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Accounting Horizons
Vol. 9 No. 1
March 1995
pp. 13-26

Borrower and Lender Perceptions of Accounting Information in Corporate Lending Agreements

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SYNOPSIS: Economic consequences theories (Watts and Zimmerman 1986) formulate *ex ante*, that costs of debt covenant violations are significant, while the limited empirical evidence focuses on *ex post* costs. The expected economic consequences of debt covenant violations are a function of the borrowers' and lenders' perceptions of these violations, although we know of no systematic analysis of the way borrowers and lenders perceive covenant violations and their related costs. We survey borrower and lender perceptions of: (a) the use of accounting information in debt covenants, (b) the economic consequences of debt covenant violations, and (c) the renegotiations following violation. Borrowers include Fortune 500 Companies with public and private debt outstanding. Lenders include the private placement department heads of the top 100 insurance companies and the largest 400 banks.

We find debt-to-equity ratio and tangible net worth covenants to be the two covenants most likely to contribute to a technical default in both public and private debt. Furthermore, our evidence supports the assertion made by Smith and Warner (1979) that private debt agreements include more restrictive covenants, resulting in a higher likelihood of violations than in public debt. Ninety-three percent of responding lenders do not perceive violations of accounting-based debt covenants as serious. Both borrowers and lenders indicate a waiver of violations as the most likely consequence. The probability of waiver is perceived to be higher for private than for public debt. Our results also indicate that waivers are perceived to be costly. The cost of waivers is lower for private debt. In choosing accounting methods, borrowers rank debt covenants ahead of compensation contracts and the political environment, although most commonly used, industry convention, and level of reported income are ranked as the top three factors.

Key Words: *Lending agreements, Debt covenants, Technical default, Waivers*

Data Availability: Data used in this study will be made available upon request to the authors.

The remainder of the paper is organized as follows. The next section summarizes the prior research on consequences of debt covenants and their violations. The data collection process is described next, followed by a discussion of findings. The final section reports the conclusions.

BACKGROUND

Inclusion of debt in the capital structure of a firm introduces agency conflict (Jensen and Meckling 1976). To minimize agency costs,

lending agreements impose conditions that restrict borrowers from engaging in certain activities and require them to satisfy a vari-

The authors acknowledge the helpful comments received from Daniel Beneish, Joe Cheung, Dan S. Dhaliwal, Jim Godfrey, Kevin Murphy, Kevin Nathan, Mort Pincus, Eric Press, Mark Trombley, Joe Weintrop, two anonymous reviewers and participants at the 1993 Annual Meetings of the American Accounting Association held at San Francisco. Financial support for surveys was provided by George Mason University and Oakland University.

*Submitted March 1993
Accepted November 1994*

ety of financial constraints. Debt covenants can use accounting information to restrict levels of leverage and dividend payouts as well as to maintain certain levels of net worth, working capital, and interest coverage. Accounting is theorized to play a crucial role in establishing lending terms and in monitoring those terms.

Accounting researchers have found a link between leverage-based accounting constraints and a firm's leverage, suggesting that a higher debt-to-equity ratio indicates the closeness of the firm to its constraints in the debt covenants (Press and Weintrop 1990). Researchers have also identified leverage as a significant determinant of accounting choices, suggesting a direct link between increasing levels of leverage, income-increasing accounting choices, and the likelihood that a firm will lobby against an income or asset-decreasing accounting rule (Watts and Zimmerman 1986). Further, it has been suggested that mandated accounting changes precipitating a decreased reported income or net worth reduce firm value because of the increased probability of debt covenant default (Leftwich 1981; Lys 1984).

Debt covenants generally are assumed to impose significant costs on the firm. For example, Smith and Warner (1979, 123) point out that "given that the costs of restrictive covenants are positive ... such costs are important to generate testable propositions." Accounting research assumes that it is costly for firms to violate debt covenants, a presumption incorporated in research hypotheses on the economic impacts of accounting choices and of mandated or voluntary accounting changes. Holthausen and Leftwich (1983, 83) emphasize that "a necessary condition for accounting changes to have economic consequences because of lending agreements is: it is costly to ... renegotiate those agreements." Smith and Warner (1979) point out that debt covenants are more costly to renegotiate and the cost of technical violation is higher for public than for private debt. Economic consequences of debt-service default have been studied, but the evidence on costs connected

with violations of accounting-based debt-covenants is minimal.¹

Prior research suggests that there are systematic differences between public and private debt (Smith and Warner 1979; Leftwich 1983). Public debt obligations must meet the requirements of the Trust Indenture Act (TIA) of 1939. While TIA does not impose restrictions on the structure of debt covenants, changes in covenants require the consent of debt-holders holding at least two-thirds of the debt. An appointed trustee acts as the debt-holders' agent for covenant enforcement.

