

2008

What Else Matters for Corporate Governance?: The Case of Bank Monitoring

Frederick Tung

Boston University School of Law

Follow this and additional works at: https://scholarship.law.bu.edu/faculty_scholarship

 Part of the [Banking and Finance Law Commons](#)

Recommended Citation

Frederick Tung, *What Else Matters for Corporate Governance?: The Case of Bank Monitoring*, 88 *Boston University Law Review* 991 (2008).

Available at: https://scholarship.law.bu.edu/faculty_scholarship/480

This Article is brought to you for free and open access by Scholarly Commons at Boston University School of Law. It has been accepted for inclusion in Faculty Scholarship by an authorized administrator of Scholarly Commons at Boston University School of Law. For more information, please contact lawlessa@bu.edu.



Emory University School of Law

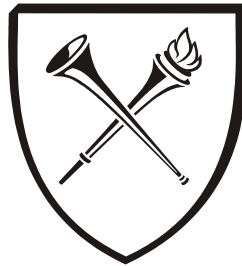
Law & Economics Research Paper Series

Research Paper No. 08-35

Public Law & Legal Theory Research Paper Series

Research Paper No. 08-49

EMORY



WHAT ELSE MATTERS FOR CORPORATE GOVERNANCE? THE
CASE OF BANK MONITORING

Joanna Shepherd, Frederick Tung, Albert Yoon

WHAT ELSE MATTERS FOR CORPORATE GOVERNANCE?: THE CASE OF BANK MONITORING

JOANNA M. SHEPHERD,^{*} FREDERICK TUNG^{**} AND ALBERT H. YOON^{***}

INTRODUCTION	993
I. BACKGROUND	997
A. <i>Corporate Governance Through Corporate Law: The Empirical Corporate Governance Literature</i>	998
B. <i>The Possibility of Bank Governance</i>	1001
1. Bank Governance	1002
2. The Supporting Finance Literature	1004
II. HYPOTHESIS DEVELOPMENT	1007
A. <i>Our Hypotheses</i>	1007
1. Bank Monitoring: The Mechanics	1007
2. The Pervasive Effects of Bank Monitoring	1009
3. Free Cash Flow	1009
4. Management Entrenchment.....	1011
B. <i>Potential Theoretical Limitations</i>	1011
1. Moral Hazard or Adverse Selection?: Monitoring Versus Information Asymmetry	1011
2. Risk Reduction and Banks' Reduced Incentives to Monitor	1012
III. BANK MONITORING AND FIRM VALUE.....	1014
A. <i>Methodology</i>	1014
1. The Model's Technical Structure	1014
2. Our Data	1015
3. Details of the Model	1015
B. <i>Bank Loans and Firm Value</i>	1017
C. <i>Exploring Simultaneity, Monitoring, and Alternative Theories</i> ..	1021
1. Simultaneity.....	1021
2. Monitoring Versus Information Asymmetry Theories	1025

^{*} Assistant Professor of Law, Emory University School of Law.

^{**} Professor of Law, Emory University School of Law.

^{***} Associate Professor of Law, University of Toronto Faculty of Law; Visiting Scholar, Russell Sage Foundation 2008-09. For helpful comments, we owe thanks to Scott Baker, Bernie Black, Stephen Choi, Bill Henderson, Jonathan, Klick, John Pottow, Robert Rasmussen, and Krishnamurthy Subramanian, as well as workshop participants at the University of Michigan School of Law, Florida State University School of Law, the Canadian Law and Economics Association 2006 Annual Meeting, the Southeastern Association of Law Schools 2006 Annual Meeting, and the Law and Society Association 2006 Annual Meeting.

D.	<i>Interactions with Managerial Entrenchment and Free Cash Flow</i>	1027
	1. Interactions with Managerial Entrenchment	1028
	2. Interactions with Free Cash Flow	1030
	3. Interactions with Managerial Entrenchment and Free Cash Flow	1032
	4. Strong Entrenchment: When Bank Monitoring May Matter Most	1037
IV.	IMPLICATIONS FOR LAW AND FUTURE RESEARCH	1039
A.	<i>Reconceptualizing Regulation of Creditors and Credit Markets</i>	1039
B.	<i>Implications for Future Research</i>	1041

We address a crucial but underappreciated question: what else besides corporate law matters for corporate governance? We take the novel view that corporate governance must involve more than corporate law. Corporate scholars focus almost exclusively on corporate law mechanisms for controlling managerial agency costs. We contend, however, that contracting parties also attempt to control agency costs in their contracts with the firm. In particular, we hypothesize that banks, by monitoring firms in connection with their loans, enhance firm value for the benefit of shareholders.

We examine over one-thousand public firms for the period 1990-2004 to test the value of bank monitoring. Our approach builds on existing empirical scholarship on corporate governance, to which we add data on the presence of bank loans and their interactions with free cash flow, governance indices, and individual corporate governance provisions. We find evidence consistent with our hypothesis that bank monitoring improves firm value, especially where agency costs are high. Bank monitoring may provide an additional mechanism for corporate governance.

Our findings have important implications for both regulatory design and corporate governance. Bank monitoring may offer positive spillovers not previously considered in the crafting of regulation affecting bank lending, creditor rights, and the operation of loan and credit derivatives markets. Legal rules affecting bank lending or monitoring may indirectly and inadvertently affect firm value, a nontrivial consideration given the pervasiveness of bank debt among public companies. We identify a number of regulatory areas that may deserve new attention. Similarly, future empirical corporate governance research should account for the effects of bank governance, as well as investigate further its potential for improving firm value.

[C]reditor control has yet to hit the radar screen of the general corporate governance literature.¹

INTRODUCTION

Corporate law matters. But it may not be all that matters.

Several decades of empirical research have generated consensus that good governance improves firm value, thereby benefiting public company shareholders.² Corporate law may not be the only thing that matters, though. Other parties besides shareholders care about controlling managerial agency costs. Contracting parties of the firm may therefore be expected to contract for agency cost constraints and to monitor management. A well-developed finance literature shows banks to be especially adept at this monitoring function. And while the interests of banks and shareholders may not be perfectly aligned, we hypothesize that the overlap is sufficiently large that bank monitoring may improve firm value for the benefit of shareholders. We seek to address a yawning gap in the corporate governance literature, which to date has largely ignored the prospects and possibilities for creditor governance. Our empirical analysis of publicly traded U.S. firms for the period 1990-2004 supports our hypothesis that bank monitoring adds value for shareholders.

Corporate law scholars have long assumed that corporate law does and should take the laboring oar for improving firm value and shareholder returns. Moreover, two decades of empirical research confirms that good governance adds value for shareholders. Researchers began by examining the effect of specific governance arrangements – poison pills, golden parachutes, or the composition of boards of directors, for example – on firm performance and shareholder wealth.³ Building on these early efforts, subsequent empirical scholarship has attempted to capture the broad contours of firms' governance structures with multi-factor governance indices.⁴ An index identifies particular governance provisions of interest and then scores firms based on the presence or absence of these provisions in firms' governance arrangements. Broad-index approaches – tracking dozens of specific governance provisions – have led to narrow-index approaches, attempting to identify a relative handful of governance provisions that matter.⁵

Corporate law scholars have generally not looked much beyond corporate law and markets for mechanisms to reduce agency costs. They have largely

¹ Douglas G. Baird & Robert K. Rasmussen, *Private Debt and the Missing Lever of Corporate Governance*, 154 U. PA. L. REV. 1209, 1242 (2006).

² See, e.g., Paul A. Gompers, Joy L. Ishii & Andrew Metrick, *Corporate Governance and Equity Prices*, 118 Q.J. ECON. 107, 144 (2003) (finding a relationship between an index of corporate governance measures and stock performance during the 1990s).

³ See *infra* note 24 and accompanying text.

⁴ See Gompers et al., *supra* note 2, at 109.

⁵ See *infra* Part I.A.

ignored the possibility that creditor monitoring might improve public company firm value.⁶ While a few scholars have examined creditor monitoring, they focus primarily on the distress context – creditors’ ability to affect corporate governance once the firm is in serious trouble. Our claim is broader. We believe bank monitoring has more general value for firms even outside the narrow default context.

The dearth of attention from corporate scholars is ironic given the ascendancy of the contractualist view of the corporation within the legal academy and the thick web of contractual commitments that bind the public company.⁷ Stockholders are not the only claimants on the firm concerned about managerial slack. Other contracting parties have reason to worry about agency costs. It makes sense, therefore, to investigate the possibility of contractual governance arrangements – institutional monitoring arrangements outside the traditional purview of corporate law created by explicit contract. It should not be surprising if a firm’s contracts include devices for monitoring management and otherwise constraining agency costs. Corporate governance may involve more than corporate law. We investigate firms’ bank debt to see whether this might be true.

Banks look to be an especially promising source of monitoring services for shareholders. A well-developed finance literature explains banks’ special monitoring abilities.⁸ Largely apart from the shareholder-focused empirical corporate governance literature, finance scholars have pursued another line of research exploring financial intermediation and its positive externalities for other financial claimants.⁹ Of special interest to us, studies imply that bank loans benefit the borrower firm’s shareholders. Event studies have consistently found positive abnormal stock returns to borrower firms upon the public announcement of bank loans.¹⁰ One explanation for this stock price effect is

⁶ Law scholars have extensively analyzed the role of banks in the governance of small firms. See, e.g., Robert E. Scott, *A Relational Theory of Secured Financing*, 86 COLUM. L. REV. 901, 903-04 (1986).

⁷ George Triantis and Ron Daniels offer a prominent exception. They raised the possibility over a decade ago that a bank lender’s monitoring of its borrower firm might benefit the firm’s claimants generally. See George G. Triantis & Ronald J. Daniels, *The Role of Debt in Interactive Corporate Governance*, 83 CAL. L. REV. 1073, 1113 (1995). Only recently have other law scholars begun to follow this lead, focusing on the effects of creditor control on corporate governance. See, e.g., Baird & Rasmussen, *supra* note 1, at 1212 (discussing the central role of loan covenants in corporate governance).

⁸ See *infra* Part I.B.2.

