 being the start of a rather severe recession, I wanted to make a comparison to firms that were in violation of arguably less loose covenants within the greater context of a recession as well- in an attempt to minimize confounding effects of the recession on the deterioration of 2008 firms' financial health. Therefore, in terms of the firms for which the comparison is to be made, I decided to compare firms in violation in 2001 and in 2008, the simple rationale being that 2001 encompasses the most recent recession as recognized by the National Bureau of Economic Research (NBER). Research done by Fitch Ratings (2007) noting significant decrease in frequency of coverage and leverage covenants (key covenants) leading into 2008 relative to 2001 also leads me to believe that though there may have been some level of covenant loosening leading into 2001 as well, there still existed stricter loan covenant packages in comparison to those seen more recently.

Also, in case general "normal" ratios, normal meaning for firms not in violation, shifted significantly between 2001 and 2008 in a way that may invalidate results of a comparison, these same financial ratios are to be calculated for non-violation firms for the two years as well.

Finally, using the first two digits of each firm's SIC code to sort the data, I conducted a more detailed analytic comparison between 2001 and 2008 by industry.

**Frequency of Occurrence of Key Covenants and Non-Investment Grade Ratings Mix\* (U.S. )**



\*Sample based on rated loans with at least one covenant. \*\*Through August. Source: Reuters/LPC and Fitch calculations.

Source: Graph taken from Fitch Ratings, 2007 p. 3

**Data**

To begin the analysis, I obtained from Professor Gregory Nini at the Wharton School a sample of firms, each of which over the years 1996 through 2008 had mention of covenant violation or compliance in their financial statements (from here onwards referred to as violation data). The data on violations was collected via a text-search algorithm that searches for word “covenant” in SEC 10-K filings, which, if found, triggers a search in the three lines above and below for the words “waiv,” “viol,” “in default,” “modif,” and “not in compliance”. I merged said violation data with individual firm simplified financial statement data downloaded from Compustat for each year. From there, specific ratios chosen for analysis were calculated.

After separating out 2001 and 2008 data from the other years, it was apparent however that there were significant outliers- with some of the ratios showing an average value lower than the bottom one percentile value. To adjust for these outliers, I set five percent of the observations in each tail of the distribution to the 95<sup>th</sup> and 5<sup>th</sup> percentile values, winsorizing the distribution for each calculated ratio. Similarly, in adjusting for extreme values, smaller firms were removed from later analysis and averages (firms with total assets less than \$5 million).

Finally, financials and real estate related firms were removed from the dataset. This affected eight observations (those with SIC codes 6099, 6153, 6200, 6211, 6510, 6552). Those with SIC codes beginning in 99 were also removed, given that they deal with international affairs, foreign governments or non-operating establishments, affecting another 212 observations.

Including both firms in violation and firms not in violation, and excluding firms with assets smaller than \$5 million and firms with given SIC codes mentioned before, there were 8614 observations, 4921 for the 2001 recession and 3693 for 2008 recession.