Private debt is not subject to the TIA, but it is subject to more restrictions with greater details than public debt (Smith and Warner 1979). Covenants are also likely to be more restrictive for private debt than for public debt (see *Commentaries on Indentures*, American Bar Foundation 1971). However, as relatively few lenders are involved, changes in covenants can be made more easily.

Because debt covenants are more costly to renegotiate for public than for private debt, it has been hypothesized that the cost of technical violation is higher for public than for private debt (Leftwich 1983). Frost and Bernard (1989, 796) point out that "a complete comparison of the cost of technical violation must consider not only the cost of renegotiation, but also the nature of the constraints, which may systematically vary for debt issues having different characteristics."

More recent research focuses on the event of a covenant violation itself. Chen and Wei (1993) report that a waiver is more likely to be granted to a violator firm with a lower probability of bankruptcy, less leverage, and secured or small debt issues. Beneish and Press (1993) substantiate that technical violations of accounting-based covenants even with waivers are costly. Frost and Bernard (1989) find no observable economic consequences as a result of SFAS No.19 (oil and gas accounting)

¹ Beneish and Press (1993) have assessed costs of debt covenant violations and the evidence they present suggests that violations are due more to business distress than to accounting changes.

for a sample of violators. In a similar study on SFAS No. 87 (pension accounting), Gopalakrishnan and Sugrue (1992) detect no negative stock market reaction for a sample of firms in technical violation or experiencing substantial reduction in debt covenant slack.²

In summary, the accounting research assumes that GAAP are generally referred to in debt covenants, that changes in GAAP can result in debt covenant violations, and that covenant violations are expected to be costly. Evidence on the validity of these assumptions is scarce, although researchers have started to analyze actual debt constraints (Frost and Bernard 1989; Press and Weintrop 1990; Beneish and Press 1993).

Our study of both borrowers and lenders, provides some support for these assumptions. We asked borrowers and lenders about four issues: (a) the use of GAAP in lending agreements; (b) types of financial covenants that are likely to trigger a technical default; (c) consequences of a technical default; and (d) the role of debt covenants in accounting choice decisions.

DATA COLLECTION

Data used in this research come from two similar surveys of borrowers and lenders. The surveys are anonymous to motivate candor from respondents.³

Borrowers

We searched the *Compustat* database for the names and addresses of the chief financial officer (CFO) of the 1991 Fortune 500 firms. If the name of the CFO could not be found, the survey was addressed to the vice president of finance or treasurer. The survey instrument was pretested on ten Fortune 500 firms. The final form of the survey was mailed during the summer of 1992. A total of 106 usable responses were returned; 12 firms indicated that they no longer responded to survey requests. This represents an effective response rate of 21.7%.

More than 97 percent (103) of the respondents had renegotiated lending agreements during the previous ten years, with a mean

frequency of 5.47 renegotiations during the ten-year period. We take this as an indication that respondents were likely to be familiar with debt covenants and resolution of violations. About 20 percent (21) of the respondents had defaulted on lending agreements at least once during the past ten years; the mean number of defaults is 2.67.

Lenders

A similar survey instrument was mailed to chief credit officers (CCO) of 400 banks and to private placement department heads of the top 100 insurance companies during October 1992. Insurance companies are identified in the 1992 edition of *The Corporate Finance Sourcebook* (1992). The names and addresses of the CCOs came from *Polk's World Bank Directory* (1991). In all, a total of 135 usable responses were received, and 13 questionnaires were undeliverable. This represents an effective response rate of 27.7%. Respondents had an average of 17 years experience in commercial lending, so they are assumed familiar with the costs and consequences of violations of lending agreements.

Fortune 500 Companies have both public and private debt outstanding. Easterwood and Kadapakkam (1991) determined that, on average, private and public debt account for 60 and 40 percent, respectively, of all Fortune 500 firms' long-term debt. Our borrower responses are therefore assumed to apply both to public and private debt. Banks and insurance companies deal only with private placements, so these lender responses reflect private debt. A statistical comparison of borrower and lender perceptions allows us to provide evidence about differences in the provisions and the effects of public and private debt.

² "Slack" is defined as the nearness to restrictions imposed by debt covenants (see Frost and Bernard 1989).

³ Suggestions offered by Singhvi (1981) are followed to maximize the response rate, including: explaining the objective and importance of the issues surveyed; assuring confidentiality of the responses; agreeing to share the findings; keeping the length of survey as short as possible; and providing a self-addressed and stamped envelope.