⁹ See, e.g., Sudip Datta, Mai Iskandar-Datta & Ajay Patel, *Bank Monitoring and the Pricing of Corporate Public Debt*, 51 J. FIN. ECON. 435, 448 (1999) (finding empirical evidence that bank debt significantly lowers the monitoring costs of arms-length debt); Mark S. Klock, Sattar A. Mansi & William F. Maxwell, *Does Corporate Governance Matter to Bondholders?*, 40 J. FIN. & QUANTITATIVE ANALYSIS 693, 694 (2005).

¹⁰ See Ronald Best & Hang Zhang, *Alternative Information Sources and the Information Content of Bank Loans*, 48 J. FIN. 1507, 1512 (1993); Matthew T. Billett, Mark J. Flannery

that banks perform a monitoring function not otherwise available. Because shareholders value this bank monitoring, they bid up the price of the firm's stock.¹¹

Despite the findings of these studies and the intensive empirical focus on corporate governance, to date no study has attempted to measure effects of bank debt on firm value, or to investigate the interaction of ongoing bank monitoring with traditional corporate governance arrangements. We hypothesize that if bank monitoring explains at least part of the observed positive market reaction to bank loan announcements, then we should observe improved firm value as a result of bank monitoring. We also suspect that bank monitoring may interact with certain corporate governance features, either complementing or substituting for good corporate governance. Finance theorists noted long ago the various agency costs that different financial claims may create.¹² It makes sense, therefore, that financial claimants may attempt to control agency costs in their contracts with firms. And while finance theorists often emphasize the conflicting interests among different types of financial claims,¹³ surely debt and equity must share some interest in reducing managerial slack. We hypothesize that over a wide range of situations, the interests of lenders and equity holders may converge in reducing managerial agency costs. In short, bank monitoring may provide value for shareholders.

How might bank monitoring control agency costs? The standard loan agreement imposes numerous operating and financial constraints on the borrower firm.¹⁴ The borrower is also typically required to maintain a regular flow of information to the bank, detailing the borrower's operating performance and current financial condition. In addition to these contractual

& Jon A. Garfinkel, *The Effect of Lender Identity on a Borrowing Firm's Equity Return*, 50 J. FIN. 699, 717 (1995); Christopher James, *Some Evidence on the Uniqueness of Bank Loans*, 19 J. FIN. ECON. 217, 234 (1987); Myron B. Slovin, Shane A. Johnson & John L. Glascock, *Firm Size and the Information Content of Bank Loan Announcements*, 16 J. BANKING & FIN. 1057, 1070 (1992).

¹¹ The other standard explanation is that banks resolve information asymmetry for capital markets when they decide to lend to a firm. Bank lenders may obtain private information about the firm during the process of negotiating the lending arrangement. Their consummation of an agreement conveys positive private information to the market about the firm's value. Neither explanation – monitoring or information asymmetry – excludes the other. Both may be at work. *See infra* Part I.B.2 (discussing the supporting finance literature).

¹² For the seminal work in this regard, see Michael Jensen & William Meckling, *Theory of the Firm: Managerial Behavior, Agency Costs, and Ownership Structure*, 3 J. FIN. ECON. 305, 312-30 (1976).

¹³ Jensen and Meckling model the agency costs of debt as increasing in the percentage of outside financing comprised of debt versus equity. *See id.* at 344-45.

¹⁴ As for operational constraints, negative covenants may prohibit many types of transactions without the bank's consent. Financial covenants may require the borrower firm to maintain a healthy financial condition. *See infra* Part II.A.1.

requirements, banks enjoy institutional features that facilitate monitoring. For example, a bank lender often requires its borrower to maintain its deposit accounts with the bank, an arrangement that enables the bank to monitor its borrower's cash flow. Bank lending practices – such as short terms and specialization by industry – also facilitate monitoring.

Our paper marries two strands of literature – the empirical corporate governance literature and the corporate finance literature – to investigate the effect of bank monitoring on firm value. We find evidence consistent with our bank monitoring theory,¹⁵ especially where agency costs are high. Controlling for governance indices and for potential simultaneity, we consistently find a positive and significant relation between firm value and the presence of a bank loan. This suggests that bank monitoring can help counteract the value-decreasing effect of managerial entrenchment. In addition, using measures of free cash flow to differentiate companies with high agency costs, we find that bank monitoring interacts with free cash flow to enhance firm value, and that this effect is greater for firms with substantial free cash flow. Finally, we test interactions among bank loans, free cash flow, and measures of governance quality. Our results suggest that (a) for a given quality of corporate governance, free cash flow in the presence of bank monitoring improves firm value; and (b) bank monitoring may matter most when strong entrenchment would otherwise encourage managers to squander free cash – i.e., when agency costs are high.

The significant potential for bank governance may implicate a number of bank- and credit-market-related regulatory design issues, as well as the design of future empirical corporate governance research. By improving firm value, bank monitoring may offer a beneficial spillover not previously accounted for in the crafting of regulation affecting bank lending, creditor rights, or the operation of loan and credit derivatives markets. To the extent legal rules may facilitate or impede bank lending or monitoring, they may also indirectly and inadvertently affect firm value. Given the pervasiveness of bank debt among public companies, this effect is likely to be nontrivial. Accordingly, we identify a number of regulatory areas that may deserve new attention. Similarly, future empirical corporate governance research should both account for the effects of bank governance and further investigate its potential for improving firm value.

Part I of this Article reviews the relevant corporate and finance literature. First, it sketches the empirical corporate governance literature, describing scholars' attempts to identify what counts as good traditional corporate governance and to measure its value. Part I then turns to the literature suggesting the possibilities for bank governance. Part II develops our

¹⁵ Following existing empirical studies on the value of corporate governance, *see infra* Part I.A, we use industry-adjusted Tobin's Q as our measure of firm value. Tobin's Q is defined as the firm's market value divided by the replacement cost of its assets. *See infra* Part III.A.3 for our formula for calculating Tobin's Q.

hypotheses. Part III outlines our methodology for measuring the effects of bank governance. It then discusses our findings. Part IV discusses the implications of our findings for future research.

I. BACKGROUND

For decades, corporate scholars have argued over optimal corporate governance provisions for public companies.¹⁶ There is now widespread consensus that corporate law matters.¹⁷ Empirical studies confirm that corporate governance arrangements affect shareholder value.¹⁸

With just a handful of exceptions discussed below, corporate law scholars have focused almost exclusively on corporate law and markets for mechanisms to reduce agency costs in public companies.¹⁹ Law scholars have not much

¹⁶ For over thirty years, corporate scholars have debated whether corporate charter competition benefits investors or only self-serving firm managers. Classic race-to-the-top works include FRANK H. EASTERBROOK & DANIEL R. FISCHEL, *THE ECONOMIC STRUCTURE OF CORPORATE LAW* 214 (Harvard Univ. Press 1991); Peter Dodd & Richard Leftwich, *The Market for Corporate Charters: "Unhealthy Competition" vs. Federal Regulation*, 53 J. BUS. L. 259, 281 (1980); Daniel R. Fischel, *The "Race to the Bottom" Revisited: Reflections on Recent Developments in Delaware's Corporation Law*, 76 NW. U. L. REV. 913, 914 (1982); Roberta Romano, *Law as a Product: Some Pieces of the Incorporation Puzzle*, 1 J.L. ECON. & ORG. 225, 280 (1985); Ralph K. Winter, Jr., *State Law, Shareholder Protection, and the Theory of the Corporation*, 6 J. LEGAL STUD. 251, 289 (1977). Race-to-the-bottom scholarship includes Lucian Arye Bebchuk, *Federalism and the Corporation: The Desirable Limits on State Competition in Corporate Law*, 105 HARV. L. REV. 1435, 1509 (1992); William L. Cary, *Federalism and Corporate Law: Reflections upon Delaware*, 83 YALE L.J. 663, 705 (1974); Melvin Aron Eisenberg, *The Structure of Corporation Law*, 89 COLUM. L. REV. 1461, 1524 (1989); Michael Klausner, *Corporations, Corporate Law, and Networks of Contracts*, 81 VA. L. REV. 757, 852 (1995) (suggesting network effects may impede the race to the top); cf. Jonathan R. Macey & Geoffrey P. Miller, *Toward an Interest-Group Theory of Delaware Corporate Law*, 65 TEX. L. REV. 469, 498-509 (1987) (describing the role of the Delaware corporate bar in influencing Delaware corporate law).

¹⁷ *But see* Bernard S. Black, *Is Corporate Law Trivial?: A Political and Economic Analysis*, 84 NW. U. L. REV. 542, 544 (1990) (arguing that corporate law rules that appear to be mandatory are trivial, either because they mimic the parties' desires anyway, they can easily be planned around, they are unimportant, or political pressures will cause their modification in the long run).

¹⁸ *See infra* Part I.A.

¹⁹ Besides bank credit agreements, scholars have also identified bond indentures and directors' and officers' insurance policies as promising or potential sources of contract-based agency cost constraints. *See* Clifford W. Smith, Jr. & Jerold B. Warner, *On Financial Contracting*, 7 J. FIN. ECON. 117, 125-31 (1979) (explaining the role of bond covenants in incentivizing shareholders to pursue a firm-value-maximizing investment policy); Tom Baker & Sean J. Griffith, *Predicting Corporate Governance Risk: Evidence from the Directors' & Officers' Liability Insurance Market*, 74 U. CHI. L. REV. 487, 543 (2007) (surveying D&O insurance underwriters who overwhelmingly view corporate governance arrangements as important for assessing liability risk, and hypothesizing that higher

discussed the possibility that creditor monitoring might improve public company firm value.²⁰ By contrast, a well-developed finance literature explains banks' special monitoring abilities and suggests that equity holders may also benefit.²¹ To date, however, no one has attempted to measure the effects of bank monitoring on the traditional indicia of firm value that have been the focus of empirical corporate governance research.

This Part briefly reviews the literature relevant to our investigation. Section A describes the empirical corporate governance literature, which forms the backdrop for our empirical analysis. We take as given the major findings of this literature that corporate governance adds value. We rely on several accepted corporate governance measures in our models, either as controls or interaction variables. Section B discusses the extant legal and finance literature suggesting that bank monitoring may have value for shareholders. As described below, the empirical corporate governance literature and the bank cross-monitoring research have developed largely in isolation from one another.

