

Performance Measures in Earnings-Based Financial Covenants in Debt Contracts

NINGZHONG LI

First published: 12 May 2016

<https://doi.org/10.1111/1475-679X.12125>

Citations: 60

Accepted by Philip Berger. I am extremely grateful to an anonymous referee for his or her guidance. I thank Ray Ball, Ian Gow, Anya Kleymenova, Yun Lou, Chul Park (discussant), Madhav Rajan, Scott Richardson, Lakshmanan Shivakumar, Bin Srinidhi, Irem Tuna, Jeffery Wooldridge, Jingjing Zhang (discussant), and workshop participants at City University of Hong Kong, London Business School, London School of Economics, University of Houston, University of Texas at Dallas, and Washington University, and participants of the 2011 AAA Annual Meeting and the 2011 CAPANA Annual Meeting for valuable comments. I am grateful to Amir Sufi for sharing the loan agreement data online and Florin Vasvari for sharing the cleaned bond transaction data. I thank Ying Huang, Xin Li, Bo Liu, Liping Lu, Connie Neish, and Yu Xie for excellent research assistance, and the London Business School RAMD Fund and University of Texas at Dallas for financial support. All errors are my own.

ABSTRACT

This paper examines how performance measures are defined in major earnings-based financial covenants in loan contracts to shed light on the economic rationales underlying the contractual use of performance measures. I find an earnings-based covenant is typically based on a performance measure close to earnings before interest, tax, amortization, and depreciation expenses (EBITDA). However, my empirical analyses show that EBITDA is less useful in explaining credit risk than earnings before interest and tax expenses (EBIT) and even the bottom-line net income. Thus, measuring credit risk cannot fully explain the choice of accounting performance measures in earnings-based covenants. I conjecture that contracting parties choose an EBITDA-related measure, instead of a measure calculated after depreciation and amortization expenses (e.g., EBIT), to make the performance measure less sensitive to investment activities, which can be controlled through other contractual terms, such as a restriction on capital expenditure, and provide empirical evidence consistent with this conjecture.

REFERENCES

Aghion, P., and P. Bolton. "An Incomplete Contracts Approach to Financial Contracting." *Review of Economic Studies* 59 (1992): 473–94.

[Web of Science®](#) | [Google Scholar](#)

Aghion, P., M. Dewatripont, and P. Rey. "On Renegotiation Design." *European Economic Review* 34 (1990): 322–29.

[Web of Science®](#) | [Google Scholar](#)

Aghion, P.; M. Dewatripont; and P. Rey. "Renegotiation Design with Unverifiable Information." *Econometrica* 62 (1994): 257–82.

 | [Web of Science®](#) | [Google Scholar](#) |

Altman, E. I. "Financial Ratios, Discriminant Analysis and the Prediction of Corporate Bankruptcy." *Journal of Finance* 23 (1968): 589–609.

 | [Web of Science®](#) | [Google Scholar](#) |

Ball, R.; R. Bushman; and F. Vasvari. "The Debt-Contracting Value of Accounting Information and Loan Syndicate Structure." *Journal of Accounting Research* 46 (2008): 247–88.

 | [Web of Science®](#) | [Google Scholar](#) |

Ball, R., and L. Shivakumar. "The Role of Accruals in Asymmetrically Timely Gain and Loss Recognition." *Journal of Accounting Research* 44 (2006): 207–41.

 | [Web of Science®](#) | [Google Scholar](#) |

Barth, M.; W. Beaver; and W. Landsman. "Accruals, Cash Flows, and Equity Value." *Review of Accounting Studies* 3 (1999): 205–29.

 | [Google Scholar](#) |

Beatty, A.; S. Liao, and J. Weber. "The Effect of Private Information and Monitoring on the Role of Accounting Quality in Investment Decisions." *Contemporary Accounting Research* 27 (2010a): 17–47.

 | [Web of Science®](#) | [Google Scholar](#) |

Beatty, A.; S. Liao; and J. Weber. "Financial Reporting Quality, Private Information, Monitoring and the Lease-Versus-Buy Decision." *Accounting Review* 85 (2010b): 1215–38.

 | [Web of Science®](#) | [Google Scholar](#) |

Biddle, G., and G. Hilary. "Accounting Quality and Firm-Level Capital Investment." *Accounting Review* 81 (2006): 963–82.

 | [Web of Science®](#) | [Google Scholar](#) |

Cassar, G.; C. Ittner; and K. Cavalluzzo. "Alternative Information Sources and Information Asymmetry Reduction: Evidence from Small Business Debt." *Journal of Accounting and Economics* 59 (2015): 242–63.

 | [Web of Science®](#) | [Google Scholar](#) |

Chava, S., and M. Roberts. "How Does Financing Impact Investment? The Role of Debt Covenants." *Journal of Finance* 63 (2008): 2085–2121.