DISCUSSION OF RESULTS

Use of GAAP in Lending Agreements

In general, definitions of financial ratios and levels found in corporate lending agreements consistently refer to GAAP. This assertion is fundamental to prior research invoking the debt covenant argument to explain accounting choice (Dhaliwal 1980), lobbying decisions (Francis 1987), or stock market reaction to mandated changes in GAAP (Leftwich 1981). In other words, if lending agreements do not refer to GAAP (or modified GAAP) on a consistent basis, debt covenants per se are not likely to be a major factor in accounting choice decisions.

Borrower and lender responses to issues pertinent to the role of GAAP in debt covenants are reported in table 1, panels A through D.⁴ Table 1 also reports: (a) results of Wilcoxon signed rank tests of the null hypothesis that the reported mean response is zero, and (b) results of the Mann-Whitney U test of the mean differences in borrower and lender responses.

Only 10.3% of borrowers and 6.7% of lenders disagree that lending agreements consistently refer to GAAP (see table 1, panel A). There is no statistical difference in the mean responses of borrowers and lenders. This is consistent with evidence in the literature that lending agreements frequently refer to GAAP (Duke and Hunt 1990; Press and Weintrop 1990).

Covenants typically require that financial ratios and levels be determined according to *present* GAAP rather than the GAAP in force at the time of borrowing. This is sometimes called "rolling" GAAP as opposed to "frozen" GAAP (Leftwich 1981). The assertion that debt covenants are based on rolling GAAP is crucial to studies that examine the economic consequences of mandated accounting changes (Lys 1984; Espahbodi et al. 1991).⁵

Respondents are asked whether lending agreements require the use of rolling rather than frozen GAAP. More than 73 percent of borrower respondents agree, while only 57.2% of responding lenders agree (see table 1, panel B). Mean responses of the two groups are sta-

tistically different, with a z-value of 2.29 (significant at the 0.05 level).

The economic consequences research postulates that changes in accounting methods mandated by accounting rule-making bodies can result in technical default with violation of rolling GAAP-based debt covenants. The responses of borrowers and lenders to the validity of this assertion are reported in table 1, panel C. There is no statistical difference in mean responses of borrowers and lenders. Approximately 80 percent of the respondents in each group express agreement with this assertion.

It is stated explicitly in Leftwich (1983), and assumed implicitly elsewhere, that lenders periodically update financial covenants to reflect changes in GAAP. If lending agreements are based on rolling GAAP, one would expect lenders to update agreements as necessary for monitoring purposes. Lender responses to this issue are reported in table 1, panel D. Only 25.9% of the respondents disagree that financial covenants are updated to reflect changing GAAP. Finally, in all the panels, the null hypothesis that the mean responses of borrowers and lenders are zero is rejected at the 0.01 level.

Likelihood of Defaults of Different Covenants

Violation of lending agreement covenants can lead to debt-service or technical default. Debt-service default occurs when a borrower cannot make cash disbursements for (a) payment of principal or interest, and (b) required contributions to sinking funds. Technical default occurs when a borrower violates a cov-

⁴ The questions and the response choices shown in tables 1 through 5 use the same language as the surveys (except for the word "chance" used instead of "likelihood" in table 2 and "probability" in table 3). Further, questions in panels A to D of table 1 were presented as independent questions in the survey.

⁵ A review of ten lending agreements obtained from five insurance companies causes Leftwich (1983) to conclude that debt covenants rely on rolling GAAP. However, Fogelson (1978, 780-781) identifies indentures that do rely on the GAAP in force at the time of issuance of the debt.

TABLE 1
Perceptions of Respondents Related to GAAP and Debt Covenants

Statement	Group	N	Percentage of Responses							Mean ^a	z stat ^b (p > z)
			Strongly Disagree			Strongly Agree					
			-3	-2	-1	0	1	2	3		
Panel A:											
In general, the definition of financial ratios and levels found in lending agreements consistently refers to GAAP.	B	106	6.6	2.8	0.9	3.8	5.7	29.2	50.9	1.91*	0.90 (0.37)
	L	134	—	1.5	5.2	3.0	9.7	39.6	41.0	2.04*	
Panel B:											
The covenants found in lending agreements require that financial ratios and levels be determined according to <i>present</i> GAAP rather than the GAAP that existed at the time of borrowing.	B	105	8.6	6.7	1.9	9.5	8.6	35.2	29.5	1.27*	2.29 (0.02)
	L	133	8.3	9.0	9.0	16.5	11.3	23.3	22.6	0.74*	
Panel C:											
Mandated changes in accounting rules can lead to a technical default due to violation of rolling GAAP-based debt covenants.	B	105	7.6	2.9	1.0	6.7	16.2	37.1	28.6	1.47*	0.14 (0.89)
	L	133	2.3	3.8	3.8	10.5	20.3	27.8	31.6	1.53*	
Panel D:											
Loan officers at your organization periodically update financial covenants to reflect changes in accounting rules.	L	135	8.1	8.9	8.9	12.6	28.1	21.5	11.9	0.56*	

Borrower responses relate to both public and private debt agreements; lender responses relate to private debt.