A. *Corporate Governance Through Corporate Law: The Empirical Corporate Governance Literature*

Legal and finance scholars have attempted to measure the value of corporate law and various corporate governance features, generally relying on stock market-based metrics. Focusing on the race-to-the-top debate,²² Robert Daines and Guhan Subramanian have each attempted to measure the effect of Delaware corporate law on firm value.²³ Others have investigated the effects of specific corporate governance arrangements on stock prices and firm performance.²⁴

insurance premiums for higher risk firms may serve to deter managerial misbehavior). *But see* Tom Baker & Sean J. Griffith, *The Missing Monitor in Corporate Governance: The Directors' & Officers' Liability Insurer*, 95 GEO. L.J. 1795, 1841-42 (2007) (finding that D&O insurers do not offer loss prevention services or otherwise monitor corporate governance).

²⁰ Law scholars have, however, extensively analyzed the role of banks in the governance of small firms. *See* Scott, *supra* note 6, at 903-04.

²¹ *See infra* Part I.B.2.

²² *See supra* note 16 and accompanying text.

²³ Robert Daines, *Does Delaware Law Improve Firm Value?*, 62 J. FIN. ECON. 525, 556 (2001) (finding evidence consistent with the theory that Delaware corporate law improves firm value); Guhan Subramanian, *The Disappearing Delaware Effect*, 20 J.L. ECON. & ORG. 32, 57 (2004) (finding that the "Delaware effect" is limited to small firms during the period 1991-1996 but not afterward, and not for larger firms). Both use Tobin's Q as their metric for firm value. *See* Daines, *supra*, at 525; Subramanian, *supra*, at 36.

²⁴ *See, e.g.*, Barry D. Baysinger & Henry N. Butler, *Corporate Governance and the Board of Directors: Performance Effects of Changes in Board Composition*, 1 J.L. ECON. & ORG. 101, 121 (1985) (finding that board independence is positively correlated with firm performance); Lucian A. Bebchuk & Alma Cohen, *The Costs of Entrenched Boards*, 78 J.

Then Paul Gompers, Joy Ishii, and Andrew Metrick (GIM) devised their G-index,²⁵ attempting a comprehensive measure of governance quality.²⁶ The G-index tracks governance provisions on shareholder voting, director-officer protections, managers' latitude to delay hostile bidders, and other takeover defenses, among other things. GIM find a significant inverse correlation between management entrenchment and firm value and performance, using Tobin's Q, stock returns, and operating performance as their dependent variables.²⁷ Other corporate governance studies relying on the G-index followed.²⁸ Lucian Bebchuk, Alma Cohen, and Allan Ferrell (BCF) refine the GIM approach. Instead of canvassing the entire range of corporate governance items, BCF focus on a subset of the G-index. They identify six provisions they claim to be the most significant in terms of management entrenchment.²⁹ These six provisions – staggered boards, limits to bylaw amendments, limits to charter amendments, supermajority voting for mergers, golden parachutes, and poison pills – form their E-index.³⁰ Like GIM, BCF find a significant inverse correlation between their E-index and performance, as measured by Tobin's Q

FIN. ECON. 409, 432 (2005) [hereinafter Bebchuk & Cohen, *Entrenched Boards*] (concluding that staggered boards are associated with lower firm value); John E. Core, Robert W. Holthausen & David Larcker, *Corporate Governance, Chief Executive Officer Compensation, and Firm Performance*, 51 J. FIN. ECON. 371, 403 (1999); Richard Lambert & David Larcker, *Golden Parachutes, Executive Decision-Making and Shareholder Wealth*, 7 J. ACCT. & ECON. 179, 201 (1985) (suggesting that Golden Parachute adoption is associated with a positive and statistically significant market reaction); Michael Ryngaert, *The Effect of Poison Pill Securities on Shareholder Wealth*, 20 J. FIN. ECON. 377, 411 (1988) (finding that poison pill plans do not benefit shareholders).

²⁵ Gompers et al., *supra* note 2, at 144.

²⁶ The G-index rates companies based on their degree of management entrenchment as indicated by twenty-four separate corporate governance features tracked by the Investor Responsibility Research Center (IRRC). *Id.* at 111. A firm's G-index score simply reflects the number of IRRC governance features each firm has in place that increase managerial control and correspondingly reduce shareholder rights. *Id.* at 114. IRRC, formerly an independent proxy advisory service used primarily by institutional investors, is now a part of RiskMetrics Group.

²⁷ GIM use profit margin, return on equity, and sales growth as their measures of operating performance. *Id.* at 129. GIM's findings on stock returns have been challenged. See John E. Core, Wayne R. Guay & Tjomme O. Rusticus, *Does Weak Governance Cause Weak Stock Returns?: An Examination of Firm Operating Performance and Investor Expectations*, 61 J. FIN. 655, 685 (2006).

²⁸ See, e.g., K. J. Martijn Cremers & Vinay B. Nair, *Governance Mechanisms and Equity Prices*, 60 J. FIN. 2859, 2864 (2005); Klock et al., *supra* note 9, at 694.

²⁹ Lucian Bebchuk, Alma Cohen, & Allen Ferrell, *What Matters in Corporate Governance?* 19 (Harvard Law School John M. Olin Center, Working Paper No. 491, 2005), available at <http://ssrn.com/abstract=593423> [hereinafter Bebchuk et al., *What Matters*].

³⁰ Each firm's E-index for a given year is simply the number of E-index entrenchment mechanisms the firm has in place in that year. *Id.* at 2.

and stock returns.³¹ Other studies have followed, proposing new governance indices.³² Though varied in their specific governance focus, the studies confirm that good governance improves firm value.

³¹ *Id.* at 39-40. Subsequent studies by Bhagat & Bolton and Core, Guay & Rusticus found no correlation between governance measures and stock returns, contrary to GIM and BCF. Sanjai Bhagat & Brian Bolton, *Corporate Governance and Firm Performance* 30 (June 2007) (unpublished manuscript), available at <http://ssrn.com/abstract=1017342>; Core et. al, *supra* note 27, at 685. These studies did, however, confirm the correlation between good governance and operating performance. Bhagat & Bolton, *supra*, at 6 (finding that good governance – as measured by the G-index, the E-index, stock ownership of board members, and the separation of CEO and chairman of the board – is significantly and positively correlated with operating performance but not stock performance); Core et al., *supra* note 27, at 684-86 (finding that in the 1990s, weak shareholder rights were associated with poor operating performance but not poor stock returns). In addition, Bhagat and Bolton find a *negative* correlation between board independence and operating performance. Bhagat & Bolton, *supra*, at 30.

³² For example, scholars have recently constructed indices based on governance attributes tracked by Institutional Shareholder Services (ISS) testing both broad-based indices and sub-indices that more carefully identify which governance features matter. See Lawrence D. Brown & Marcus L. Caylor, *Corporate Governance and Firm Valuation*, 25 J. ACCT. & PUB. POL'Y 409, 411 (2006); Reena Aggarwal and Rohan Williamson, *Did New Regulations Target the Relevant Corporate Governance Attributes?* 3 (Feb. 12, 2006) (unpublished manuscript), available at <http://ssrn.com/abstract=859264>.

Brown and Caylor develop their Gov-Score index based on fifty-one ISS governance attributes. Brown & Caylor, *supra*, at 411. After showing a positive association between Gov-Score and firm value, they whittle the index down to seven “key drivers” of their result, which they aggregate in their Gov-7 index. *Id.* The seven key factors are: (1) board members are elected annually; (2) company either has no poison pill or a pill that was shareholder approved; (3) option re-pricing did not occur within the last three years; (4) average options granted in the past three years as a percent of basic shares outstanding did not exceed three percent; (5) all directors attend at least seventy-five percent of board meetings or had a valid excuse for non-attendance; (6) board guidelines are in each proxy statement; and (7) directors are subject to stock ownership guidelines. *Id.*

Aggarwal and Williamson offer another set of ISS-based governance measures. Their *Gov₆₄* index aggregates all sixty-four governance attributes tracked by ISS, scoring each firm by the number of ISS governance features the firm has in place. Aggarwal & Williamson, *supra*, at 1. Using *Gov₆₄* as their measure of governance, they find a positive association between good governance and firm value, which is both statistically and economically significant. *Id.* at 18. They also sort their sixty-four governance features into eight categories – *Board* (relating to board structure and function), *Audit* (the audit committee and the role of auditors), *State* (state law anti-takeover provisions), *Charter* (charter-based anti-takeover devices), *Compensation* (executive and director compensation), *Progressive* (progressive practices on board appointments and board review, among other things), *Ownership* (ownership by directors), and *Education* (director education). *Id.* at 8. Testing each governance category separately, they find that all categories except *State* and *Education* have a positive and significant association with firm value. *Id.* at 18-19.

In addition to these U.S. indices, Bernie Black, Hasung Jang, and Woochan Kim create a

At the same time, empirical corporate governance scholars have acknowledged the difficulty of identifying causal mechanisms in corporate governance. Corporate governance features are likely to be simultaneously determined with other firm characteristics – capital structure, ownership structure, and corporate performance, for example.³³ Simultaneity therefore poses a serious concern and an important qualifier for drawing any conclusions from empirical analysis.³⁴ We do not attempt to resolve these potential biases in the existing empirical corporate governance literature. Instead, we take these approaches as given. We rely on several existing measures of corporate governance – GIM's G-index, BCF's E-index, and individual components of the E-index – as alternative controls and interaction terms in our models below.

B. *The Possibility of Bank Governance*

Implicit in the empirical corporate governance scholarship is the assumption that legal rules and contracts structuring relations among firm managers and shareholders supply the primary governance mechanisms affecting managerial agency costs and firm performance. The corporate finance literature, on the other hand, has focused primarily on financial intermediation and the benefits of cross-monitoring among investors, and has developed largely independently from the corporate governance literature.³⁵ Relying in part on this cross-monitoring literature, legal scholars have developed theories of bank governance, suggesting that banks may play an important governance role as the firm approaches distress. These new theories focus primarily on the distress context and banks' influence once the firm has defaulted on its debt obligation. By contrast, we contend that bank monitoring has broader influence, affecting firm performance generally. We first introduce the handful of studies suggesting the possibility of bank governance. We then briefly survey the finance literature on bank monitoring.

corporate governance index for Korean companies, again showing a strong association between corporate governance and firm value. Bernard S. Black, Hasung Jang, & Woochan Kim, *Does Corporate Governance Predict Firms' Market Values?: Evidence from Korea*, 22 J.L. ECON. & ORG. 366, 368 (2006).