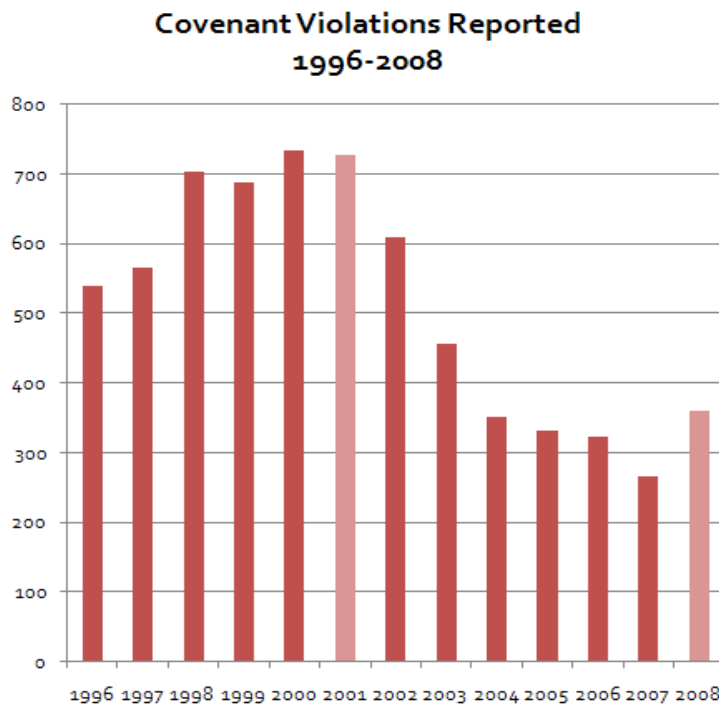
## ANALYSIS AND RESULTS

---

### Preliminary Analysis of Complete Violation Dataset

A preliminary count of covenant violations reported in each of the years between 1996 and 2008 inclusive showed a slight uptick in 2008 in violations. In absolute terms however, the number seen in 2008 is much lower than the total number of violations observed in 2001 (360 versus 728). Knowing that the 2008 recession is much more severe than its 2001 counterpart, I would normally expect the violations in 2008 to be much higher. However, if we recall the discussion mentioned earlier regarding defaults rates preceding the 2001 and 2008 recession with respect to the figures taken from the IMF Report, a lower observed number of reported violations could be due to the implications of covenant-lite lending popularity leading into the 2008 recession.

Figure 5. Number of Covenant Violations Reported by Year



Source: Calculated from Violation data from Professor Gregory Nini  
same or worse deterioration in financials, firms may have yet to trigger covenant constraints because covenant packages were so lax.

As a quick reminder, IMF reported a dramatic rise in default rates typically preceding the official start date of a recession, but shows defaults only beginning to pick up leading into the 2008 recession. The lower number of violations in 2008 versus 2001 observed in Professor Nini's violation data thus corroborates the findings of the IMF report.

As mentioned in earlier sections of this paper, our hypothesis is that the increase in defaults often accompanying softening of the economy could potentially have been delayed in the 2008 recession as the result of loosening in covenants seen many debt agreements formed in the years prior.

In other words, despite possibly having

To determine if this is actually the case, I then moved on to financial ratio analysis to get a sense of the financial health of firms violating covenants in 2001 versus that of firms in violation in 2008.

### Ratio Comparison between 2001 and 2008 Firms in Violation: General

The first step was to refine the data as described earlier. I first removed the entries falling under undesired SIC codes. Before winsorizing the data and before removing firms with total assets under \$5 million, average values for calculated ratios are as shown in Chart 1. Please note that negative D/E ratios resulting from negative equity values were excluded from the averages presented in Chart 1.

*Chart 1. Average Values of Financial Ratios before Adjustments for Outliers and Small Firms*

Average	2001		2008	
	In Violation	Not in Violation	In Violation	Not in Violation
ROA	-0.312	-4.686	-0.149	-2.193
Current	1.645	3.268	1.720	3.301
Quick	0.987	2.582	1.025	2.619
Working Capital	-0.025	-1.773	0.016	-9.112
D/A	0.454	1.127	0.402	0.825
LTA	0.819	3.091	0.762	10.189
D/E	4.411	1.290	3.206	3.216
ETL	-0.304	-1.644	-0.263	-1.272

Source: Violation data attained from Professor Gregory Nini, financials from Compustat

Looking solely at firms in violation in 2001 versus 2008, the data without elimination of outliers actually seems to indicate that 2001 firms in violation were in worse shape financially than their 2008 counterparts. In general, healthier firms should have:

- Higher ROA
- Higher liquidity ratios (Current, Quick, Working Capital)
- Lower leverage ratios (D/A, LTA, D/E)
- Higher debt service coverage ratios (ETL)

From Chart 1, 2008 firms on average have less negative (higher) ROA, higher current, quick and working capital ratios, lower D/A, LTA, and D/E, and then less negative ETL (which as a reminder is EBITDA over total liabilities at the beginning of the year). So essentially, all the financial ratios are indicating that if anything, 2008 firms that violated covenants were actually in better shape economically than 2001 firms.



