Supplementary Material for "Lender Forbearance"

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Appendix D. Additional Specification Robustness

Table D1

Lender Forbearance: Optimal Bandwidth

Table D1 presents borrower-(loan)package-quarter level fixed effects regression estimates of VIOLATION, an indicator that equals 1 if the borrower discloses a material covenant violation in an SEC filing, and 0 otherwise, on NEGATIVE_SLACK, an indicator that equals one if the borrower is in breach of at least one covenant threshold, and 0 otherwise, and control variables. The bandwidth is selected using the two-sided coverage error rate optimality criterion, and it restricts the sample to include covenant slack in the [-1.83, 3.37] range (Calonico et al. (2014), (2015)). Heteroskedasticity-robust standard errors are clustered by borrower, and presented in parentheses. ***, **, and * denote results significant at the 1%, 5%, and 10% levels.

Dependent variable: VIOLATION

	1	2	3	4	5	6
NEGATIVE_SLACK	3.977***	3.934***	4.242***	3.632***	2.611***	2.383***
	(0.809)	(0.781)	(0.782)	(0.733)	(0.723)	(0.748)
Slack control:						
Polynomial order	Linear	Linear	Linear	Linear	Linear	Linear
Bandwidth	Optimal	Optimal	Optimal	Optimal	Optimal	Optimal
Fixed effects:						
Industry	No	Yes	Yes	Yes	Yes	Yes
Year-quarter	No	Yes	Yes	Yes	Yes	Yes
Industry × year-quarter	No	No	Yes	Yes	Yes	Yes
Lender	No	No	No	Yes	Yes	Yes
Borrower	No	No	No	No	Yes	Yes
Lender × borrower	No	No	No	No	No	Yes
R^2	0.0247	0.0404	0.1030	0.1418	0.3088	0.3174
No. of obs.	74,220	74,220	74,119	74,111	74,033	73,981

Table D2

Lender Forbearance: Tightest Local Bandwidth

Table D2 presents borrower-(loan)package-quarter level fixed effects regression estimates of VIOLATION, an indicator that equals 1 if the borrower discloses a material covenant violation in an SEC filing, and 0 otherwise, on NEGATIVE_SLACK, an indicator that equals 1 if the borrower is in breach of at least one covenant threshold, and 0 otherwise, and control variables. The local bandwidth restricts the sample to include covenant slack in the [-0.521, 0.424] range. Heteroskedasticity-robust standard errors are clustered by borrower, and presented in parentheses. ***, **, and * denote results significant at the 1%, 5%, and 10% levels.

Dependent variable: VIOLATION

	1	2	3	4	5	6
NEGATIVE_SLACK	2.523**	2.675**	3.180***	3.503***	2.853**	3.000**
	(1.099)	(1.079)	(1.132)	(1.135)	(1.125)	(1.172)
Slack control:						
Polynomial order	Linear	Linear	Linear	Linear	Linear	Linear
Bandwidth	Local	Local	Local	Local	Local	Local
Fixed effects:						
Industry	No	Yes	Yes	Yes	Yes	Yes
Year-quarter	No	Yes	Yes	Yes	Yes	Yes
Industry × year-quarter	No	No	Yes	Yes	Yes	Yes
Lender	No	No	No	Yes	Yes	Yes
Borrower	No	No	No	No	Yes	Yes
Lender × borrower	No	No	No	No	No	Yes
R^2	0.0156	0.0350	0.1309	0.1946	0.4074	0.4157
No. of obs.	27,431	27,431	27,160	27,139	26,965	26,855

Table D3

Optimal Regression Discontinuity Specification Robustness

Table D3 presents regression discontinuity design estimates of VIOLATION, an indicator that equals 1 if the borrower discloses a material covenant violation in an SEC filing, and 0 otherwise, on NEGATIVE_SLACK, an indicator that equals 1 if the borrower is in breach of at least one covenant threshold, and 0 otherwise. Heteroskedasticity-robust standard errors are clustered by borrower, and presented in parentheses. ***, **, and * denote results significant at the 1%, 5%, and 10% levels. Polynomial control functions are estimated using a local Epanechnikov kernel. The specification uses optimal bin sizes and selects optimal bandwidths using the two-sided coverage error rate optimality criterion (Calonico et al. (2014), (2015)). Optimal bandwidths and the implied effective number of observations are reported for each specification.