³³ See Bhagat & Bolton, *supra* note 31, at 9.

³⁴ Simultaneity is more fully discussed in Bhagat & Bolton, *supra* note 31, at 23. Bhagat and Bolton highlight the endogeneity issues affecting earlier studies. Unlike these earlier studies, they rely on a system of four simultaneous equations to address endogeneity. See *id.* at 11. Bhagat and Bolton propose a new governance measure – the dollar value of stock ownership of the median director – as an alternative to the unweighted G- and E-indexes. *Id.*

³⁵ One exception is Klock, et al., *supra* note 9, at 693 (considering the relationship between debt financing and corporate governance).

1. Bank Governance

George Triantis and Ron Daniels were among the first to suggest that bank monitoring might benefit a firm's claimants generally and a firm's shareholders in particular.³⁶ In their seminal 1995 article, they proposed an interactive theory of corporate governance, arguing that stakeholders' exit decisions provide valuable information to one another, thereby enhancing their collective ability to discipline management.³⁷ The bank is the central monitor under this theory: its specialized monitoring abilities make it the low-cost monitor.³⁸ Because the borrower and creditors as a group care about minimizing total monitoring costs, the borrower willingly grants covenant protections to the bank that it may not grant other creditors. The bank's contract rights and ongoing monitoring enable it both to deter managerial slack and to detect it early. Upon detection, the bank may either exit or intervene, even to the point of having management replaced.³⁹ In either case, the bank's action signals other stakeholders, who may also act to protect their interests. While classic finance theory focuses on the conflicts between debt holders and equity holders,⁴⁰ especially as the firm nears distress, the bank lender may have good reason to work toward the firm's recovery as a going concern. The prospect of repeat business with the firm may serve to align the bank's interests with those of equity holders as to investment policy and the firm's recovery.⁴¹

Douglas Baird and Robert Rasmussen have recently renewed the focus on creditor monitoring and corporate governance, describing creditor control as the "missing lever" in the corporate governance literature.⁴² They highlight the underappreciated role that banks and bank loan covenants play in corporate governance when a firm defaults. The detailed reporting obligations and contract constraints imposed by the loan agreement, as well as the bank's ability to control the borrower's cash, enable the bank literally to control the firm.⁴³ Once the firm defaults, the bank's ability to discipline management is much greater than with traditional governance mechanisms.⁴⁴ Banks routinely

³⁶ Triantis & Daniels, *supra* note 7, at 1074.

³⁷ *Id.* at 1080.

³⁸ *Id.* at 1083 (emphasizing that the bank enjoys better information than other creditors, and its business model generates monitoring economies not available to other creditors).

³⁹ *Id.* at 1084.

⁴⁰ *See, e.g.*, Jensen & Meckling, *supra* note 12, at 305.

⁴¹ Triantis & Daniels, *supra* note 7, at 1100-01.

⁴² *See* Baird & Rasmussen, *supra* note 1, at 1211.

⁴³ *See id.* at 1227-29 (illustrating the degree to which banks can exert control over a firm by managing its cash flow).

⁴⁴ Compare, for example, bank monitoring with monitoring by shareholders – the firm's traditional "owners." Banks enjoy far better information about the firm, and exercise far more oversight and control over the firm's affairs, than do shareholders. *See id.* at 1217. The corporate charter is a short document; the loan agreement can easily exceed one

demand management changes when a borrower firm defaults,⁴⁵ something shareholders simply cannot do. Similarly, the market for corporate control has only a weak disciplining effect on management compared to bank discipline. Firms may erect takeover defenses to deter hostile takeovers, but once they take on private debt, they have little defense against creditor control.⁴⁶

Like Triantis and Daniels, Baird and Rasmussen resist the finance canon on the agency costs of debt, which focuses on the conflicts among different investor classes that preclude efficient investment when the firm is in distress.⁴⁷ Baird and Rasmussen describe the incentives of the senior lender – typically the bank – to pursue even risky projects to maximize firm value.⁴⁸ If a sale is in the offing, as is common, the senior lender will not oppose efficient but risky investments, since it will be interested in increasing the firm's value and sale price.⁴⁹ Even with no possibility of a sale, the senior lender may endorse risky investments. The senior lender's claim is often converted to equity in a Chapter Eleven reorganization, so it has the same incentives as the classic residual owner.⁵⁰

hundred pages. *See id.*

⁴⁵ *Id.* at 1233-34; Sadi Ozelge, The Role of Banks and Private Lenders in Forced CEO Turnovers 1 (Jan. 15, 2008) (unpublished manuscript), available at <http://ssrn.com/abstract=1031814> (finding that for an underperforming firm, an average level of bank debt implies a twenty-five to forty-six percent increase in the probability of forced CEO turnover, and if the underperforming firm violates a loan covenant, the increased probability of forced CEO turnover jumps to sixty-seven to ninety-percent).

⁴⁶ Baird & Rasmussen, *supra* note 1, at 1244. Simply paying off the loan is typically not a ready option:

In theory, a business can rid itself of a creditor who presses too hard by repaying the loan, but a business that encounters difficulty with a private creditor is likely to have trouble replacing it with another. Any new lender has to worry about the private information held by the existing lender. The existing lender may want to withdraw for reasons that are not yet plain to outsiders. Any new lender is in any event bound to insist upon its own control rights to protect itself.

Id.

⁴⁷ *See id.* at 1212-13. For the finance canon on agency costs of debt, *see generally* Jensen & Meckling, *supra* note 12.

⁴⁸ *See* Baird & Rasmussen, *supra* note 1, at 1246. Under the traditional finance canon, the senior lender of the distressed firm will typically resist risky projects, and even efficient ones, because it will bear a disproportionate share of any losses without enjoying a commensurate share of the gains. *See* Jensen & Meckling, *supra* note 12, at 334.

⁴⁹ Baird & Rasmussen, *supra* note 1, at 1246.

⁵⁰ *See id.* at 1246-47. As other evidence of coincident interests across different investor classes, Baird & Rasmussen note the recent popularity of "silent" second lien loans, where a junior lender takes a second lien in the senior lender's collateral, but agrees to follow the senior's lead on major issues in the bankruptcy case, including DIP financing, asset sales, and voting on the plan of reorganization. These arrangements evidence sophisticated investors' recognition of shared interests across investor classes. *See id.*

Aside from these thoughtful discussions, creditor governance has largely been ignored in the legal and finance literature. As earlier noted, this nascent literature took early cues from corporate finance scholars, who beginning in the 1980s pioneered the research indirectly suggesting the possibility of bank governance. The next Section briefly reviews this finance literature.

2. The Supporting Finance Literature

The theoretical case for banks' special monitoring ability has been modeled extensively.⁵¹ Empirical testing of this proposition has generally taken the form of event studies showing positive abnormal stock returns triggered by firms' bank loan announcements.⁵² These studies confirm that banks' extensions of credit generally benefit stockholders of the borrower firm.⁵³

Two theoretical accounts have been offered to explain this effect. The positive stock price reaction may reflect the value of future bank monitoring over the life of the loan. Alternatively, the bank's initial lending decision may itself create a positive market reaction by resolving information asymmetry for the market. The bank's decision to lend in effect acts as a signal for good firms. The bank obtains private information about the firm during its pre-loan diligence process. Its lending decision may therefore convey positive private information concerning the firm's creditworthiness or the value of its projects.⁵⁴ These explanations are not mutually exclusive, and studies tend to suggest that both information asymmetry and monitoring theories may help

⁵¹ See Tim S. Campbell & William A. Kracaw, *Information Production, Market Signaling, and the Theory of Financial Intermediation*, 35 J. FIN. 863 (1980); Douglas W. Diamond, *Financial Intermediation and Delegated Monitoring*, 51 REV. ECON. STUD. 393 (1984); Eugene F. Fama, *What's Different About Banks?*, 15 J. MONETARY ECON. 29 (1985); Ram T. S. Ramakrishnan & Anjan V. Thakor, *Information Reliability and a Theory of Financial Intermediation*, 51 REV. ECON. STUD. 415 (1984).

⁵² See *supra* note 10.

⁵³ See Billet et al., *supra* note 10, at 700. Several studies suggest that non-bank private debt may also bring bank-like benefits to equity holders. These studies show a positive stock price reaction to announcements of non-bank private debt placements, with no statistical difference between announcements of bank debt versus non-bank private debt. See Billet, et al., *supra* note 10, at 700 (finding no significant difference between abnormal returns for bank versus nonbank loans); Dianna C. Preece & Donald J. Mullineaux, *Monitoring by Financial Intermediaries: Banks versus Nonbanks*, 8 J. FIN. SERVICES RES. 193, 200-01 (1994) (finding that borrowing firms experience positive abnormal returns upon announcing conclusions of loan agreements with nonbank lenders). Our data identify only bank debt, however. Other forms of private debt – loans made by non-bank entities like insurance companies and commercial finance companies, for example – are not included.

⁵⁴ See James, *supra* note 10, at 225-27 (finding a positive stock price response to the announcement of new bank credit agreements); Wayne H. Mikkelson & M. Megan Partch, *Valuation Effects of Security Offerings and the Issuance Process*, 15 J. FIN. ECON. 31, 58-59 (1986).

explain the market's positive reaction. Because our focus is on monitoring, we discuss empirical support for the monitoring theory below.⁵⁵

An early study of positive stock price reactions to bank loan announcements distinguishes bank loans by stated purpose.⁵⁶ Comparing loans for debt refinance with capital expenditure loans, the study finds no significant difference in stock price response.⁵⁷ Abnormal stock returns from new loan announcements therefore cannot be explained solely by an information asymmetry theory,⁵⁸ since debt refinance loans convey no private information about the firm's growth prospects. Though the study's author draws no definitive conclusion as to other causal theories,⁵⁹ bank monitoring offers a plausible explanation.⁶⁰

Another study distinguishes between new bank loans and loan renewals.⁶¹ It finds excess stock returns almost exclusively around the announcement of loan *renewals*, but not new loans.⁶² The authors conclude that the value to shareholders comes not from the initial screening of prospective borrowers, but from private information the bank gleans during the course of its relationship

⁵⁵ As for information asymmetry, several studies support this notion that an extension of bank credit conveys positive private information about the firm. See Best & Zhang, *supra* note 10, at 1520-22. Using financial analysts' percentage earnings forecast errors as a proxy for information asymmetry, one study shows that firms with high forecast errors enjoy significant positive stock price reactions to bank loan announcements, while firms with low forecast errors do not. *Id.* at 1517. Along similar lines, another study investigates public companies' marginal financing decisions, confirming the positive abnormal stock returns that accompany bank loan announcements, which are both statistically significant and also significantly different from the negative abnormal returns accompanying announcements of public issues of common stock and straight debt. See Charles J. Hadlock & Christopher M. James, *Do Banks Provide Financial Slack?*, 57 J. FIN. 1383, 1386 (2002). This study also finds that firms choosing bank debt have higher stock return volatility and higher analyst forecast errors than firms issuing public securities, which is consistent with the notion that information asymmetry and adverse selection costs drive firms to choose bank debt. *Id.* at 1385.