However, a closer examination of the actual distribution of values revealed a number of outliers that may be skewing the results. For instance, average ROA for 2008 firms in violation is indeed less negative than the average ROA for 2001 firms in violation. However, the lowest ROA found amongst the 2001 observations is -92.715 versus -4.485 amongst 2008 observations. ETL is similarly less negative for 2008 firms than for 2001 firms, but once again, the smallest value for ETL for 2001 firms in violation was -66.967 versus -14.464 for 2008 firms in violation. If we look at overall values for 2001 versus 2008 (inclusion of all firms in violation or not), the averages for ROA and the working capital ratios are actually below the bottom first percentile of the distribution. Though these facts don't necessarily mean that conclusions resulting from the above unrefined data are false, it does necessitate or at least lend desire for further analysis with the removal of such outliers.

*Chart 2. 90% Winsorized Means of Financial Ratios, Excluding Firms with Assets < \$5mm*

Average	2001		2008	
	In Violation	Not in Violation	In Violation	Not in Violation
ROA	-0.118	-0.074	-0.120	-0.038
Current	1.478	2.461	1.539	2.211
Quick	0.856	1.757	0.874	1.517
Working Capital	0.034	0.192	0.071	0.183
D/A	0.412	0.270	0.365	0.284
LTA	0.745	0.550	0.697	0.591
D/E	1.795	0.776	1.607	0.879
ETL	-0.132	-0.235	-0.204	-0.005

**Source:** Violation data attained from Professor Gregory Nini, financials from Compustat

A 90% Winsorization was applied to each of the four categories of observations (2001 in violation, 2001 not in violation, 2008 in violation, and 2008 not in violation), setting all data below the 5<sup>th</sup> percentile to the 5<sup>th</sup> percentile and similarly setting all data above the 95<sup>th</sup> percentile to the 95<sup>th</sup> percentile. Firms with assets below five million USD were also excluded from averages- resulting in the values for the financial ratios as displayed in Chart 2.

With these adjustments, the average values of these financial ratios have changed quite a bit and differences between 2001 and 2008 means have diminished. There still isn't evidence supporting our hypothesis however. In fact, the results are quite mixed; though ROA and ETL are more negative for 2008 firms versus 2001 in violation, 2008 firms still have higher liquidity ratios and lower leverage ratios.

### Ratio Comparison between 2001 and 2008 Firms in Violation: Within Industry

Before concluding that there is lack of evidence corroborating any significant negative impacts of a looser covenant structure, it would be worthwhile to subdivide the analysis by industry and compare 2001 and 2008 firms in violation within industries. The data is split using the first two digits of the SIC code for each firm (with SIC codes less than 1000 having just one digit). Industries with less than 100 observations (counting both firms in violation and not in violation) after both the 90% winsorization and adjusting for small firms were excluded, leaving us with 19 subsets of data to conduct ratio comparisons for.

For simplicity, Chart 3 (please see pages 12-16) displays the average values for just four of the original eight financial ratios. The ratios highlighted in grey under each subset of data indicates that the relationship between the ratio for 2001 firms in violation versus the ratio for 2008 firms in violation is one which supports the hypothesis. Once again, for the majority of the industries, the data continues to give mixed indications of financial health, and there isn't clear evidence either supporting or overturning the stated hypothesis. It may be worth pointing out that of the 19 industry groups only one has all four financial ratios indicating greater deterioration in financial health of 2008 firms in violation versus 2001 firms in violation. However, there were four industry groups for which all four financial ratios indicate the opposite- greater deterioration in financial health for 2001 firms versus 2008 firms.

In doing this analysis, I have also expressed the current ratio and D/A ratio for firms in violation in each industry as a percentage of the ratio for firms not in violation within the same industry- calculating a "relative" ratio. This idea of a "relative" ratio is derived from the concept and use of industry-relative ratios found in bankruptcy prediction models where the use of these ratios adjust for differences across industries as to what is a "good" or healthy level for a particular financial ratio<sup>14</sup>.

For the purposes of this analysis however, the goal in using the relative ratio is to show the relation between the ratios of firms in violation versus those not in violation within that year in hopes of removing the effects of shifts in general levels of these ratios between 2001 and 2008.