	VIOLATION		
	1	2	3
NEGATIVE_SLACK	4.839***	3.758***	3.459***
	(0.744)	(0.836)	(0.894)
Poly. order	0	1	2
Optimal BW	[0.43, 1.21]	[1.83, 3.37]	[4.35, 9.14]
Kernel	*Epanech.*	*Epanech.*	*Epanech.*
S.E. clusters	Borrower	Borrower	Borrower
Effective obs.	43,109	74,228	82,207

Table D4

Measurement Robustness: Optimal Bandwidth

Table D4 presents borrower-(loan)package-quarter level fixed effects regression estimates of VIOLATION, an indicator that equals 1 if the borrower discloses a material covenant violation in an SEC filing, and 0 otherwise, on NEGATIVE_SLACK, an indicator that equals 1 if the borrower is in breach of at least one covenant threshold, and 0 otherwise, and control variables. Column 1 replicates the baseline specification in column 3 of Table 2, but defines NEGATIVE_SLACK based only on breaches of covenant thresholds for covenants without modifications (i.e., Quick Ratio, Current Ratio, Net Worth, and Tangible Net Worth). Column 2 replicates the baseline specification in column 3 of Table 2, but now analyzes the subsample of loans that only use covenants not subject to modifications (i.e., Quick Ratio, Current Ratio, Net Worth, Tangible Net Worth). Column 3 replicates the baseline specification in column 3 of Table 2, but only for the subset of loans that are not renegotiated before maturity. Column 4 replicates the baseline specification in column 3 of Table 2, but only for the subset of loans with covenants without dynamic thresholds. The bandwidth is selected using the two-sided coverage error rate optimality criterion, and it restricts the sample to include covenant slack in the [-1.83, 3.37] range (Calonico et al. 2014, 2015). Standard errors are heteroscedasticity-robust, clustered at the borrower level, and presented in parentheses. ***, **, and * denote results significant at the 1%, 5%, and 10% levels.

Dependent variable: VIOLATION

	Breach No Modification Covenant	Only No Modification Covenants	Only No Loan Renegotiations	Only No Dynamic Thresholds
	1	2	3	4
NEGATIVE_SLACK	5.079***	15.971**	5.123***	3.389***
	(0.920)	(6.167)	(1.622)	(1.036)
Slack control:				
Polynomial order	Linear	Linear	Linear	Linear
Bandwidth	Optimal	Optimal	Optimal	Optimal
Fixed effects:				
Industry × year-quarter	Yes	Yes	Yes	Yes
R^2	0.1027	0.3486	0.1347	0.1002
No. of obs.	74,119	1,218	21,253	43,531

Table D5

Dynamics of Lender Forbearance: Optimal Bandwidth

Table D5 presents borrower-(loan)package-quarter level fixed effects regression estimates of VIOLATION, an indicator that equals 1 if the borrower discloses a material covenant violation in an SEC filing, and 0 otherwise, on NEGATIVE_SLACK, an indicator that equals 1 if the borrower is in breach of at least one covenant threshold, and 0 otherwise, interacted with past contracting outcomes and control variables. Column 1 interacts NEGATIVE_SLACK with MULTIPLE_BREACHES. Column 2 interacts NEGATIVE_SLACK with PRIOR_VIOLATION. Column 3 interacts NEGATIVE_SLACK with PRIOR_FORBEARANCE. These variables are described in Table 5 and in the variable description appendix. The bandwidth is selected using the two-sided coverage error rate optimality criterion, and it restricts the sample to include covenant slack in the [-1.83, 3.37] range (Calonico et al. (2014), (2015)). Heteroskedasticity-robust standard errors are clustered by borrower, and presented in parentheses. ***, **, and * denote results significant at the 1%, 5%, and 10% levels.