B = Borrowers (managers); L = Lenders.

^a Mean is based on a 7-point scale. The Wilcoxon signed rank test is used to test the hypothesis that the population mean is zero.

^b The Mann-Whitney U test is used to test the mean differences between borrowers and lenders. When a sample is more than 30, U is transformed into a normally distributed z statistic. Probability values are reported in parentheses.

* indicates that the null hypothesis is rejected at the 0.01 level.

enant other than the debt service covenant. Resolution of a technical default is different from resolution of a debt-service default (see Beneish and Press 1992).

We asked borrowers and lenders about the likelihood of defaults associated with eight covenants.⁶ Responses range from no likelihood to high likelihood of covenants contributing to a default. Percentages of the responses are summarized in table 2.⁷ Panel A includes the results for the five accounting-based covenants that can result in technical default. Panel B presents the results for the three covenants that can lead to debt-service defaults. The results in each panel are arranged in descending order of borrower mean response.

An interesting trend observable in table 2 is that borrowers' mean responses about the likelihood that violations of covenants will contribute to default are lower than mean responses of lenders in every case. All mean response differences are significant at the 0.01 level. Means of lender responses range from 3.05 to 4.39, implying that lenders assign a medium to high likelihood that violations may arise from the effect of these covenants. Borrower mean responses vary from 1.47 to 2.49, suggesting that borrowers ascribe a low to (lower) medium likelihood to violation. This result is consistent with the explanation suggested by Smith and Warner (1979) that private debt includes more restrictive covenants than public debt, resulting in a higher likelihood of violations. Sweeney (1994) documents that the debt covenants in private agreements are the first to be violated.

Both borrower and lender responses suggest that the limit on debt-to-equity ratio and minimum tangible net worth covenants are the top two covenants that provide potential for technical default for both private and public debt (see table 2, panel A), which is consistent with evidence presented in Sweeney (1994) that the net worth covenant is the most frequently violated restriction. Minimum net income, minimum unrestricted retained earnings, and minimum current ratio covenants are the next three covenants, in that order,

with mean response values of borrowers ranging from 1.87 to 1.69. The order of lender responses is similar, with the exception of the minimum current ratio covenant order, which is a little higher (fourth compared to fifth for borrowers).⁸

For debt-service default (table 2, panel B), borrowers assign the highest likelihood of violation to the periodic interest payment covenant (mean response of 2.25), closely followed by the principal repayment covenant (mean chance of 2.18). The ordering of these two covenants is reversed for lender responses. The

⁶ Prior research suggests that violation of covenants on minimum tangible net worth, limit on debt-to-equity ratio, minimum net income, minimum current ratio, and minimum unrestricted retained earnings can contribute to technical default (Bowen et al. 1981; Lys 1984; Frost and Bernard 1989; Healy and Palepu 1990).

⁷ We also calculate standardized means for borrowers and lenders. Standardized responses enhance comparability across respondents, and therefore may be preferable to the raw responses reported. Standardized responses are calculated as follows. For each respondent, means and standard deviations are calculated using the responses for the five covenants reported in table 2, panel A. Standardized responses are calculated by subtracting the mean from the raw response and dividing the difference by the standard deviation. Twelve and seventeen observations with standard deviations equal to zero for borrowers and lenders, respectively, are deleted. The ordering of the standardized means (not reported) is identical to the ordering reported in table 2 for borrowers and lenders.

⁸ Beneish and Press (1993) report highest violations of the tangible net worth covenant (42.8% of violations), followed by working capital or current ratio (29.4%), leverage (19.0%), minimum earnings level (4.0%), and other (4.8%) covenants (see Beneish and Press 1993, table 2). Chen and Wei (1993) report that the variables contributing to violations, in the order of frequency, are tangible net worth, debt-to-equity ratio, current ratio, and profitability. Analyses presented in Beneish and Press (1993) and Chen and Wei (1993) are based on material covenant violations that were publicly reported. Further, the reason that violation of the minimum unrestricted retained earnings covenant does not appear in Beneish and Press (1993) and Chen and Wei (1993) could be that minimum unrestricted retained earnings is a negative constraint that prohibits borrowers from distributing dividends. Therefore, for a violation to occur, a firm must pay dividends, which is very unlikely. Healy and Palepu (1990) point out that violations of affirmative covenants are more likely than violations of negative covenants.