These relative ratios are presented in Chart 4 (on page 17). With respect to the relative current ratio, a higher value indicates better financial health (the higher the value, the greater liquidity relative to industry current ratio). The relative D/A ratio is just the opposite: a lower value indicates better financial health in general (the lower the number, the lower the leverage relative to the industry). The calculated ratios and relationships between 2001 and 2008 continues to be relatively inconclusive in either supporting or rejecting our hypothesis, once again delivering mixed signals on financial health of these firms. If any conclusion were to be drawn however, it would be on the end of rejecting the hypothesis, given that of the 19 SIC code subsets, only five showed 2001 D/A relative ratio to be lower than the 2008 D/A relative ratio. Given that this is just one measure of financial health however, this isn't substantial enough evidence to reject the possibility that there were negative implications of covenant-lite lending.

---

<sup>14</sup> Platt and Platt (1991).

## Revisiting Overall Data on Firms not in Violation for 2001 and 2008

Chart 2. 90% Winsorized Means of Financial Ratios, Excluding Firms with Assets < \$5mm

Average	2001		2008	
	In Violation	Not in Violation	In Violation	Not in Violation
ROA	-0.118	-0.074	-0.120	-0.038
Current	1.478	2.461	1.539	2.211
Quick	0.856	1.757	0.874	1.517
Working Capital	0.034	0.192	0.071	0.183
D/A	0.412	0.270	0.365	0.284
LTA	0.745	0.550	0.697	0.591
D/E	1.795	0.776	1.607	0.879
ETL	-0.132	-0.235	-0.204	-0.005

Source: Violation data attained from Professor Gregory Nini, financials from Compustat

Given that there is a lack of clear evidence either for or against the stated hypothesis thus far, I'd like to shift focus away from the firms in violation to firms not in violation. The stated hypothesis as a reminder is that firms in violation would be in worse financial health than those in 2001 since there was increased covenant-lite lending leading into 2008. However, the spotlight could be turned instead on firms not in violation. Because it's believed that it will take firms longer to trip covenants in the recent recession because of the loosening in recent years, the firms left reporting that they are not in violation should also be in worse shape financially on average versus those not in violation in 2001. It's also worth wondering if the firms that tripped the covenants early the recent recession (the ones in the violation data here for the year 2008) are firms that were unable to negotiate looser loan packages in general, thus explaining their similar financial state to firms in violation back in 2001.

Looking just at the overall average financial ratios for firms not in violation, though ROA and ETL are lower for 2001 firms versus 2008, all the other ratios (all three liquidity ratios and three leverage ratios) would indicate firms in 2001 to be in better shape than those in 2008. However, further industry-level analysis analogous to that done for firms in violation proves to be similarly inconclusive. Also, granted that the recent recession is thought by many to be more severe than the 2001 recession, it is quite possible even if there was a marked difference in firm health amongst non-violation firms in 2008, it could simply be due to the harsher economic environment.

## CONCLUSIONS AND SUMMARY

---

In comparing 2001 firms in violation with 2008 firms in violation (and similarly with firms not in violation in 2001 versus 2008), profitability, leverage and liquidity or cash flow generation ratios were examined. Ratios were chosen based on existing research detailing the use of financial statement information or calculated ratios in predicting bankruptcy. In general it is believed that financial ratios do have predictive power in the five years preceding bankruptcy and though similar models were not created (to predict bankruptcy for the firms in violation), I pulled ratios for which predictive power seemed reliable and had a direct trend with respect to financial health. Further subdivision of the data into industry groups was done for a more detailed ratio comparison. To try to account for possibility that the absolute levels of these ratios may have changed between 2001 and 2008, I looked at the ratios for firms in violation as a percentage of the ratios for firms not in violation in that year within the industry level analyses.

Overall there did not seem to be conclusive evidence either in support of or against the stated hypothesis regarding negative implications of covenant-lite lending leading into the 2008 recession. In general, there was no consensus amongst the different ratios as to whether the average firm in violation in 2008 saw greater deterioration in financial health.