[Web of Science®](#) | [Google Scholar](#) |

Christensen, H., and V. Nikolaev. "Capital Versus Performance Covenants in Debt Contracts." *Journal of Accounting Research* 50 (2012): 75–116.

[Web of Science®](#) | [Google Scholar](#) |

Christensen, H.; V. Nikolaev; and R. Wittenberg-Moerman. "Accounting Information in Financial Contracting: The Incomplete Contract Theory Perspective." *Journal of Accounting Research* 54 (2016): 397–435.

[Web of Science®](#) | [Google Scholar](#) |

Dechow, P. "Accounting Earnings and Cash Flows as Measures of Firm Performance: The Role of Accounting Accruals." *Journal of Accounting and Economics* 18 (1994): 3–42.

[Web of Science®](#) | [Google Scholar](#) |

Demerjian, P. "Information, Monitoring, and Manipulation: The Economic Role of Covenant Measurement." Working paper, Emory University, 2009.

[Google Scholar](#) |

Demerjian, P. "Accounting Standards and Debt Covenants: Has the "Balance Sheet Approach" Led to a Decline in the Use of Balance Sheet Covenants?" *Journal of Accounting and Economics* 52 (2011): 101–258.

[Web of Science®](#) | [Google Scholar](#) |

Dewatripont, M., and J. Tirole. "A Theory of Debt and Equity: Diversity of Securities and Manager-Shareholder Congruence." *Quarterly Journal of Economics* 109 (1994): 1027–54.

[Web of Science®](#) | [Google Scholar](#) |

Dichev, I., and D. Skinner. "Large-Sample Evidence on the Debt Covenant Hypothesis." *Journal of Accounting Research* 40 (2002): 1091–1123.

[Web of Science®](#) | [Google Scholar](#) |

Dyreng, S.; R. Vashishtha; and J. Weber. "Direct Evidence on the Informational Properties of Earnings in Loan Contracts." Working paper, MIT, 2016.

[Google Scholar](#) |

Easton, P.; S. Monahan; and F. Vasvari. "Initial Evidence on the Role of Accounting Earnings in the Bond Market." *Journal of Accounting Research* 47 (2009): 721–66.

[Web of Science®](#) | [Google Scholar](#) |

El-Gazzar, S., and V. Pastena. "Negotiated Accounting Rules in Private Financial Contracts." *Journal of Accounting and Economics* 12 (1990): 381–96.

[Web of Science®](#) | [Google Scholar](#) |

Garleanu, N., and J. Zwiebel. "Design and Renegotiation of Debt Covenants." *Review of Financial Studies* 22 (2009): 749–81.

[Web of Science®](#) | [Google Scholar](#) |

Gigler, F.; C. Kanodia; H. Saprà; and R. Venugopalan. "Accounting Conservatism and the Efficiency of Debt Contracts." *Journal of Accounting Research* 47 (2009): 767–97.

[Web of Science®](#) | [Google Scholar](#) |

Grossman, S., and O. Hart. "The Costs and Benefits of Ownership: A Theory of Vertical and Lateral Integration." *Journal of Political Economy* 94 (1986): 691–719.

[Web of Science®](#) | [Google Scholar](#) |

Hart, O., and J. Moore. "Incomplete Contracts and Renegotiation." *Econometrica* 56 (1988): 755–85.

[Web of Science®](#) | [Google Scholar](#) |

Hart, O., and J. Moore. "Property Rights and the Nature of the Firm." *Journal of Political Economy* 98 (1990): 1119–58.

[Web of Science®](#) | [Google Scholar](#) |

Hillegeist, S.; E. Keating; D. Cram; and K. Lundstedt. "Assessing the Probability of Bankruptcy." *Review of Accounting Studies* 9 (2004): 5–34.

[Web of Science®](#) | [Google Scholar](#) |

Huang, Y.; N. Li; and J. Ng. "Relative Compensation Usefulness of Accounting Performance Measures." Working paper, University of Texas at Dallas, 2015.

[Google Scholar](#) |

Huberman, G.; and C. Kahn. "Limited Contract Enforcement and Strategic Renegotiation." *American Economic Review* 78 (1988): 471–84.