⁵⁶ James, *supra* note 10, at 228.

⁵⁷ *Id.* James finds the same result when capital expenditure loans are combined with general purpose corporate loans. *Id.* at 228-29.

⁵⁸ *Id.* at 229.

⁵⁹ The author leaves this question for future research. *Id.* at 234.

⁶⁰ As interesting, the study finds a statistically significant negative stock price reaction for announcements of private and straight public debt offerings used to refinance bank loans. *Id.* One plausible explanation for the market's negative reaction – consistent with our monitoring story – is that these transactions harm shareholders by eliminating the bank monitor.

⁶¹ Scott L. Lummer & John J. McConnell, *Further Evidence on the Bank Lending Process and the Capital-Market Response to Bank Loan Agreements*, 25 J. FIN. ECON. 99, 99 (1989).

⁶² *Id.* at 120.

with the borrower.⁶³ This result is consistent with a monitoring theory. Banks provide a credible signal of firm value only as a result of continuing information gathering with respect to a borrower firm.⁶⁴

In addition to these event studies, another study investigates the monitoring benefits of private debt, including bank debt.⁶⁵ Examining various potential determinants of a firm's mix of public and private debt, the study finds that firms with greater growth prospects – and therefore greater debt-related moral hazard problems⁶⁶ – rely more heavily on private debt than on public debt. The authors attribute this result to the monitoring advantages of private debt.⁶⁷ The stricter monitoring and more restrictive covenants that accompany private debt help mitigate the costs associated with shareholder-creditor conflict.⁶⁸

These studies are consistent with our monitoring hypothesis.⁶⁹ We develop our hypothesis in Part II.

⁶³ *Id.* at 113.

⁶⁴ *Id.* One drawback here is that subsequent research has not supported Lummer and McConnell's claimed distinction between new loans and renewals. Controlling for differences in other borrower and lender characteristics, such as precision of analyst earnings forecasts and lender credit quality, subsequent studies find no statistically significant difference in stock price reaction to announcements of new loans versus renewals. See Best & Zhang, *supra* note 10, at 1512-13; Billett et al., *supra* note 10, at 716.

⁶⁵ Sudha Krishnaswami, Paul A. Spindt & Venkat Subramaniam, *Information Asymmetry, Monitoring, and the Placement Structure of Corporate Debt*, 51 J. FIN. ECON. 407, 414 (1999) (defining private debt as including bank loans, finance company loans, and loans from other financial institutions).

⁶⁶ Greater growth prospects beget higher moral hazard because of the greater potential for asset substitution and underinvestment. *Id.* at 411 (commenting that "contracting costs due to underinvestment and asset substitution are higher for firms with more growth options because [of] the conflict between shareholders and bondholders").

⁶⁷ *Id.* at 432.

⁶⁸ *Id.* The study also confirms that firms with greater potential information asymmetries rely more on private debt than other firms. *Id.* at 428.

⁶⁹ Other studies confirm the value of bank monitoring to claimants other than shareholders. One study finds evidence of the value of bank monitoring to bondholders' benefit. See Datta, et al., *supra* note 9, at 448. In this study, the presence of a pre-existing bank loan reduced at-issue yield spreads for borrower firms' first public debt offerings by an average of sixty-eight basis points, which was both statistically and economically significant. *Id.* at 437. As the authors note, this likely reflects the value of bank monitoring, which reduces moral hazard in a way that bondholders alone cannot. *Id.* at 436. It would be difficult to explain the reduced at-issue yield spreads in terms of bank screening and reduced information asymmetry: at the time of the bond issue, the already-existing bank loan offers no new information to the market. Moreover, the length of the bank/firm relationship is also statistically significant and negatively related to at-issue yield spreads, which is again consistent with the monitoring hypothesis. See *id.* at 437. Though the authors offer a reputation story to explain this result, *id.* at 449, a lengthy bank/firm relationship may also signal the bank's familiarity with the borrower's business, thereby improving the bank's ability to monitor.

II. HYPOTHESIS DEVELOPMENT

Despite the burgeoning empirical corporate governance literature, to date no one has attempted to measure the effects of bank monitoring on firm value. No study has attempted to investigate the interaction of bank monitoring with corporate governance. We hypothesize that bank monitoring may enhance firm value. Over a wide range of situations, the interests of lenders and equity holders may converge in reducing managerial agency costs. Because creditors and equity holders share a common interest in agency cost reduction, we hypothesize that bank monitoring enhances firm value. In this Part, we first explain our affirmative hypotheses. We then discuss some potential theoretical limitations.

A. *Our Hypotheses*

1. Bank Monitoring: The Mechanics

How does bank monitoring operate to control agency costs? The standard credit agreement imposes numerous specific restrictions and obligations on the borrower firm regarding operational matters and financial condition.⁷⁰ In addition, the bank also demands a regular flow of information from the borrower concerning its financial and operating performance. As detailed below, the bank typically imposes numerous periodic and special reporting requirements on the borrower.

As far as operational constraints, negative covenants prohibit the firm from engaging in certain transactions without the bank's consent. For example, the firm's latitude to incur new debt, make investments or distributions, engage in transactions with affiliates, sell substantial assets, give liens on its assets, merge, or change the nature of its business, may all be explicitly restricted in the loan agreement. Use of loan proceeds is restricted. In addition to operational restrictions, financial covenants generally require the firm to maintain a healthy financial condition. It must, for example, preserve certain levels of net worth, tangible assets, total capital relative to debt, or cash flow relative to debt service obligations.⁷¹ Myriad technical default provisions in the contract enable the bank to tighten the reins if the firm falters.

Another study examines loan and bond defaults, comparing trading price reactions around the default date and finding a smaller price reaction for loans than bonds, which suggests that more precise information is embedded in loan prices because of banks' superior ongoing monitoring. Edward Altman, Amar Gande & Anthony Saunders, *Bank Debt Versus Bond Debt: Evidence from Secondary Market Prices* 30 (Oct. 2006) (unpublished manuscript), available at <http://ssrn.com/abstract=639081>.

⁷⁰ See, e.g., Staples Inc., Current Report (Form 8-K), at 2 (Dec. 20, 2004) (describing 2004 Revolving Credit Agreement with Bank of America); Stride Rite Corp., Current Report (Form 8-K), at 2 (Sept. 22, 2005) (describing revolving credit agreement with Bank of America).

⁷¹ Bond indentures contain similar provisions. See, e.g., *U.S. Bank Nat'l Ass'n v. U.S.*

In addition to operational constraints and financial covenants, the bank keeps tabs on the borrower by requiring it to produce a steady stream of information to the bank in the form of periodic financial and operating reports. This information is far more timely and detailed than any regular public disclosure the borrower firm may be required to make. The bank also typically enjoys direct access to firm management to address any concerns it might have. Banks therefore enjoy far better information about a firm than individual or even institutional investors. With its periodic reports, the firm must also certify its continuing compliance with each specific condition and restriction contained in the credit agreement. For example, in addition to producing quarterly financial statements, the firm may be required specifically to certify its net worth, tangible assets, cash flow, or other accounting benchmarks in order to confirm its compliance with individual financial covenants. Besides these regular reports, the borrower obligates itself to provide notice to the bank of the occurrence of any of a number of unfortunate incidents that might adversely affect the borrower's creditworthiness – material litigation, a default or potential default on the loan, or receipt of a government notice of a material regulatory violation, for example.

In addition to contractual constraints and ongoing reporting, the bank often has a representative on the borrower's board of directors,⁷² which offers one more avenue for active monitoring. Banks also enjoy institutional features that facilitate monitoring. They typically offer cash management services to their borrowers, who are often required to maintain their deposit accounts with their bank lender. This arrangement enables a bank to closely follow its borrower's aggregation and use of cash in real time, giving the bank a clear window on the borrower's business activity. Bank lending practices also facilitate monitoring. Bank lending is ordinarily only short-term or medium-term,⁷³ which means borrowers must periodically renew their bank lending arrangements. This gives the bank fresh opportunities to re-examine its borrowers' creditworthiness, and also gives borrower managers incentive to maintain creditworthiness. Banks often also specialize in lending to particular industries or industry segments. Industry expertise facilitates monitoring and enables bankers to more precisely evaluate the ongoing credit risk of individual borrower firms.

Timberlands Klamath Falls, L.L.C., 864 A.2d 930, 943 (Del. Ch. 2004). The court's detailed technical discussion of note indenture provisions in that case illustrates the thoroughness and complexity of creditor protections in standard credit arrangements. *See id.* at 943-47.

⁷² *See* Randall S. Kroszner & Philip E. Strahan, *Bankers on Boards: Monitoring, Conflicts of Interest, and Lender Liability*, 62 J. FIN. ECON. 415, 416 (2001) (explaining that one-third of large U.S. firms have a banker on the board of directors).

⁷³ Banks' predominant liabilities are short-term deposits, so to match the timing of their assets and liabilities, banks tend to avoid long-term loans.