Dependent variable: VIOLATION

	1	2	3
NEGATIVE_SLACK	3.040***	1.827***	13.881***
	(0.801)	(0.598)	(1.101)
MULTIPLE_BREACHES × NEGATIVE_SLACK	4.618***		
	(1.219)		
PRIOR_VIOLATION × NEGATIVE_SLACK		12.691***	
		(2.272)	
PRIOR_FORBEARANCE × NEGATIVE_SLACK			-14.372***
			(1.147)
Slack control:			
Polynomial order	Linear	Linear	Linear
Bandwidth	Optimal	Optimal	Optimal
Fixed effects:			
Industry × year-quarter	Yes	Yes	Yes
R^2	0.1053	0.2023	0.1317
No. of obs.	74,119	74,119	74,119

Table D6

Lender Forbearance and Credit Conditions: Optimal Bandwidth

Table D6 presents borrower-(loan)package-quarter level fixed effects regression estimates of VIOLATION, an indicator that equals 1 if the borrower discloses a material covenant violation in an SEC filing, and 0 otherwise, on NEGATIVE_SLACK, an indicator that equals 1 if the borrower is in breach of at least one covenant threshold, and 0 otherwise, interacted with credit cycle proxies and control variables. Observations from 1995 and 2008 are eliminated due to cross-sectional data limitations. Column 1 interacts NEGATIVE_SLACK with TIGHT_CREDIT, an indicator that equals 1 if the net percentage of loan officers reporting a tightening of credit standards as per the Federal Reserve survey of senior loan officers exceeds its median value, and 0 otherwise. Column 2 interacts NEGATIVE_SLACK with RECESSION, an indicator that equals 1 during an NBER recession, and 0 otherwise. Column 3 interacts NEGATIVE_SLACK with HIGH_PCT_BREACH, an indicator that equals 1 if the percentage of outstanding loans in the lead arranger's loan portfolio that are in breach of a covenant threshold exceeds its median value, and 0 otherwise. Column 4 interacts NEGATIVE_SLACK with HIGH_PCT_BREACH_INDUSTRY, an indicator that equals 1 if the percentage of outstanding loans in the borrower's industry that are in in breach of a covenant threshold exceeds its median value, and 0 otherwise. The bandwidth is selected using the two-sided coverage error rate optimality criterion, and it restricts the sample to include covenant slack in the [-1.83, 3.37] range (Calonico et al. (2014), (2015)). Heteroskedasticity-robust standard errors are clustered by borrower, and presented in parentheses. ***, **, and * denote results significant at the 1%, 5%, and 10% levels.

Dependent variable: VIOLATION

	1	2	3	4
NEGATIVE_SLACK	2.546***	4.021***	2.591***	2.547**
	(0.959)	(0.860)	(1.006)	(1.102)
TIGHT_CREDIT × NEGATIVE_SLACK	4.174***			
	(1.063)			
RECESSION × NEGATIVE_SLACK		2.610*		
		(1.459)		
HIGH_PCT_BREACH × NEGATIVE_SLACK			3.083***	
			(0.983)	
HIGH_PCT_BREACH_INDUSTRY × NEGATIVE_SLACK				2.977***
				(1.040)
Slack control:				
Polynomial order	Linear	Linear	Linear	Linear
Bandwidth	Optimal	Optimal	Optimal	Optimal
Fixed effects:				
Industry × year-quarter	Yes	Yes	Yes	Yes
R^2	0.1016	0.1004	0.1010	0.1008
No. of obs.	67,172	67,172	67,172	67,172

Table D7

Lender Forbearance and Coordination Costs: Optimal Bandwidth

Table D7 presents borrower-(loan)package-quarter level fixed effects regression estimates of VIOLATION, an indicator that equals 1 if the borrower discloses a material covenant violation in an SEC filing, and 0 otherwise, on NEGATIVE_SLACK, an indicator that equals 1 if the borrower is in breach of at least one covenant threshold, and 0 otherwise, interacted with proxies for the cost of coordination among the lending syndicate and control variables. Column 1 interacts NEGATIVE_SLACK with SYNDICATION. Columns 2--6 estimate the effects of LARGE_SYNDICATE, DISPERSE_SYNDICATE, LOW_RETAIN_SHARE, INSTITUTIONS, and MANY_LENDERS_TO_PASS. These variables are defined in Table 8 and in the variable definitions appendix. The bandwidth is selected using the two-sided coverage error rate optimality criterion, and it restricts the sample to include covenant slack in the [-1.83, 3.37] range (Calonico et al. (2014), (2015)). Heteroskedasticity-robust standard errors are clustered by borrower, and presented in parentheses. ***, **, and * denote results significant at the 1%, 5%, and 10% levels.