Moving forward, there are a number of other possible areas for further investigation. It would be interesting to look at the few industries that did have indication that one group of firms was in better shape economically than the other. Perhaps these are the industries that received the bulk of covenant-lite loans. Or, the opposite: they saw very little loosening in their covenants. Also, there was definitely a very similar reduction in covenant usage or strictness leading into the 2001 recession as well, and though the loosening is arguably less noticeably than that seen in the period 2005-2007, it is possible that this research was merely comparing firms in violation of loosened covenant structure- in which case, it makes sense that the firms would be in similar statuses in terms of financial health. It may therefore also be worth comparing firms in violation in 2008 to firms in violation in years preceding the loosening in 2005 but after 2001.

Chart 3. Adjusted Mean Financial Ratios by Industry

sic2	#Observ.	Average	2001		2008	
			In Violation	Not in Violation	In Violation	Not in Violation
13	308	ROA	-0.144	0.039	-0.229	0.002
		Current	0.771	1.279	0.883	1.696
		D/A	0.533	0.361	0.490	0.331
		ETL	-0.034	0.333	-0.410	0.242
20	176	ROA	-0.087	0.048	-0.256	0.027
		Current	1.190	2.056	0.923	2.072
		D/A	0.497	0.310	0.397	0.312
		ETL	-0.036	0.283	-0.688	0.243
28	693	ROA	-0.095	-0.203	-0.124	-0.195
		Current	1.627	4.203	1.678	2.989
		D/A	0.407	0.245	0.315	0.284
		ETL	-0.139	-0.876	-0.211	-0.508
33	117	ROA	-0.052	-0.003	0.070	0.067
		Current	2.127	2.182	0.792	2.767
		D/A	0.472	0.332	0.712	0.255
		ETL	-0.100	0.136	0.094	0.337
34	120	ROA	-0.034	0.036	-0.027	0.061
		Current	1.475	2.344	1.536	2.804
		D/A	0.473	0.309	0.381	0.258
		ETL	0.034	0.138	0.022	0.301

Chart 3. Adjusted Mean Financial Ratios by Industry (continued)

sic2	#Observ.	Average	2001		2008	
			In Violation	Not in Violation	In Violation	Not in Violation
35	424	ROA	-0.114	-0.073	-0.091	-0.018
		Current	1.653	2.881	2.297	2.380
		D/A	0.351	0.226	0.261	0.208
		ETL	-0.127	-0.191	-0.204	0.102
36	596	ROA	-0.143	-0.124	-0.148	-0.075
		Current	2.022	3.840	2.341	2.912
		D/A	0.352	0.216	0.200	0.236
		ETL	-0.211	-0.506	-0.309	-0.152
37	165	ROA	-0.116	0.009	-0.063	0.005
		Current	1.305	1.691	1.995	2.145
		D/A	0.444	0.294	0.336	0.282
		ETL	-0.129	0.046	-0.009	0.124
38	481	ROA	-0.098	-0.128	-0.148	-0.088
		Current	2.243	3.389	2.219	3.216
		D/A	0.269	0.170	0.228	0.198
		ETL	-0.194	-0.473	-0.292	-0.221
48	314	ROA	-0.211	-0.162	-0.095	-0.066
		Current	0.907	1.638	0.935	1.758
		D/A	0.609	0.436	0.541	0.488
		ETL	-0.185	-0.360	-0.117	-0.015

Chart 3. Adjusted Mean Financial Ratios by Industry (continued)

sic2	#Observ.	Average	2001		2008	
			In Violation	Not in Violation	In Violation	Not in Violation
49	299	ROA	0.041	0.053	-0.036	0.052
		Current	1.032	1.033	1.056	1.244
		D/A	0.424	0.409	0.352	0.353
		ETL	0.143	0.148	-0.086	0.152
50	188	ROA	-0.096	0.028	-0.061	0.042
		Current	1.668	2.404	1.940	2.354
		D/A	0.391	0.282	0.258	0.228
		ETL	-0.068	0.132	-0.097	0.206
51	116	ROA	-0.034	0.014	-0.066	0.021
		Current	1.156	1.703	1.064	2.064
		D/A	0.388	0.279	0.541	0.264
		ETL	0.011	0.178	-0.033	0.167
58	132	ROA	-0.052	0.031	-0.029	0.016
		Current	0.770	0.843	0.691	0.854
		D/A	0.475	0.313	0.323	0.370
		ETL	0.030	0.331	0.041	0.158
59	167	ROA	-0.155	-0.022	-0.108	0.023
		Current	1.399	2.286	1.593	1.793
		D/A	0.343	0.252	0.412	0.303
		ETL	-0.136	-0.074	-0.127	0.167