TABLE 2
Perceptions of Respondents Related to Likelihood of Defaults Associated with Certain Types of Covenants

What is the Likelihood of the Following Covenants Contributing to a Default?	Group	N	Percentage of Responses Likelihood							Mean ^a	z stat ^b (p>z)
			No 0	1	Low 2	3	Medium 4	5	High 6		
Panel A: Accounting-Based Covenants											
1. Limit on debt-to-equity ratio covenant	B	98	20.4	20.4	11.2	13.3	15.3	11.2	8.2	2.49	7.05
	L	128	0.8	1.6	3.9	20.3	21.1	29.7	22.7	4.39	(0.00)
2. Minimum tangible net worth covenant	B	99	24.2	18.2	9.1	17.2	11.1	9.1	11.1	2.44	6.38
	L	128	1.6	3.9	6.3	17.2	23.4	27.3	20.3	4.20	(0.00)
3. Minimum net income covenant	B	98	37.8	16.3	12.2	9.2	9.2	10.2	5.1	1.87	6.50
	L	128	4.7	7.8	10.9	22.7	17.2	22.7	14.1	3.64	(0.00)
4. Minimum unrestricted retained earnings covenant	B	95	31.6	22.1	15.8	10.5	8.4	9.5	2.1	1.79	5.36
	L	126	7.9	8.7	15.1	29.4	22.2	11.1	5.6	3.05	(0.00)
5. Minimum current ratio covenant	B	98	30.6	22.4	19.4	14.3	5.1	4.1	4.1	1.69	7.75
	L	128	1.6	6.3	15.6	29.7	21.9	15.6	9.4	3.48	(0.00)
Panel B: Debt-Service Covenants											
1. Periodic interest payment covenant	B	95	25.3	20.0	14.7	11.6	8.4	12.6	7.4	2.25	5.35
	L	127	6.3	7.9	11.0	18.1	15.7	18.9	22.0	3.74	(0.00)
2. Principal repayment covenant	B	95	23.2	25.3	15.8	11.6	7.4	4.2	12.6	2.18	6.55
	L	127	7.1	3.1	7.9	20.5	7.9	21.3	32.3	4.12	(0.00)
3. Periodic contributions to sinking fund covenant	B	95	42.1	18.9	13.7	12.6	3.2	6.3	3.2	1.47	6.47
	L	126	8.7	15.9	11.9	19.0	15.1	15.9	13.5	3.17	(0.00)

Borrower responses relate to both public and private debt agreements; lender responses relate to private debt.

B = Borrowers (managers); L = Lenders.

^a Mean is based on a 7-point scale.

^b The Mann-Whitney U test is used to test the mean differences between borrowers and lenders. When a sample is more than 30, U is transformed into a normally distributed z statistic. Probability values are reported in parentheses.

periodic contributions to sinking fund covenant has the lowest average response from both borrowers and lenders.

Consequences of Covenant Violations

To investigate the costs associated with covenant violations in public and private debt, we asked borrowers and lenders a two-part question. First, we asked about the probability of certain consequences following a covenant violation. Second, we solicited cost assessments of these consequences.

Borrowers and lenders were asked to judge the probability of occurrence and the associated cost of each of the following events: (a) termination of the lending agreement; (b) demand for immediate repayment of the loan; (c) increased collateral; (d) increased interest rate; (e) imposition of additional constraints; and (f) waiver of the violation. Prior researchers (Lys 1984; Press and Weintrop 1991; Beneish and Press 1993) suggest that all these events can occur subsequent to a covenant violation. The responses of borrowers and lenders are summarized in tables 3 and 4, in descending order of borrower mean responses.

Response orders for borrowers and lenders are similar, with the exception of the probabilities of two events: an increase in the interest rate and an increase in collateral. Borrowers rank an increase in the interest rate higher, while lenders rank an increase in collateral higher.

Waiver of the violation is the most likely response, according to both borrowers and lenders (see table 3). More than 95 percent of both borrowers and lenders indicate a medium or high probability of a waiver of violation. This is consistent with Zinbarg (1975) and Fogelson (1978). Zinbarg reports that about 95 percent of requests to modify debt covenants received by Prudential Insurance Company were granted with no quid pro quo. Fogelson reports that amendments and waivers of institutional debt agreements are relatively easy to accomplish. The lender mean response is higher than the borrowers' for the probability of waiver of the violation (significant at the 0.01 level), which may suggest that

the probability of waiver is higher for private debt than for public debt.

Although mean responses for imposition of additional constraints are statistically different (significant at the 0.01 level) for borrowers and lenders, both groups consistently feel that it is the second most likely event. Mean responses that the interest rate may increase are 2.65 and 1.75 for borrowers and lenders, respectively, significantly different at the 0.01 level. Fifty-four percent of the borrowers feel there is a medium or high probability of an increase in interest rate after covenant violation, while only 25.6% of lenders feel that way. These results indicate that there is a higher likelihood of imposition of additional constraints and an increase in the interest rate in public debt than in private debt.