2. The Pervasive Effects of Bank Monitoring

Contrary to the existing bank governance literature, we believe banks' elaborate monitoring arrangements affect managerial behavior and firm value even outside the narrow distress context.⁷⁴ Financial covenants in public company credit agreements are pervasive,⁷⁵ and managers have strong incentive to avoid breaching their covenant obligations, lest their managerial discretion be curtailed by bank intervention.⁷⁶ In addition to this threat, credit agreements quite often contain positive performance incentives for managers, such as variable pricing based on specified performance measures.⁷⁷ The borrower's interest rate may rise or fall, for example, based on the firm's ratio of debt-to-cash flow.⁷⁸ Moreover, covenant violations are not uncommon.⁷⁹ Violations do trigger bank intervention, but they rarely lead to default or loan acceleration.⁸⁰ Given this environment, it makes sense that banks' influence on firm governance may be steady rather than episodic, felt even outside the distress context.

3. Free Cash Flow

Free cash flow has been identified as an especially pernicious temptation for managers, who may "use it to bankroll forms of managerial slack."⁸¹ Free cash

⁷⁴ See Frederick Tung, *Private Debt and Corporate Governance* 44-45 (Sept. 14, 2008) (unpublished manuscript, on file with author) (discussing the recent empirical finance literature demonstrating the governance effects of private debt).

⁷⁵ See Michael R. Roberts & Amir Sufi, *Control Rights and Capital Structure: An Empirical Investigation* 7 (Aug. 11, 2008) (unpublished manuscript), available at <http://ssrn.com/abstract=962131> (finding that ninety-seven percent of public company credit agreements in the 1996-2005 sample period had at least one financial covenant).

⁷⁶ See *id.* at 14 (commenting upon managers' singular desire to maintain control of their companies).

⁷⁷ See Michael R. Roberts & Amir Sufi, *Contingency and Renegotiation of Financial Contracts: Evidence from Private Credit Agreements* 8 (July 31, 2008) (unpublished manuscript), available at <http://ssrn.com/abstract=1017629> (finding that over seventy-two percent of private credit agreements specify performance pricing).

⁷⁸ *Id.*

⁷⁹ See Roberts & Sufi, *supra* note 75, at 42 tbl.2 (indicating that more than one quarter of public companies in the 1996-2005 sample period violated a financial covenant, with the fraction increasing to nearly one-third for firms with an average leverage ratio of at least five percent).

⁸⁰ V. Gopalakrishnan & Mohinder Parkash, *Borrower and Lender Perceptions of Accounting Information in Corporate Lending Agreements*, in 9 ACCOUNTING HORIZONS 13, 25 (1995).

⁸¹ Triantis & Daniels, *supra* note 7, at 1078; see also Michael C. Jensen, *Agency Costs of Free Cash Flow, Corporate Finance, and Takeovers*, 76 AM. ECON. REV. 323, 323 (1986). We use a standard measure of free cash flow: operating income minus interest expense, taxes, preferred and common dividends, scaled by the book value of the firm's assets. See *infra* Part III.D.2.

flow may increase the agency conflict between managers and shareholders because managers may be tempted to spend free cash for their own benefit – on perks or empire building, for example – rather than distribute it to shareholders.⁸² Managers may overinvest – invest inefficiently⁸³ – in building empires in order to increase their compensation and power. An increase in firm size places more resources under managers' control, thereby enhancing their power and prestige.⁸⁴ Similarly, increased firm size typically results in sales growth, which is positively correlated with increases in manager compensation.⁸⁵

We expect that, *ceteris paribus*, firms with high free cash flow will benefit most from bank monitoring because of their higher potential for agency conflicts. Bank loan arrangements address this free cash flow problem in several ways. First, mandatory regular interest and principal payments on the loan reduce the amount of free cash.⁸⁶ Second, bank loans often contain a "sweep" covenant, which requires the borrower to pay down some portion of its loan once it has engaged in an asset sale or financing transaction that generates a large accumulation of cash,⁸⁷ or even if it has simply accumulated "excess" cash.⁸⁸ Third, as described above, the lender typically requires the borrower firm to maintain its deposit accounts with the lender. This enables the lender to monitor the firm's cash levels and uses of cash.⁸⁹ Finally, the bank may take security interests in the firm's assets, which further constrains managers' access to free cash. Because the security arrangement ordinarily prohibits sale or further hypothecation of the underlying collateral, managers' disposal of those assets to generate cash is not an option.⁹⁰

Overall, the web of reporting requirements, covenant obligations and other restrictions, along with explicit bank oversight, serve to constrain overinvestment and otherwise control managerial slack. This disciplining

⁸² See Jensen, *supra* note 81, at 323.

⁸³ Managers overinvest when, finding themselves with cash available after having pursued all available efficient investment opportunities, they continue to invest – in negative net present value projects – because they can. See Bernard S. Black, *Bidder Overpayment in Takeovers*, 41 STAN. L. REV. 597, 627-28 (1989).

⁸⁴ *Id.* at 627.

⁸⁵ Kevin J. Murphy, *Corporate Performance and Managerial Remuneration: An Empirical Analysis*, 7 J. ACCT. & ECON. 11, 40 (1985).

⁸⁶ See Jensen, *supra* note 81, at 324.

⁸⁷ See Michael Bradley & Michael R. Roberts, *The Structure and Pricing of Corporate Debt Covenants* 11 (May 13, 2004) (unpublished manuscript), available at <http://ssrn.com/abstract=466240>.

⁸⁸ This latter constraint is typically expressed as a requirement that some percentage of the borrower's free cash above a specified threshold be applied to reduce the loan balance.

⁸⁹ See *supra* Part II.A.1.

⁹⁰ See George G. Triantis, *A Free Cash-Flow Theory of Secured Debt and Creditor Priorities*, 80 VA. L. REV. 2155, 2159-61 (1994).

effect of bank debt benefits shareholders as well as the bank. We do not suggest that lender and shareholder interests always coincide.⁹¹ Shareholders of course suffer the first pain from managerial slack, since they hold the residual claim on the firm. At the margin, therefore, the bank may worry less than the firm's equity holders about managers' misuse of free cash.⁹² However, because inefficient investment reduces firm value, it harms lenders as well as equity investors. The popularity of capital expenditure covenants and excess cash flow covenants attests to this lender concern.⁹³

4. Management Entrenchment

With regard to management entrenchment, as with free cash flow, we expect bank monitoring to be most beneficial when agency costs are high – i.e., when managers are more entrenched. Entrenchment insulates managers from discipline by shareholders and by the market for corporate control, thereby encouraging slack. We use GIM's G-index, BCF's E-index, and individual components of the E-index as controls and interaction variables to test the effects of bank monitoring in the presence of entrenchment.

B. *Potential Theoretical Limitations*

1. Moral Hazard or Adverse Selection?: Monitoring Versus Information Asymmetry

Because we use a market-based metric for firm value as our dependent variable – industry-adjusted Tobin's Q – a preliminary issue arises in trying to interpret observed increases in Tobin's Q associated with the presence of bank loans. As noted earlier, both the theoretical and empirical finance literature identify two main explanations for the positive stock market reaction to bank loan announcements.⁹⁴ First, bank loan announcements may resolve information asymmetries affecting stock markets. A bank loan signals the market that the borrower is creditworthy or has good projects. Second, positive stock market reactions may also reflect the value to the firm of bank monitoring. While banks monitor to reduce moral hazard, the firm's

⁹¹ Jensen and Meckling's classic work explains managers' incentives and means to transfer wealth opportunistically from creditors to shareholders. *See generally* Jensen & Meckling, *supra* note 12.

⁹² Moreover, the bank may object more strenuously to asset substitution, even through positive net present value projects, than overinvestment through low-risk projects.

⁹³ *See* Cem Demiroglu & Christopher James, The Information Content of Bank Loan Covenants 9 (Aug. 15, 2007) (unpublished manuscript), *available at* <http://ssrn.com/abstract=959393>; Greg Nini, David C. Smith & Amir Sufi, Creditor Control Rights and Firm Investment Policy 2 (Apr. 2008) (unpublished manuscript), *available at* <http://ssrn.com/abstract=928688> (finding that forty percent of firms faced a capital expenditure restriction during a 1996-2005 sample period).

⁹⁴ *See supra* Part I.B.2.

shareholders may also benefit from the bank's ability to deter self-interested overinvestment by the firm's managers.

Earlier, we reviewed in some detail the extant literature on the value of bank monitoring, noting the importance of bank monitoring to curb moral hazard, as well as the possible selection effects at work.⁹⁵ We are mindful of these competing explanations in designing our study. Because an increase in Tobin's Q associated with a bank loan is consistent with either explanation, we look at subsamples of firm-years in an attempt to isolate the monitoring effect.⁹⁶ We also examine subsamples of loans based on their stated purposes, hypothesizing that certain types of loans carry little or no benefit to equity markets in terms of resolving information asymmetry.

2. Risk Reduction and Banks' Reduced Incentives to Monitor

Banks and other financial claimants have increasingly more and finer opportunities to transfer risk to third parties. Loan syndication, active secondary loan markets, and the ready availability of credit derivatives⁹⁷ enable banks and other financial institutions to lay off risk and rebalance their portfolios in response to changed circumstances. A bank's reduced exposure to a particular borrower correspondingly reduces the bank's incentive to monitor that borrower carefully.⁹⁸

While use of these risk spreading devices has become more and more common among banks and other private lenders,⁹⁹ there remain good reasons to expect that banks – especially lead banks in syndicated loans – will continue to monitor their borrowers. Lead banks have reputational interests at stake. Other less informed syndicate members depend on the lead bank for careful screening and monitoring of borrowers. A lead bank that acts opportunistically toward its syndicate members – by syndicating poor quality loans, for instance – could incur reputational penalties with syndicate members, risking future

⁹⁵ See *supra* Part I.B.2.

⁹⁶ See *infra* p. 1023 tbl.3.

⁹⁷ The most popular credit derivative for bank lenders is the credit default swap. It effectively offers the lender default insurance on specific borrowers. As with conventional insurance, the insured (here, the lender) pays a premium to the issuer of the swap agreement, which obligates the issuer to repay the insured debt (or some portion) to the insured should the borrower default. See Frank Partnoy & David A. Skeel, Jr., *The Promise and Peril of Credit Derivatives*, 75 U. CIN. L. REV. 1019, 1021-22 (2007).

⁹⁸ See *id.* at 1032-34.

