Internet Appendix to
"Control Rights and Capital Structure: An Empirical Investigation"*

This appendix contains tables and a figure referred to in the published article. Table IA.I contains information on the types of financial covenants used in credit agreements. Table IA.II present results from the regression discontinuity design using Dealscan covenant thresholds. Table IA.III focuses on the long run effect of covenant violations by what firms report on their SEC filings. Figure IA.1 presents a graphical illustration of the regression discontinuity approach used in the published article.

Table IA.I
Financial Covenants

This table presents the percentage of private credit agreements with various financial covenants. The sample includes 3,603 private credit agreements made to 1,894 firms.

Type of Covenant	Fraction	Type of Covenant	Fraction
Financial covenant	96.5%	Net worth/Tangible net worth	45.2%
		Net worth	25.6%
Debt to cash flow	57.5%	Tangible net worth	19.0%
Total debt to cash flow	56.1%	Stockholders' equity	0.8%
Senior debt to cash flow	8.6%		
		Liquidity-based	14.7%
Debt to balance sheet item	29.2%	Current ratio	7.9%
Debt to total capitalization	19.8%	Quick ratio	2.4%
Debt to net worth	6.9%	Working capital	1.5%
Debt to other balance sheet item	3.4%	Other liquidity-based	3.6%
Debt in numerator covenants	79.1%	Cash flow-based	12.7%
Coverage ratio	74.3%		
Fixed charge coverage ratio	38.1%		
Interest coverage ratio	38.0%		
Debt service coverage ratio	4.5%		
Other coverage ratio	3.9%		
Debt or coverage ratio covenants	89.2%		

*Roberts, Michael R. and Amir Sufi, 2008, Internet Appendix to "Control Rights and Capital Structure: An Empirical Investigation," *Journal of Finance* 64, 1657-1696, http://www.afajof.org/IA/2009.asp#aug09. Please note: Wiley-Blackwell is not responsible for the content or functionality of any supporting information supplied by the authors. Any queries (other than missing material) should be directed to the authors of the article.

Table IA.II
Covenant Violations and Net Debt Issuance
Regression Discontinuity Sample

This table presents coefficient estimates of firm fixed effects regressions of net debt issuance on covenant violations and controls. The sample consists of all firm-quarter observations in which a covenant restricting the current ratio or net worth of the firm is imposed by a private loan found in *Dealscan* during 1994 to 2005. Panel A presents the results for the entire *Dealscan* sample. Panel B presents the results for the discontinuity *Dealscan* sample, defined as those firm-quarter observations in which the absolute value of the relative distance to the covenant threshold is less than 0.20. All specifications include quarter indicator variables. Standard errors are reported in parentheses and are clustered by firm.

Panel A: Entire *Dealscan* Sample
Dependent variable: Net debt $\text{issuance}_t/\text{assets}_{t-1}$ (basis points)

	(1)	(2)	(3)
Covenant violation_{t-1}	-47.1*	-53.7*	-59.8*
	(22.0)	(23.4)	(25.2)
Covenant control variables	None	Market to book, profitability, firm size, Z-score, tangibility, industry median leverage	Market to book, profitability, firm size, Z-score, tangibility, industry median leverage, linear and squared distance to default
Number of firm-quarters	4,609	4,609	4,609
R^2	0.125	0.137	0.139

Panel B: Discontinuity *Dealscan* Sample
Dependent variable: Net debt $\text{issuance}_t/\text{assets}_{t-1}$ (basis points)

	(1)	(2)
Covenant violation_{t-1}	-62.0	-58.3
	(35.6)	(35.4)
Covenant control variables	None	Market to book, profitability, firm size, Z-score, tangibility, industry median leverage
Number of firm-quarters	1,752	1,752
R^2	0.283	0.307

*,** statistically distinct from zero at the 5% and 1% level, respectively.

Table IA.III
Long-run Effect of Covenant Violations, by Whether Firm States that Creditors Take Some Action

This table presents coefficient estimates from firm fixed effects regressions of net debt issuances (columns (1) and (2)) and the leverage ratio (columns (3) and (4)) on covenant violation indicator variables and control variables. The sample includes firms in the random sample for which we collect information on how creditors respond to the covenant violation. The sample is split by whether firms state in their SEC filings that creditors take some action in response to the violation. The specifications in columns (1) and (2) contain identical control variables as column (2) of Table III. The specifications in columns (3) and (4) contain the lagged logarithm of total assets, the lagged market to book ratio, the lagged tangible to assets ratio, the current and lagged EBITDA to lagged assets ratio, the current and lagged cash flow to lagged assets ratio, the current and lagged net income to lagged assets ratio, and a "has S&P rating" indicator variable. All specifications include quarter indicator variables and indicator variables for the fiscal quarter. Standard errors are reported in parentheses and are clustered by firm.