Respective mean responses for borrowers and lenders that an increase in collateral may be required are 2.06 and 2.11, which are not statistically different. Fifty-six percent of borrowers and 61 percent of lenders assign a zero or low probability to this event. Both borrowers and lenders give lowest ranking to termination of the lending agreement and immediate repayment of the loan. More than 76 percent of the borrowers and more than 90 percent of the lenders indicate a zero or low probability of these events occurring. For both private and public debt, there is thus a very low probability of termination or immediate repayment due to violation of an accounting-based debt covenant.

Finally, it appears that lenders (more than 93 percent) do not perceive debt covenant violations caused by mandated accounting changes as very serious. This finding is consistent with the observation that there is a high probability of waivers of technical violations in private debt.

Borrower and lender appraisals of the costs of different events following covenant violations are summed up in table 4. Borrower and lender rankings of costs imposed in the case of different events are consistent, except in the case of an increase in collateral. Mean responses for level of costs imposed are higher for borrowers than for lenders, with the same

TABLE 3
Perceptions of Borrowers and Lenders Related to
Consequences of a Debt Covenant Violation

What are the Probabilities of Occurrence of the Following Events as a Result of an Accounting-Based Debt Covenant Violation?	Group	N	Percentage of Responses Probability							Mean ^a	z stat ^b (p > z)
			Zero 0	Low 1	2	3	Medium 4	5	High 6		
1. Waiver of the violation	B	100	1.0	1.0	1.0	6.0	29.0	33.0	29.0	4.76	2.53 (0.01)
	L	133	3.0	1.5	0.8	2.3	17.3	30.1	45.1	5.00	
2. Imposition of additional constraints	B	100	8.0	7.0	10.0	21.0	29.0	21.0	4.0	3.35	3.01 (0.00)
	L	133	8.3	9.8	23.3	27.1	18.0	9.8	3.8	2.81	
3. Increase in interest rate	B	100	10.0	17.0	19.0	24.0	15.0	12.0	3.0	2.65	4.37 (0.00)
	L	133	14.3	33.1	27.1	16.5	6.8	2.3	0.0	1.75	
4. Increase in collateral	B	100	27.0	20.0	9.0	22.0	9.0	12.0	1.0	2.06	0.56 (0.59)
	L	133	12.8	26.3	21.8	23.3	9.0	6.0	0.8	2.11	
5. Termination of the lending agreement	B	100	15.0	37.0	24.0	11.0	7.0	4.0	2.0	1.78	4.50 (0.00)
	L	133	37.6	37.6	15.0	5.3	3.8	0.0	0.8	1.03	
6. Immediate repayment of the loan	B	100	23.0	43.0	12.0	7.0	8.0	5.0	2.0	1.57	3.66 (0.00)
	L	133	39.1	45.1	9.8	3.0	1.5	0.8	0.8	0.88	
7. From a lending standpoint, how serious is a debt covenant violation caused by a mandated change in an accounting rule that has no direct impact on a company's cash flow?			Not Serious			Very Serious					
	Group	N	0	1	2	3	4	5	6	Mean ^a	
	L	135	31.1	41.5	20.7	5.2	1.5	0.0	0.0	1.04	

Borrower responses relate to both public and private debt agreements; lender responses relate to private debt.

B = Borrowers (managers); L = Lenders.

^a Mean is based on a 7-point scale.

^b The Mann-Whitney U test is used to test the mean differences between borrowers and lenders. When a sample is more than 30, U is transformed into a normally distributed z statistic. Probability values are reported in parentheses.

TABLE 4
Perceptions of Respondents Related to Costs Imposed
as a Result of a Debt Covenant Violation