Dependent variable: VIOLATION

	1	2	3	4	5	6
NEGATIVE_SLACK	5.560***	4.927***	5.340***	5.554***	3.578***	4.933***
	(0.914)	(1.160)	(1.206)	(1.301)	(0.971)	(1.366)
SYNDICATION × NEGATIVE_SLACK	-2.630**					
	(1.067)					
LARGE_SYNDICATE × NEGATIVE_SLACK		-3.097**				
		(1.429)				
DISPERSE_SYNDICATE × NEGATIVE_SLACK			-3.811***			
			(1.398)			
LOW_RETAIN_SHARE × NEGATIVE_SLACK				-4.354***		
				(1.303)		
INSTITUTIONS × NEGATIVE_SLACK					0.161	
					(1.555)	
MANY_LENDERS_TO_PASS × NEGATIVE_SLACK						-2.649*
						(1.440)
Slack control:						
Polynomial order	Linear	Linear	Linear	Linear	Linear	Linear
Bandwidth	Optimal	Optimal	Optimal	Optimal	Optimal	Optimal
Fixed effects:						
Industry × year-quarter	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.1050	0.1385	0.1400	0.1400	0.1359	0.1373
No. of obs.	74,119	40,100	40,100	40,100	40,100	40,100

Table D8

Lender Forbearance, Hold-up, and External Financing: Optimal Bandwidth

Table D8 presents borrower-(loan)package-quarter level fixed effects regression estimates of VIOLATION, an indicator that equals 1 if the borrower discloses a material covenant violation in an SEC filing, and 0 otherwise, on NEGATIVE_SLACK, an indicator that equals 1 if the borrower is in breach of at least one covenant threshold, and 0 otherwise, interacted with proxies for bank competition and control variables. Column 1 interacts NEGATIVE_SLACK with RELATIONSHIP. Column 2 interacts NEGATIVE_SLACK with MULTIPLE_LEADS. Column 3 interacts NEGATIVE_SLACK with BOND_ACCESS. Column 4 interacts NEGATIVE_SLACK with LOW_WHITED_WU. Column 5 interacts NEGATIVE_SLACK with LARGE. These variable are defined in Table 9 and in the variable definitions appendix. The bandwidth is selected using the two-sided coverage error rate optimality criterion, and it restricts the sample to include covenant slack in the [-1.83, 3.37] range (Calonico et al. (2014), (2015)). Heteroskedasticity-robust standard errors are clustered by borrower, and presented in parentheses. ***, **, and * denote results significant at the 1%, 5%, and 10% levels.

Dependent variable: VIOLATION

	1	2	3	4	5
NEGATIVE_SLACK	0.013	5.397***	7.660***	6.184***	7.928***
	(1.304)	(0.872)	(0.965)	(0.919)	(0.999)
RELATIONSHIP × NEGATIVE_SLACK	4.541***				
	(1.249)				
MULTIPLE_LEADS × NEGATIVE_SLACK		-2.164***			
		(0.656)			
BOND_ACCESS × NEGATIVE_SLACK			-6.870***		
			(1.117)		
LOW_WHITED_WU × NEGATIVE_SLACK				-5.149***	
				(1.091)	
LARGE × NEGATIVE_SLACK					-8.226***
					(1.043)
Slack control:					
Polynomial order	Linear	Linear	Linear	Linear	Linear
Bandwidth	Optimal	Optimal	Optimal	Optimal	Optimal
Fixed effects:					
Industry × year-quarter	Yes	Yes	Yes	Yes	Yes
R^2	0.1037	0.1036	0.1125	0.1111	0.1211
No. of obs.	74,119	74,119	74,119	74,119	74,119