	Dependent variable: Net debt issuance$_t$/assets$_{t-1}$ (basis points)		Dependent variable: Leverage ratio (basis points)	
	(1) Firm reports creditor action	(2) Firm does not report creditor action	(3) Firm reports creditor action	(4) Firm does not report creditor action
Covenant violation $_t$	53.2*	-15.9	348.8**	57.4
	(20.2)	(22.6)	(67.0)	(37.7)
Covenant violation $_{t-1}$	-28.8	0.2	199.3**	112.9**
	(31.5)	(21.9)	(65.0)	(38.7)
Covenant violation $_{t-2}$	-85.4**	3.8	87.6	110.5**
	(27.3)	(20.4)	(60.3)	(35.7)
Covenant violation $_{t-3}$	-23.7	-30.0	50.9	107.8**
	(35.2)	(20.1)	(57.4)	(41.0)
Covenant violation $_{t-4}$	-49.6	-2.2	-33.1	102.5*
	(35.8)	(22.6)	(78.4)	(44.6)
Covenant violation $_{t-5}$	19.3	-22.8	58.7	45.1
	(37.5)	(22.1)	(85.0)	(43.4)
Covenant violation $_{t-6}$	-7.3	-8.5	12.0	51.9
	(42.1)	(23.2)	(89.8)	(47.5)
Covenant violation $_{t-7}$	2.2	-13.0	76.3	45.2
	(38.6)	(26.0)	(84.8)	(49.7)
Covenant violation $_{t-8}$	-11.1	-9.8	80.5	60.5
	(44.6)	(26.1)	(87.2)	(50.3)
Control variables:	All covenant control variables from Table III, column (2)		Leverage control variables (listed above)	
Number of firm-quarters	1,217	2,698	1,217	2,698
Number of firms	149	305	149	305
R^2	0.265	0.283	0.898	0.905

*,** statistically distinct from zero at the 5% and 1% level, respectively.

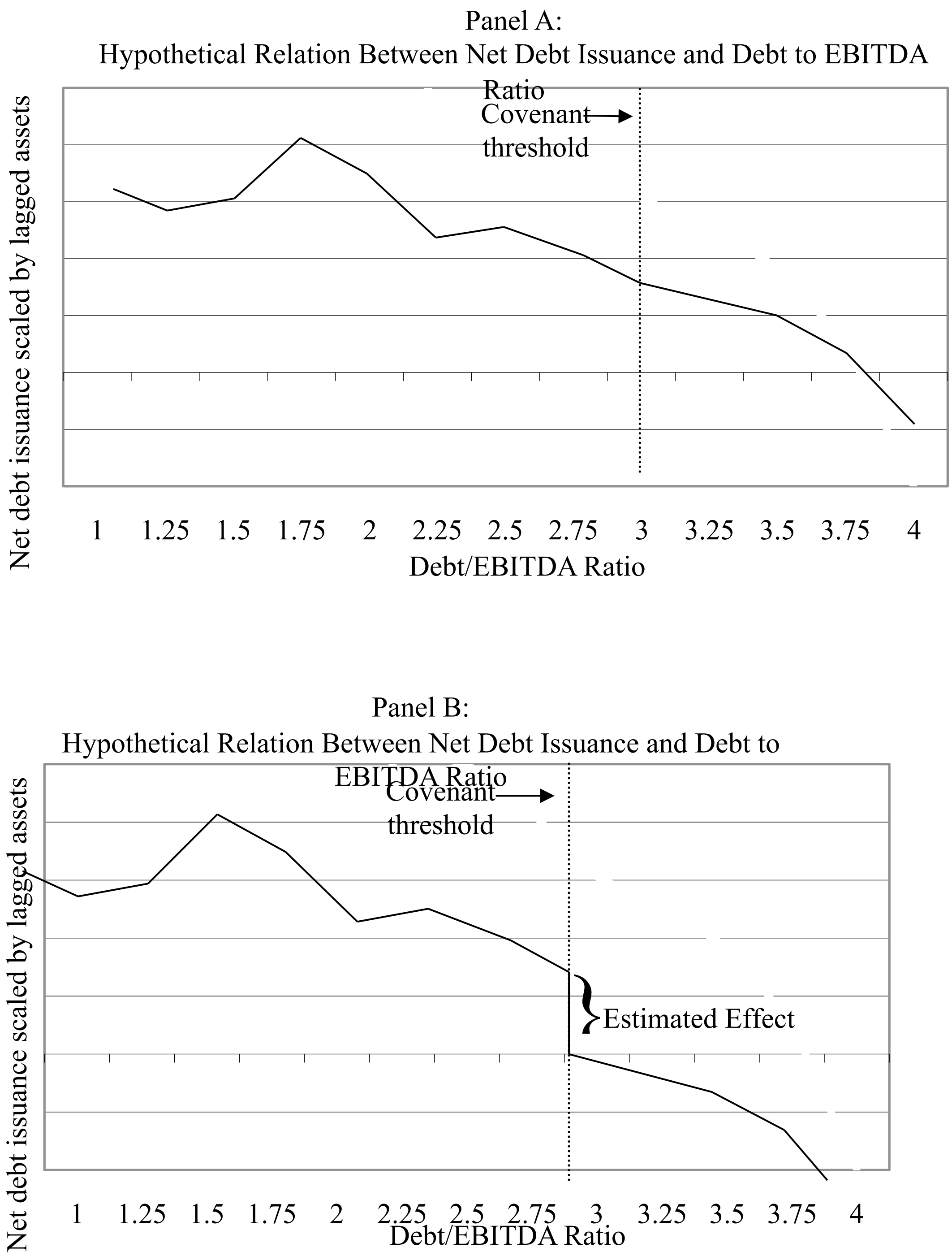

Figure IA.1. Regression discontinuity illustration.
This figure presents a hypothetical relation between net debt issuance and the debt to EBITDA ratio. Panel A illustrates a smooth relation, implying no effect of a covenant violation. Panel B illustrates a relation that is discontinuous at the covenant threshold, implying an effect equal to the magnitude of the discontinuity.