In Case of an Accounting-Based Debt Covenant Violation, How Much Costs are Imposed by the Following Events?	Group	N	Percentage of Responses Cost								Mean ^a	z stat ^b (p > z)
			No 0	1	Low 2	3	4	5	High 6			
1. Immediate repayment of the loan	B	99	14.1	10.1	4.0	8.1	5.1	24.2	34.3	3.90	2.24 (0.03)	
	L	128	26.6	18.8	4.7	3.9	3.1	10.9	32.0	2.99		
2. Termination of the lending agreement	B	99	14.1	10.1	6.1	8.1	8.1	23.2	30.3	3.77	2.49 (0.01)	
	L	128	25.8	13.3	10.2	8.6	6.3	10.2	25.8	2.90		
3. Increase in interest rate	B	99	11.1	10.1	12.1	23.2	31.3	10.1	2.0	2.92	2.35 (0.02)	
	L	127	18.9	15.7	17.3	18.9	15.7	7.1	6.3	2.43		
4. Imposition of additional constraints	B	98	17.3	21.4	21.4	20.4	14.3	4.1	1.0	2.09	0.40 (0.69)	
	L	129	17.8	17.1	28.7	25.6	6.2	4.7	0.0	1.99		
5. Waiver of the violation	B	97	14.4	23.7	21.6	26.8	9.3	3.1	1.0	2.07	3.79 (0.00)	
	L	129	33.3	29.5	15.5	11.6	7.8	0.8	1.6	1.40		
6. Increase in collateral	B	99	34.3	21.2	20.2	14.1	8.1	2.0	0.0	1.46	3.36 (0.00)	
	L	129	19.4	17.8	17.1	27.9	11.6	4.7	1.6	2.15		
Statement	Group	N	Strongly Disagree			Strongly Agree			Mean ^c			
			-3	-2	-1	0	1	2	3			
7. In general, private lending agreements have lower renegotiation costs than public lending agreements.	B	103	6.8	8.7	3.9	12.6	22.3	27.2	18.4	0.90*		

Borrower responses relate to both public and private debt agreements; lender responses relate to private debt.

B = Borrowers (managers); L = Lenders.

^a Mean is based on a 7-point scale.

^b The Mann-Whitney U test is used to test the mean differences between borrowers and lenders. When a sample is more than 30, U is transformed into a normally distributed z statistic. Probability values are reported in parentheses.

^c Mean is based on a 7-point scale. The Wilcoxon signed rank test is used to test the hypothesis that the population mean and median are zero.

* indicates that the null hypothesis is rejected at the 0.01 level.

exception. Mean responses for the two groups are statistically different (at the 0.05 level) for all events, except for the imposition of additional constraints. These observations are consistent with the assertion made by Smith and Warner (1979) that renegotiation is less costly for private debt than for public debt.

Costs imposed with immediate repayment of the loan and termination of the lending agreement are ranked highest, with respondents indicating medium-range cost. But costs of immediate repayments and terminations are higher for public than for private debt. Borrowers and lenders both indicate a lower range of medium costs (mean responses of 2.92 for borrowers and 2.43 for lenders) with an increase in the interest rate; again the costs are perceived to be higher for public than for private debt. Mean responses on the costs of imposition of additional constraints, which fall in the low range, show a consensus between borrowers and lenders.

Borrower mean response (2.07) for costs associated with a waiver of the violation is higher than that of lenders (1.40). Approximately 33 percent of the lenders respond that costs with waiver of a violation are zero, while about 86 percent of the borrowers indicate some level of costs comes with a waiver. These results imply that waiver costs are perceived to be higher for public than for private debt. Recall that any changes in public debt covenants require the consent of two-thirds of the debt holders.

More than 34 percent of the borrowers point out that an increase in collateral imposes zero costs, but 80.6% of lender respondents suggest there is some level of costs of this event for private debt. For private debt, an increase in collateral is perceived to impose higher costs than a waiver of the violation, suggesting the increase in collateral a more effective action after covenant violation. On the other hand, for public debt, the cost imposed by waiver is higher than the cost associated with increases in collateral. Finally, more than two-thirds of the borrowers agree with the statement that, in general, private lending agreements have lower renegotiation costs than public agreements.

Role of Debt Covenants in Accounting Choice Decisions

Finally, it has been hypothesized that debt covenants play a significant role in accounting choice decisions such as: interest capitalization vs. interest expense (Bowen et al. 1981); full cost vs. successful efforts methods of accounting by oil and gas companies (Dhaliwal 1980; Lilien and Pastena 1982); different depreciation methods (Dhaliwal et al. 1982); and accounting for research and development expenditures (Daley and Vigeland 1983).

We examine this hypothesis by asking borrowers to rank nine factors as they relate to accounting choices. These results are reported in table 5, arranged in order of mean rank importance, with the "most commonly used" reason ranked first.

Debt covenants are ranked sixth among the nine factors proposed, after factors such as most commonly used, industry convention, and reported and taxable income.⁹ But debt covenants are ranked higher than compensation and political environment factors in choosing accounting methods.

Lenders are also asked to make a similar assessment. About 75 percent of lenders disagree that debt covenants are likely to be the most important factor in choosing accounting methods (see table 5).

SUMMARY AND CONCLUSIONS

Fundamental to the research on economic consequences of accounting regulation is the assumption that there are significant contracting and monitoring costs in the market and political processes (Jensen and Meckling 1976). Most studies treat contracting and monitoring costs as unobservable, and until recently (see Beneish and Press 1992; 1993), there has been little evidence on the magnitude of the costs involved.