[Web of Science®](#) | [Google Scholar](#) |

Huberman, G.; and C. Kahn. "Default, Foreclosure, and Strategic Renegotiation." *Law and Contemporary Problems* 52 (1989): 49–61.

[Web of Science®](#) | [Google Scholar](#) |

Jensen, M., and W. Meckling. "Theory of the Firm: Managerial Behavior, Agency Costs, and Ownership Structure." *Journal of Financial Economics* 3 (1976): 305–60.

[CAS](#) | [Web of Science®](#) | [Google Scholar](#) |

Leftwich, R. "Accounting Information in Private Markets: Evidence from Private Lending Agreements." *Accounting Review* 58 (1983): 23–42.

[Web of Science®](#) | [Google Scholar](#) |

Leuz, C. "The Role of Accrual Accounting in Restricting Dividends to Shareholders." *European Accounting Review* 7 (1998): 579–604.

[Google Scholar](#) |

Li, N. "Negotiated Measurement Rules in Debt Contracts." *Journal of Accounting Research* 48 (2010): 1103–43.

[PubMed](#) | [Web of Science®](#) | [Google Scholar](#) |

Merton, R. "On the Pricing of Corporate Debt: The Risk Structure of Interest Rates." *Journal of Finance* 29 (1974): 449–70.

[Web of Science®](#) | [Google Scholar](#) |

Moody's, 2000. "Putting EBITDA in Perspective: Ten Critical Failings of EBITDA as the Principal Determinant of Cash Flow." Special comment, Moody's Investors Service.

[Google Scholar](#) |

Myers, S. C. "Determinants of Corporate Borrowing." *Journal of Financial Economics* 5 (1977): 147–76.

[Web of Science®](#) | [Google Scholar](#) |

Nini, G.; D. Smith; and A. Sufi. "Creditor Control Rights and Firm Investment Policy." *Journal of Financial Economics* 92 (2009): 400–20.

[Web of Science®](#) | [Google Scholar](#) |

Ohlson, J. A. "Financial Ratios and the Probabilistic Prediction of Bankruptcy." *Journal of Accounting Research* 18 (1980): 109–31.

[Web of Science®](#) | [Google Scholar](#) |

Ozel, B. "Aggregate Earnings and Loan Values." Working paper, UCLA, 2014.

[Google Scholar](#) |

Roberts, M., and A. Sufi. "Control Rights and Capital Structure: An Empirical Investigation." *Journal of Finance* 64 (2009): 1657–95.

[Web of Science®](#) | [Google Scholar](#) |

Smith, C., and J. Warner. "On Financial Contracting: An Analysis of Bond Covenants." *Journal of Financial Economics* 7 (1979): 117–61.

[Web of Science®](#) | [Google Scholar](#) |

Vuong, Q. H. "Likelihood Ratio Tests for Model Selection and Non-Nested Hypotheses." *Econometrica* 57 (1989): 307–33.

[Web of Science®](#) | [Google Scholar](#) |

Watts, R. L. "Conservatism in Accounting, Part I: Explanations and Implications." *Accounting Horizons* 17 (2003a): 207–21.

[Google Scholar](#) |

Watts, R. L. "Conservatism in Accounting, Part II: Evidence and Research Opportunities." *Accounting Horizons* 17 (2003b): 287–301.

[PubMed](#) | [Web of Science®](#) | [Google Scholar](#) |

Wight, R.; W. Cooke; and R. Gray. "Understanding the Credit Agreement," in *Loan Syndications & Trading*, edited by A. Taylor and A. Sansone. New York: McGraw-Hill, 2007: 209–392.

[Google Scholar](#) |

Wight, R.; W. Cooke; and R. Gray. *The LSTA's Complete Credit Agreement Guide*. New York: McGraw-Hill, 2009.

[Google Scholar](#) |

Wooldridge, J. *Econometric Analysis of Cross Section and Panel Data*, Second edition. Cambridge, MA: MIT Press, 2010.

ABOUT WILEY ONLINE LIBRARY

[Privacy Policy](#)

[Terms of Use](#)

[About Cookies](#)

[Manage Cookies](#)

[Accessibility](#)

[Wiley Research DE&I Statement and Publishing Policies](#)

[Developing World Access](#)

HELP & SUPPORT

[Contact Us](#)

[Training and Support](#)

[DMCA & Reporting Piracy](#)

OPPORTUNITIES

[Subscription Agents](#)

[Advertisers & Corporate Partners](#)

CONNECT WITH WILEY

[The Wiley Network](#)

[Wiley Press Room](#)