⁹⁹ See, e.g., Steven A. Dennis & Donald J. Mullineaux, *Syndicated Loans*, 9 J. FIN. INTERMEDIATION 404, 404 (2000) (describing the growing prevalence of syndicated loans); Gary B. Gorton & George G. Pennachi, *Banks and Loan Sales: Marketing Nonmarketable Assets*, 35 J. MONETARY ECON. 389, 391 (1995) (describing the dramatic rise in loan sales that occurred in the 1980s); Partnoy & Skeel, *supra* note 97, at 1020 (describing the increased prevalence of credit derivatives).

business.¹⁰⁰ Empirical evidence shows, in fact, that lead banks are faithful certifiers of credit quality to their bank syndicates. While they could exploit private information about borrowers by syndicating or selling only loans of lower ex ante credit quality, existing studies show just the opposite. Loans of higher ex ante credit quality are more likely to be syndicated in larger proportions by lead banks.¹⁰¹ Lead banks' success in syndicating larger percentages of their loans is also positively associated with reputational measures.¹⁰²

More generally, empirical evidence suggests that bank monitoring continues to have value in the presence of bank debt trading. Amar Gande and Anthony Saunders find that bank loan announcements continue to be associated with positive stock price reactions even when the borrower's loans trade on the secondary market.¹⁰³ This result holds even for distressed firms, for which reduced incentives for bank monitoring would ex ante be expected to have the most adverse effects.¹⁰⁴ Additionally, the inception of trading in the borrower firm's bank debt elicits a positive stock price reaction, suggesting that bank monitoring and the secondary market offer *complementary* sources of information about borrower firms.¹⁰⁵

Even with devices available to reduce risk, banks' profit making generally depends on their taking positions in their borrower firms. A bank is not merely a loan broker. It gets paid to take risk. Though the bank may have new tools available to enable it to lend at lower risk, it still has incentive to monitor given its exposure and the importance of its reputational capital.¹⁰⁶ Moreover, diversification does not eliminate lending risk entirely. Loan purchasers and sellers of credit derivatives will have some stake in the continuing monitoring

¹⁰⁰ See Kamphol Panyagometh & Gordon S. Roberts, *Loan Syndicate Structure: Evidence from Ex Post Risk* 25 (Jan. 14, 2008) (unpublished manuscript), available at <http://ssrn.com/abstract=1083707> (suggesting that "the lead bank's reputation can serve as an effective mechanism to assuage the incentive conflicts associated with loan syndications").

¹⁰¹ See Dennis & Mullineaux, *supra* note 99, at 424; cf. Panyagometh & Roberts, *supra* note 100, at 24 (finding that lead banks syndicate greater proportions of loans to ex post higher quality borrowers as measured by bond ratings). Similarly, higher quality loans ex ante are more likely to be sold in secondary markets. Gorton & Pennachi, *supra* note 99, at 409-410.

¹⁰² Dennis & Mullineaux, *supra* note 99, at 407.

¹⁰³ See Amar Gande & Anthony Saunders, *Are Banks Still Special When There Is a Secondary Market for Loans?* 3 (Oct. 2006) (unpublished manuscript), available at <http://ssrn.com/abstract=873353>.

¹⁰⁴ *Id.*

¹⁰⁵ *Id.* at 22.

¹⁰⁶ See Sang Whi Lee & Donald J. Mullineaux, *Monitoring, Financial Distress, and the Structure of Commercial Lending Syndicates*, 33 FIN. MGMT. 107, 109 (2004) (discussing reputational benefits for loan sellers and arrangers).

of borrowers, the efficacy of which will no doubt affect the pricing in these risk spreading transactions.

III. BANK MONITORING AND FIRM VALUE

To explore the relationship between bank monitoring and firm value, we estimate a series of multivariate regressions that measure how Tobin's Q is related to the presence of bank loans. We describe our methodology before presenting our results.

A. Methodology

1. The Model's Technical Structure

Our model is:

$$(1) \quad \text{Tobins}Q_{it} = \alpha + \beta_1 \text{LOAN}_{it} + \beta_2 \text{GINDEX}_{it} + \beta_3 \text{FINANCIAL}_{it} + \beta_4 f_i + \beta_5 y_t + \varepsilon_{it}$$

where:

<i>TobinsQ</i>	Our dependent variable, which is each firm's industry-adjusted Tobin's Q.
<i>LOAN</i>	This indicates whether a given firm had a bank loan for all twelve calendar months of year <i>t</i> .
<i>GINDEX</i>	G-index, GIM's measure of managerial entrenchment.
<i>FINANCIAL</i>	Includes six standard financial controls: <ol style="list-style-type: none"> i. Assets of the firm; ii. Age of the firm in months; iii. Return on assets; iv. Capital expenditures on assets; v. Research and development expenditures; and vi. Leverage.
<i>f</i> and <i>y</i>	Firm and year dummy variables.

2. Our Data

Our universe of companies comes from the Investor Responsibility Research Center (IRRC) database,¹⁰⁷ which has published volumes detailing firms' corporate governance provisions since 1990.¹⁰⁸ IRRC's coverage includes all firms in the Standard & Poor's 500 (S&P), all firms named in annual lists of the largest corporations by *Fortune*, *Forbes*, and *Business Week*, and additional firms the IRRC has considered important.¹⁰⁹ In any publication year, the universe of IRRC firms covers over ninety percent of total U.S. stock market capitalization.¹¹⁰ Following GIM and BCF, we include all IRRC firms in our database through 2004, except for those with dual-class common stock. Because IRRC volumes are not published every year, we follow the convention adopted by GIM in treating firms' governance provisions as unchanged for the period from the last published volume to the next published volume.¹¹¹

We take firm financial information from Compustat.¹¹² Company stock data comes from CRSP monthly files.¹¹³ For loan information, we rely on the DealScan database from the Loan Pricing Corporation, a comprehensive commercial loan database covering large- and middle-market commercial loans.¹¹⁴ DealScan contains detailed terms and conditions for over 155,000 loan and bond transactions dating back to 1988.¹¹⁵

3. Details of the Model

Equation (1) measures the relationship between industry-adjusted Tobin's Q and the presence of a bank loan, while controlling for other factors that also affect firm value. Our estimation of this equation will disaggregate the influence of each included factor, allowing us to distinguish the influence of bank loans from other factors that might also affect firm value. As noted above, we use Tobin's Q as our measure of firm value.¹¹⁶ Tobin's Q is the

¹⁰⁷ IRRC is a proxy advisory service used primarily by institutional investors. Gompers et al., *supra* note 2, at 113.

¹⁰⁸ *Id.* at 110.

¹⁰⁹ *Id.* at 111.

¹¹⁰ *Id.*

¹¹¹ *Id.* at 110-19.

¹¹² Compustat is an extensive database of securities information created and maintained by Standard & Poors. Standard & Poors' Compustat Website, <http://www.compustatresources.com/> (last visited Sept. 10, 2008).

¹¹³ CRSP is the Center for Research in Security Prices which is part of the University of Chicago's Graduate School of Business. About CRSP, <http://www.crsp.com/crsp/about/history.html> (last visited May 24, 2008).

¹¹⁴ See DealScan, http://www.loanpricing.com/products_services/dealscan.htm (last visited May 5, 2008).

¹¹⁵ *Id.*

¹¹⁶ See *supra* Part III.A.1. In our definition of Tobin's Q, we follow Bebchuk et al.,

ratio of the market value of assets to the book value of assets, where the market value of assets is equal to the book value of assets, plus the market value of common stock, minus the sum of book value of common stock and balance sheet deferred taxes. The dependent variable in our estimations is industry-adjusted Tobin's Q – each firm's Q minus the median Q in the firm's industry in the observation year. We define each firm's industry by the firm's two-digit primary SIC code.

Our proxy for bank monitoring is a loan indicator variable, which is set to one for each year that a given firm had a bank loan for all twelve calendar months. We include standard financial controls that previous research has identified as related to Tobin's Q.¹¹⁷ We also include year dummies and firm dummies in the fixed effects regressions.

In most specifications, we rely on GIM's G-index as a measure of managerial entrenchment. As an alternative in some specifications, we include BCF's E-index or its components as entrenchment measures. We use these as either controls or as interaction variables. We also include a measure of free cash flow in some estimations. As noted earlier, the tendency of managers to overinvest or misuse discretionary funds presents a serious agency conflict between managers and shareholders.¹¹⁸ Michael Jensen asserts that free cash flow is the best measure of these discretionary funds and thus the best proxy for agency conflicts.¹¹⁹ Our measure of free cash flow is calculated as operating income minus interest expense, taxes, preferred dividend, and common dividends,¹²⁰ scaled by the book value of the firm's assets.¹²¹

Table 1 provides descriptive statistics of variables included in the estimations. We present the descriptive statistics for our entire sample of firms. We also divide our sample into two subsamples – firms that have had a bank loan at some point during our sample period and firms that have not – and present descriptive statistics for these subsamples as well.

What Matters, *supra* note 29, at 19, Gompers et al., *supra* note 2, at 126, and Steven N. Kaplan & Luigi Zingales, *Do Investment-Cash Flow Sensitivities Provide Useful Measures of Financing Constraints?*, 112 Q.J. ECON. 169, 177 (1997).

¹¹⁷ Following GIM, we include the assets of the firm and the age of the firm measured in months. Gompers et al., *supra* note 2, at 126. Following BCF, we include return on assets, capital expenditures on assets, research and development expenditures, and leverage. Bebchuk et al., *What Matters*, *supra* note 29, at 19.

¹¹⁸ See *supra* Part II.A.3.

¹¹⁹ See Jensen, *supra* note 81, at 323-24.

¹²⁰ This cash flow computation is given by Compustat item #13 - #15 - (#16 - change in #35) - #19 - #21.

¹²¹ This definition follows Kenneth Lehn & Annette Poulson, *Free Cash Flow and Stockholder Gains in Going Private Transactions*, 44 J. FIN. 771, 777 (1989).