Table D9

Lender Forbearance and Ex Ante Explicit Contracting: Optimal Bandwidth

Table D9 presents borrower-(loan)package-quarter level fixed effects regression estimates of VIOLATION, an indicator that equals 1 if the borrower discloses a material covenant violation in an SEC filing, and 0 otherwise, on NEGATIVE_SLACK, an indicator that equals 1 if the borrower is in breach of at least one covenant threshold, and 0 otherwise, interacted with EX_ANTE_STRICT, an indicator that equals 1 if the loan has an ex ante strict (i.e., above median) covenant package, and 0 otherwise, and control variables. Columns 1 and 2 measure EX_ANTE_STRICT using the initial covenant slack of the covenant package, and columns 3 and 4 use the measure of initial contract strictness from Murfin (2012) for the sample of loans with more than two covenants. Data restrictions limit the sample in columns 3 and 4. The first quarter of each loan is excluded from the sample. The bandwidth is selected using the two-sided coverage error rate optimality criterion, and it restricts the sample to include covenant slack in the [-1.83, 3.37] range (Calonico et al. (2014), (2015)). Heteroskedasticity-robust standard errors are clustered by borrower, and presented in parentheses. ***, **, and * denote results significant at the 1%, 5%, and 10% levels.

Dependent variable: VIOLATION

	1	2	3	4
NEGATIVE_SLACK	6.359***	3.482***	4.856***	2.091*
	(1.030)	(0.952)	(1.083)	(1.192)
EX_ANTE_STRICT × NEGATIVE_SLACK	-4.286***	-2.839***	-3.268**	-1.358
	(1.230)	(1.091)	(1.426)	(1.381)
Slack control:				
Polynomial order	Linear	Linear	Linear	Linear
Bandwidth	Optimal	Optimal	Optimal	Optimal
Fixed effects:				
Industry × year-quarter	Yes	Yes	Yes	Yes
Lender × borrower	No	Yes	No	Yes
R^2	0.1137	0.3405	0.1481	0.3630
No. of obs.	67,479	67,338	46,124	46,043

Table D10

Lender Forbearance and Reputation: Optimal Bandwidth

Table D10 presents borrower-(loan)package-quarter level fixed effects regression estimates of VIOLATION, an indicator that equals 1 if the borrower discloses a material covenant violation in an SEC filing, and 0 otherwise, on NEGATIVE_SLACK, an indicator that equals 1 if the borrower is in breach of at least one covenant threshold, and 0 otherwise, interacted with proxies for lead arranger reputation and control variables. Columns 1 and 2 interact NEGATIVE_SLACK with TOP_10, and columns 3 and 4 interact NEGATIVE_SLACK with lnLEAGUE_RANK. These variables are defined in Table 11 and in the variable definitions appendix. The bandwidth is selected using the two-sided coverage error rate optimality criterion, and it restricts the sample to include covenant slack in the [-1.83, 3.37] range (Calonico et al. (2014), (2015)). Heteroskedasticity-robust standard errors are clustered by borrower, and presented in parentheses. ***, **, and * denote results significant at the 1%, 5%, and 10% levels.

Dependent variable: VIOLATION

	1	2	3	4
NEGATIVE_SLACK	5.078***	3.202***	1.200	-1.088
	(0.835)	(0.804)	(1.413)	(1.291)
TOP_10× NEGATIVE_SLACK	-2.648***	-2.459***		
	(0.988)	(0.858)		
lnLEAGUE_RANK × NEGATIVE_SLACK			0.964**	1.104***
			(0.377)	(0.347)
Slack control:				
Polynomial order	Linear	Linear	Linear	Linear
Bandwidth	Optimal	Optimal	Optimal	Optimal
Fixed effects:				
Industry × year-quarter	Yes	Yes	Yes	Yes
Lender × borrower	No	Yes	No	Yes
R^2	0.1045	0.3178	0.1042	0.3180
No. of obs.	74,119	73,981	74,119	73,981

Table D11

Lender Forbearance: Manipulation Controls

Table D11 presents borrower-(loan)package-quarter level fixed effects regression estimates of VIOLATION, an indicator that equals 1 if the borrower discloses a material covenant violation in an SEC filing, and 0 otherwise, on NEGATIVE_SLACK, an indicator that equals 1 if the borrower is in breach of at least one covenant threshold, and 0 otherwise. Borrower level control variables include total accruals, discretionary accruals (Teoh, Welch, and Wong (1998)), market-to-book, the natural log of 1 plus total assets, and return-on-assets. Accruals measures are standardized for interpretation. Heteroskedasticity-robust standard errors are clustered by borrower, and presented in parentheses. ***, **, and * denote results significant at the 1%, 5%, and 10% levels.