Chart 3. Adjusted Mean Financial Ratios by Industry (continued)

sic2	#Observ.	Average	2001		2008	
			In Violation	Not in Violation	In Violation	Not in Violation
73	921	ROA	-0.234	-0.248	-0.143	-0.043
		Current	1.299	2.317	1.058	1.882
		D/A	0.292	0.185	0.328	0.230
		ETL	-0.370	-0.892	-0.292	-0.011
79	109	ROA	-0.079	-0.026	-0.052	-0.054
		Current	0.833	1.446	0.920	1.046
		D/A	0.753	0.436	0.600	0.450
		ETL	-0.087	0.035	-0.045	-0.239
80	167	ROA	-0.214	0.022	-0.004	0.033
		Current	1.176	2.132	1.555	2.043
		D/A	0.440	0.339	0.417	0.320
		ETL	-0.293	0.101	0.062	0.232
87	155	ROA	-0.174	-0.089	-0.126	-0.072
		Current	1.407	2.816	1.166	1.940
		D/A	0.382	0.214	0.404	0.202
		ETL	-0.252	-0.343	-0.162	-0.130



Chart 4. Adjusted Mean Relative Financial Ratios by Industry

sic2	#Observ.	Average	2001	2008	sic2	#Observ.	Average	2001	2008
13	308	Current	0.603	0.521	35	424	Current	0.574	0.965
		D/A	1.476	1.480			D/A	1.553	1.255
20	176	Current	0.579	0.445	36	596	Current	0.527	0.804
		D/A	1.603	1.272			D/A	1.630	0.847
28	693	Current	0.387	0.561	37	165	Current	0.772	0.930
		D/A	1.661	1.109			D/A	1.510	1.191
33	117	Current	0.975	0.286	38	481	Current	0.662	0.690
		D/A	1.422	2.792			D/A	1.582	1.152
34	120	Current	0.629	0.548	48	314	Current	0.554	0.532
		D/A	1.531	1.477			D/A	1.397	1.109
sic2	#Observ.	Average	2001	2008	sic2	#Observ.	Average	2001	2008
49	299	Current	0.999	0.849	73	921	Current	0.561	0.562
		D/A	1.037	0.997			D/A	1.578	1.426
50	188	Current	0.694	0.824	79	109	Current	0.576	0.880
		D/A	1.387	1.132			D/A	1.727	1.333
51	116	Current	0.679	0.516	80	167	Current	0.552	0.761
		D/A	1.391	2.049			D/A	1.298	1.303
58	132	Current	0.913	0.809	87	155	Current	0.500	0.601
		D/A	1.518	0.873			D/A	1.785	2.000
59	167	Current	0.612	0.888					
		D/A	1.361	1.360					