Our survey results shed light on both the likelihood of default for violation of different

⁹ A similar observation is made by Cushing and LeClere (1992). In a survey of long-time FIFO users, Cushing and LeClere (1992, 363) report that about 93 percent of the responding firms regard the impact of debt covenants as irrelevant or of minor importance in choosing FIFO over LIFO.

TABLE 5
Perceptions of Borrowers and Lenders Related to Determinants of Accounting Choice

Rank the Following Factors as they Relate to Choosing Accounting Methods	Group	N	Percentage of Responses Within Each Rank									Mean ^a
			Highest						Lowest			
			1	2	3	4	5	6	7	8	9	
1. Most commonly used	B	97	24.7	28.9	15.5	9.3	12.4	6.2	2.1	0.0	1.0	2.89
2. Industry convention	B	97	27.8	24.7	16.5	6.2	6.2	10.3	5.2	2.1	1.0	3.06
3. Level of reported income	B	96	22.9	16.7	20.8	17.7	13.5	5.2	1.0	0.0	2.1	3.15
4. Taxable income	B	95	16.8	23.2	11.6	18.9	16.8	10.5	0.0	1.1	1.1	3.39
5. Ease of using	B	97	14.4	8.2	23.7	17.5	12.4	10.3	6.2	4.1	3.1	4.00
6. Debt covenants	B	95	5.3	4.3	13.7	12.6	23.2	20.0	14.7	4.2	2.1	4.95
7. Compensation plans	B	96	1.0	2.1	1.0	10.4	12.5	14.6	27.1	15.6	15.6	6.55
8. Union negotiations	B	95	1.1	1.1	1.1	4.2	2.1	7.4	16.8	31.6	34.7	7.58
9. Political environment	B	95	2.1	0.0	0.0	3.2	3.2	6.3	13.7	30.5	41.1	7.78

Statement	Group	N	Strongly Disagree			Strongly Agree			Mean ^b	
			-3	-2	-1	0	1	2		3
10. In choosing accounting methods, corporate managers consider the likely impact on debt covenants as the most important factor.	L	134	25.4	31.3	17.9	13.4	6.7	5.2	0.0	-1.40*

Borrower responses relate to both public and private debt agreements; lender responses relate to private debt.

B = Borrowers (managers); L = Lenders.

^a Mean is based on a 9-rank scale.

^b Mean is based on a 7-point scale. The Wilcoxon signed rank test is used to test the hypothesis that the population mean and median are zero.

* indicates that the null hypothesis is rejected at the 0.01 level.

accounting-based debt covenants and the economic consequences of covenant violations and subsequent contract renegotiation. This research is different from prior research in two respects. First, rather than relying on *ex post* stock price reactions or financial data on covenant violations, we examine borrower and lender *ex ante* perceptions of the costs of debt covenant violations. Second, we present a systematic comparison of the perceptions of borrowers (with both public and private debt outstanding) and lenders (holders of private debt).

Several key findings emerge from our analysis. First, it appears that debt covenant violations are more likely to be associated with private debt contracts than public debt. Second, debt-to-equity ratio and tangible net worth covenants are the two most likely to contribute to a technical default in the case of both private and public debt. This is consistent with the evidence presented in Beneish and Press (1993), Chen and Wei (1993), and Sweeney (1994).

Third, while both borrowers and lenders agree that mandated changes in accounting rules can lead to a technical violation of accounting-based covenants, more than 93 percent of the responding lenders do not regard these violations as very serious. This is consistent with evidence reported in Abdel-khalik (1981) and Citron (1992).

Fourth, neither termination of the lending agreement nor immediate repayment of the loan is likely to take place following a debt covenant violation. A waiver of the violation is the most likely event following a violation, with the probability of waiver higher in the case of private debt. Fifth, in the case of public debt, waivers of violations are perceived to be costly and more expensive than costs associated with increases in collateral. These results are consistent with Beneish and Press (1993) findings regarding concessions for any waivers.

Finally, in accounting choice decisions, borrowers rank factors such as most commonly used, industry convention, and level of reported and taxable income ahead of debt covenants. However, borrowers perceive debt covenants as a more important factor than compensation contracts and the political environment. Similarly, about seventy-five percent of responding lenders disagree with the statement that corporate managers consider the likely impact on debt covenants as the most important factor in choosing accounting methods.

Our comparative analysis of borrower and lender perceptions is predicated on the notion that the borrower responses relate to *both* public and private debt and the lender responses relate to only private debt. To the extent this assumption is not true, the results reveal differences in borrower and lender perceptions of accounting information in corporate lending agreements in general.

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