Dependent variable: VIOLATION

	1	2	3	4	5	6
NEGATIVE_SLACK	9.883***	9.509***	9.350***	8.975***	5.966***	6.093***
	(0.677)	(0.643)	(0.641)	(0.618)	(0.605)	(0.645)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Slack control:						
Polynomial order	Linear	Linear	Linear	Linear	Linear	Linear
Bandwidth	Global	Global	Global	Global	Global	Global
Fixed effects:						
Industry	No	Yes	Yes	Yes	Yes	Yes
Year-quarter	No	Yes	Yes	Yes	Yes	Yes
Industry × year-quarter	No	No	Yes	Yes	Yes	Yes
Lender	No	No	No	Yes	Yes	Yes
Borrower	No	No	No	No	Yes	Yes
Lender × borrower	No	No	No	No	No	Yes
R^2	0.0769	0.0937	0.1457	0.1732	0.3223	0.3318
No. of obs.	87,867	87,867	87,787	87,784	87,733	87,687

Table D12

Manipulation and Enforcement in the Cross-Section of Covenant Types

This figure presents McCrary (2008) density break plots for the subset of covenant types with no manipulation (i.e., debt/equity, leverage, cash interest coverage, debt service coverage, EBITDA, quick ratio, current ratio, and net worth). The table below constructs measures of SLACK and NEGATIVE_SLACK based only on this subset of covenants and presents estimates from specifications as in Table 2.
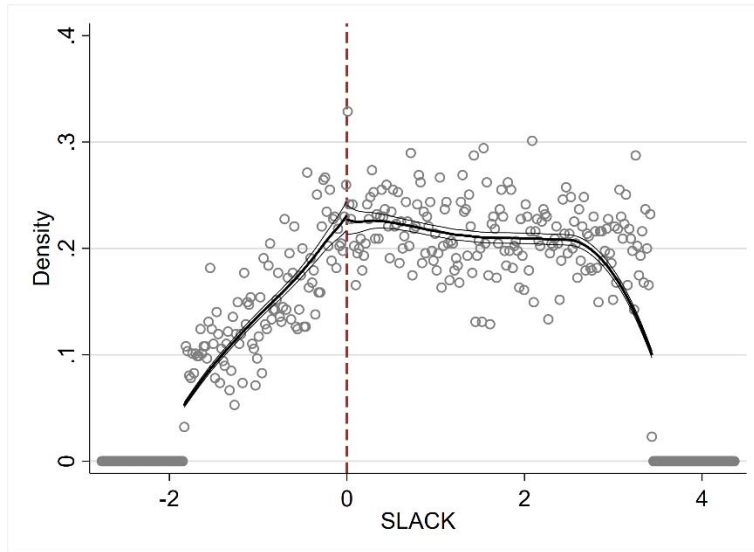
Dependent variable: VIOLATION

	1	2	3	4	5	6
NEGATIVE_SLACK	13.429***	12.923***	13.031***	12.165***	9.815***	9.919***
	(1.044)	(0.954)	(0.932)	(0.895)	(0.897)	(0.922)
Fixed effects:						
Industry	No	Yes	Yes	Yes	Yes	Yes
Year-quarter	No	Yes	Yes	Yes	Yes	Yes
Industry × year-quarter	No	No	Yes	Yes	Yes	Yes
Lender	No	No	No	Yes	Yes	Yes
Borrower	No	No	No	No	Yes	Yes
Lender × borrower	No	No	No	No	No	Yes
R^2	0.0498	0.0784	0.1407	0.1797	0.3446	0.3493
No. of obs.	61,350	61,350	61,187	61,182	61,151	61,136