## Works Cited

- Beaver, W.H. "Financial Ratios as Predictors of Failure." *Journal of Accounting Research* 4 (1966): 71-111. 1 April 2010 <<http://www.jstor.org/stable/2490171>>.
- Beaver, W.H., M.F. McNichols, and J. Rhie. "Have Financial Statements Become Less Informative? Evidence from the Ability of Financial Ratios to Predict Bankruptcy." *Review of Accounting Studies* 10 (2005): 93-122. 5 April 2010 <<http://www.springerlink.com/content/q16550vg68864645/fulltext.pdf>>.
- Bowman, L. "Corporate Defaults: The LBO Zombies Set to Stalk the Market." *Euromoney Magazine*, 30 Oct 2008. 2 January 2010 <<http://www.euromoney.com/Print.aspx?ArticleID=2038349>>.
- Clouse, C.J. "Out with the Old Covenants, In with the Loose." *Leverage Finance News*, 17 Sep 2007. 2 Feb 2010 <<http://www.leveragedfinancenews.com/blog/155980-1.html>>.
- Clouse, C.J. "The Structure Du Jour, Or is Covenant Lite Here to Stay?" *Leverage Finance News*, 21 May 2007. 2 5 Feb 2010 <<http://www.leveragedfinancenews.com/blog/155852-1.html>>.
- Deakin, E.B. "A Discriminant Analysis of Predictors of Business Failure." *Journal of Accounting Research* 10 (1972): 167-179. 5 April 2010 <<http://www.jstor.org/stable/2490225?seq=3>>.
- Fago, T., M. Shimareva-Merrell, J. Batterman, W. May, and A. Linden. "Fitch Examines Effect of LCDs on CDOs." *Fitch Ratings*, 9 Oct 2007. 21 April 2010 <<http://www.fitchratings.com/dtp/pdf4-07/vder1009.pdf>>.
- Holthausen, R. and D. Larcker. "The Prediction of Stock Returns Using Financial Statement Information." *Journal of Accounting and Economics* 15 (1992): 373-412.
- Hu, Y. and W. Perraudin. "The Dependence of Recovery Rates and Defaults." 2002. 10 Feb 2010 <<http://www3.imperial.ac.uk/pls/portallive/docs/1/43768.PDF>>.
- International Monetary Fund (IMF). "Global Financial Stability Report, World Economic and Financial Surveys (Washington, October)." 2007. 3 Jan 2010 <<http://www.imf.org/external/Pubs/FT/GFSR/2007/02/pdf/chap1.pdf>>.
- International Monetary Fund (IMF). "Global Financial Stability Report, World Economic and Financial Surveys (Washington, April)." 2008. 3 Jan 2010 <<http://www.imf.org/external/pubs/ft/gfsr/2008/01/pdf/text.pdf>>.
- Lai, A., and S.M. Bavaria. "The Leveraging of America: Covenant-Lite Loan Structures Diminish Recovery Prospects." *Standard & Poor's Rating Direct*, 18 Jul 2007. 1 April 2010 <<http://www2.standardandpoors.com/spf/pdf/events/blr200721.pdf>>.
- Lau, A. "A Five-State Financial Distress Prediction Model." *Journal of Accounting Research* 25 (1987): 127-138. 2 April 2010 <<http://www.jstor.org/stable/2491262>>.

Lev, B. and S.R. Thiagarajan. "Fundamental Information Analysis." *Journal of Accounting Research* 31 (1993): 190-215. 21 April 2010 <<http://www.jstor.org/stable/2491270>>.

May, W., and M. Verde. "Loan Volumes Surge, Covenants Shrink in 2005." *Fitch Ratings, Credit Market Research*, 2006. 15 April 2010 <<http://www.rmany.org/060913/rmareportscov.pdf>> .

Nissim, D. and S. Penman. "Ratio Analysis and Equity Valuation: From Research to Practice." *Review of Accounting Studies* 6 (2001):109-154. 21 April 2010 <<http://www.springerlink.com/content/h6860m543566p323/fulltext.pdf>>.

Ou, J. and S. Penman. "Financial Statement Analysis and the Prediction of Stock Returns." *Journal of Accounting and Economics* 11 (1989): 295-329. 20 April 2010 <<http://www.sciencedirect.com/science/article/B6V87-46KC3N8-2/2/a633e3e82181ef769aeb7013def240ef>>.

Platt, H.D., and M.B. Platt. "A Note on the Use of Industry-relative Ratios in Bankruptcy Prediction." *Journal of Banking & Finance* 15 (1991): 1183-1194.

Ryan, V. "Tripped Up." *CFO Magazine*, 1 Jun 2009. 1 Feb 2010 <<http://www.cfo.com/printable/article.cfm/13692271>>.

Ryan, V. "World Turned Upside Down." *CFO Magazine*, 1 May 2009. 30 Jan 2010 <<http://www.cfo.com/printable/article.cfm/13526122>>.