Table D13

Enforcement Outcomes: Optimal Bandwidth

Columns 1 and 3 of Table D13 present borrower-(loan)package-quarter level regression estimates of FEE, an indicator that equals 1 if the borrower discloses fee payment in an 8-K filing, and 0 otherwise, and AMENDMENT, an indicator that equals 1 if the borrower's loan is renegotiated, and 0 otherwise, on VIOLATION, an indicator that equals 1 if the borrower discloses a material covenant violation in an SEC filing, and 0 otherwise, and control variables for observations in which the borrower is in breach of at least one covenant threshold. Columns 2 and 4 of this table present fuzzy regression discontinuity design estimates of FEE and AMENDMENT, respectively, on *Violation*. The relevant first stage results for these specifications are presented in column 3 of Table 2. The bandwidth is selected using the two-sided coverage error rate optimality criterion, and it restricts the sample to include covenant slack in the [-1.83, 3.37] range (Calonico et al. (2014), (2015)). Heteroskedasticity-robust standard errors are clustered by borrower, and presented in parentheses. ***, **, and * denote results significant at the 1%, 5%, and 10% levels.

Dependent variable:	FEE		AMENDMENT	
	OLS	Fuzzy RD	OLS	Fuzzy RD
	1	2	3	4
VIOLATION	1.289***	18.359***	4.655***	41.879**
	(0.386)	(6.709)	(1.193)	(20.795)
Slack control:				
Polynomial order	Linear	Linear	Linear	Linear
Bandwidth	Optimal	Optimal	Optimal	Optimal
Fixed effects:				
Industry × year-quarter	Yes	Yes	Yes	Yes
$F^{First Stage}$		205.17		205.17
R^2	0.1397		0.1121	
No. of obs.	74,119	74,119	74,119	74,119

Table D14

Enforcement Outcomes: Optimal Specification

Panel A of Table D14 presents regression discontinuity design estimates of FEE, an indicator that equals 1 if the borrower discloses a waiver or amendment fee payment in an 8-K filing, and 0 otherwise, and AMENDMENT, an indicator that equals 1 if the borrower's loan is renegotiated, and 0 otherwise, on NEGATIVE_SLACK, an indicator that equals 1 if the borrower is in breach of at least one covenant threshold, and 0 otherwise. Panel B of this table presents fuzzy regression discontinuity estimates in which VIOLATION is instrumented using the cutoff in covenant slack at the covenant threshold. Estimates corresponding to the first stage are presented in Table D3. Heteroskedasticity-robust standard errors are clustered by borrower, and presented in parentheses. ***, **, and * denote results significant at the 1%, 5%, and 10% levels. Polynomial control functions are estimated using a local Epanechnikov kernel. The specification uses optimal bin sizes and selects optimal bandwidths using the two-sided coverage error rate optimality criterion (Calonico et al. (2014), (2015)). Optimal bandwidths and the implied effective number of observations are reported for each specification.

	FEE			AMENDMENT		
	1	2	3	4	5	6
Panel A. Reduced Form						
NEGATIVE_SLACK	0.656***	0.585**	0.645**	3.495***	2.848***	2.500***
	(0.219)	(0.278)	(0.297)	(0.763)	(0.875)	(0.926)
Poly. order	0	1	2	0	1	2
Optimal BW	[1.49, 1.78]	[3.59, 7.39]	[7.12, 17.42]	[1.33, 1.52]	[4.25, 6.87]	[9.92, 11.12]
Kernel	*Epanech.*	*Epanech.*	*Epanech.*	*Epanech.*	*Epanech.*	*Epanech.*
S.E. clusters	Borrower	Borrower	Borrower	Borrower	Borrower	Borrower
Effective obs.	60,405	80,853	85,366	55,797	81,412	85,599
Panel B. Fuzzy RD						
VIOLATION	11.504***	14.348**	15.864*	68.765***	66.056**	73.427**
	(4.154)	(7.250)	(8.310)	(18.800)	(27.087)	(31.004)
Poly. Order	0	1	2	0	1	2
Optimal BW	[1.22, 1.27]	[3.11, 5.40]	[7.90, 12.61]	[0.75, 1.33]	[2.45, 5.04]	[7.35, 10.79]
Kernel	*Epanech.*	*Epanech.*	*Epanech.*	*Epanech.*	*Epanech.*	*Epanech.*
S.E. clusters	Borrower	Borrower	Borrower	Borrower	Borrower	Borrower
Effective obs.	50,724	79,362	85,215	48,398	77,989	84,670