Table 1

Descriptive Statistics									
Variable	Entire Sample			Loan Firms Only			Non-Loan Firms Only		
	# of Obs.	Mean	Standard Deviation	# of Obs.	Mean	Standard Deviation	# of Obs.	Mean	Standard Deviation
Industry-Adjusted Tobin's Q	22487	0.720	3.316	14470	0.546	2.199	8017	1.033	4.688
Loan Indicator	28335	0.373	0.484	17472	0.605	0.489	10863	0.000	0.000
G Index	17889	9.183	2.752	11923	9.349	2.757	5966	8.850	2.712
E Index	17889	2.153	1.307	11923	2.191	1.299	5966	2.079	1.321
Free Cash Flow	23337	0.092	0.183	15430	0.110	0.148	7907	0.057	0.234
Assets (millions)	27886	6946.195	35947.88	17375	8214.022	43493.35	10511	4850.438	17158.770
Firm Age (months)	28335	230.026	215.337	17472	254.798	224.330	10863	190.183	193.494
ROA	27866	0.014	0.237	17365	0.037	0.134	10501	-0.024	0.341
CAPEX/Assets	25553	0.062	0.064	16648	0.061	0.061	8905	0.063	0.069
Leverage	22860	0.436	0.249	14761	0.446	0.209	8099	0.417	0.308
R&D per Sales	14328	0.490	7.903	9095	0.101	1.014	5233	1.166	12.981
Poison Pill Indicator	17889	0.564	0.496	11923	0.586	0.493	5966	0.519	0.500

The dataset includes information on Tobin's Q, the loan indicator, and the G-index for 1117 unique firms; 725 of these firms have a loan at some point during our sample period.

In the remaining tables, we estimate equation (1) using a least-squares regression. This is a standard difference-in-difference estimation that isolates the effect of bank loans on firm value by exploiting both differences across firms with and without loans and differences before and after firms obtain loans.

B. Bank Loans and Firm Value

Table 2 reports the results of our primary estimation.¹²² We perform least-squares regressions with firm fixed effects, which controls for unobserved firm

¹²² In each table, the top number in each cell is the regression coefficient, which indicates the magnitude and direction of each variable's relationship with Tobin's Q. A negative coefficient indicates that a variable has an inverse relationship with Tobin's Q. For

heterogeneity. This enables us to focus on variation within each firm. In both columns, the loan indicator variable has a statistically significant positive relationship with Tobin's Q.¹²³ This result indicates that within each firm, the presence of a bank loan is associated with higher Tobin's Q.

example, a negative coefficient on the loan variable would indicate that the presence of a bank loan is associated with a decrease in Tobin's Q. In contrast, a positive coefficient indicates that a variable is associated with an increase in Tobin's Q.

In addition, the table reports the t-statistic – a measure of statistical significance – for each coefficient. In each cell, it is the bottom number. Coefficients with t-statistics with absolute value equal to or greater than 1.645 are considered statistically significant at the 10% level, meaning that there is 90% certainty that the coefficient is different from zero. T-statistics with absolute value equal to or greater than 1.96 indicate statistical significance at the more certain 5% level, and t-statistics with absolute value equal to or greater than 2.576 indicate statistical significance at the most certain 1% level. Empiricists typically require t-statistics of at least 1.645 to conclude that one variable affects another in the direction indicated by the coefficient. In the table, coefficients are marked with “*”, “**”, and “***” to indicate significance at the 10%, 5%, and 1% levels, respectively.

The table also reports R-squared statistics. R-squared statistics measure a regression's “goodness of fit,” as opposed to t-statistics, which measure the reliability of each individual coefficient. WILLIAM H. GREENE, *ECONOMETRIC ANALYSIS* 34 (5th ed. 2003). In other words, the R-squared measures how much of the overall variation in the dependent variable, here Tobin's Q, is explained by the explanatory variables. *Id.* at 33. Thus, the R-squared of a regression will vary between 0 and 1. *Id.* When the R-squared value is 0, the explanatory variables explain none of the dependent variable's variation. *Id.* An R-squared of 1 means that the explanatory variables explain all of the variation. *Id.* The closer the R-squared is to 1, the better the regression explains the data. *Id.*

¹²³ For each of the estimations in Tables 2 through 7, we also performed the estimations without control variables on the same sample of firms in the estimations with the full set of controls (i.e., so that the samples match). We have no reason to think there is any selection bias between the firms that do and do not have data for the full set of controls. Most of the results are similar in sign, significance, and magnitude when we run the without-controls regressions on the smaller sample, but occasionally, a previously significant coefficient became insignificant. For brevity's sake, we do not report the results.

Table 2

Bank Loans and Firm Value		
Variable	A	B
Loan Indicator	0.085*** 2.79	0.151*** 2.73
G-index	-0.039*** -3.8	-0.041** -2.05
Assets		-.00001*** -3.25
Firm Age		-0.001 -1.25
ROA		0.847*** 7.26
CAPEX/Assets		2.579*** 4.62
Leverage		0.926*** 7.37
R&D per Sales		0.015*** 5.08
Firm fixed effects?	Yes	Yes
Number of Observations	13710	6711
R-squared	0.628	0.622

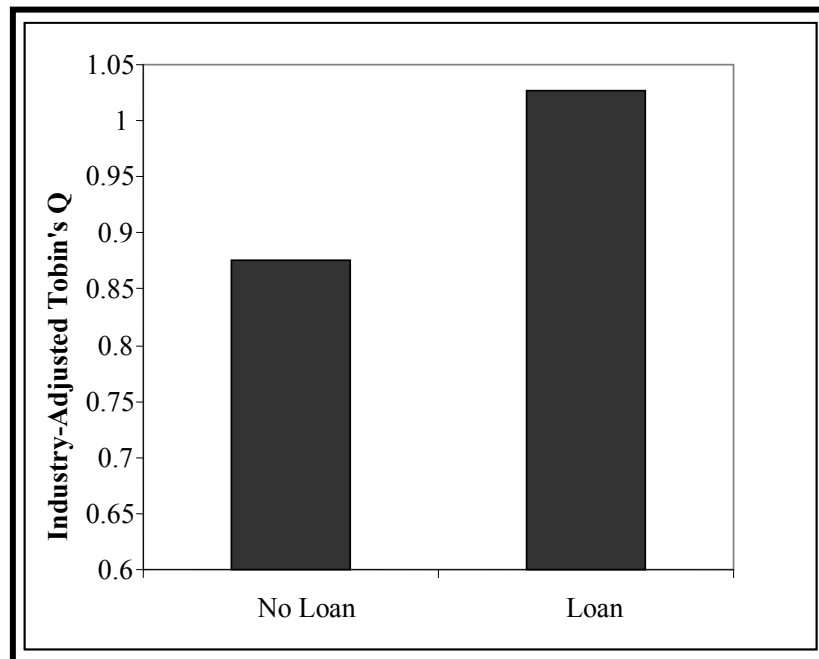
This table reports regressions with firm fixed effects, with and without control variables. The dependent variable in all regressions is industry-adjusted Tobin's Q. Tobin's Q is the ratio of the market value of assets to the book value of assets, where the market value of assets is equal to the book value of assets plus the market value of common stock minus the sum of book value of common stock and balance sheet deferred taxes. We compute the industry-adjusted Tobin's Q by subtracting the median Tobin's Q in the industry from each firm's Tobin's Q, where industry is defined by the two-digit SIC code. The loan indicator is equal to 1 for all years that firms had bank loans for all twelve months. The G-index ranges from 0 to 24 to indicate the entrenchment provisions of each firm. ROA is net income/assets. CAPEX/Assets is capital expenditures/assets. R&D per Sales is research and development expenditures/total sales. Leverage is total debt/assets. Although not shown in the tables, year dummies are included in all regressions. T-statistics appear below the coefficient estimates. Significance levels are indicated by *, **, and *** for 10%, 5%, and 1%, respectively.

The size of the coefficients suggests the average real-world magnitude of a change in Tobin's Q associated with changes in each of the explanatory variables. For example, when including the full set of financial controls (the estimation reported in the second column), the coefficients suggest that,

averaged across all firms and years, the presence of a loan increases Tobin's Q by 0.151, whereas a one-unit increase in the G-index decreases Tobin's Q by 0.041. As a further example, for a firm without a loan and with Tobin's Q of 0.876, which is the average industry-adjusted Tobin's Q for all firm-years without a loan, the presence of a loan is expected to increase Q by 17%, to 1.027.

Figure 1 shows the graphical representation of the results in Table 2. The average industry-adjusted Tobin's Q during years when firms do not have a loan is 0.876. Column B in Table 2 shows that the average Tobin's Q is 0.151 higher during years when firms do have loans.¹²⁴

Figure 1:
Average Industry-Adjusted Tobin's Q With and Without a Loan



¹²⁴ Here, and in the regressions that follow, our findings likely understate the monitoring benefits of bank debt because we assume each bank loan and its associated monitoring continue for the entire term given in the loan contract. Limitations in the data preclude us from identifying loans repaid before stated maturity or pinpointing when such early retirements occur. Therefore, we unavoidably count some number of firm-year observations as bank-monitored when in fact they are not.

C. *Exploring Simultaneity, Monitoring, and Alternative Theories*

While the results from Table 2 indicate a positive correlation between the presence of a bank loan and firm value, they do not prove our case that bank monitoring improves firm value. First of all, bank loans might not necessarily cause firm value to increase. Selection effects may suggest that causation runs in the other direction: firms with higher Tobin's Q are more likely to get bank loans than firms with lower Tobin's Q.¹²⁵ Alternatively, some unobservable factor may be responsible for both firms' obtaining bank loans and high Tobin's Q, so that a positive relationship between firm value and bank loans could exist even if bank loans did not *cause* firm value to increase. For example, a switch to better management personnel could both improve a firm's creditworthiness and also cause an increase in Tobin's Q. These are simultaneity concerns – some other factor may be at work simultaneously with a bank loan that is responsible for our results. Another concern is selection on unobservables: firms and banks *select* which firms will receive loans, so even if all firms with loans showed bank monitoring-induced increases in Tobin's Q, we could not necessarily be sure that other firms that do not have loans would also benefit from having one. While we control for observable differences across firms, it may be that firms with loans differ across some unobservable dimension from firms without loans, and that this difference renders only the former susceptible to the beneficial effects of bank monitoring.

Finally, even if the presence of a bank loan causes an increase in firm value, bank monitoring may not be the only plausible explanation. The bank's willingness to lend to a given firm may simply signal positive private information to stock markets about the firm's creditworthiness or the strength of its projects. The bank's identification of the firm as a worthy borrower may be what causes an increase in Tobin's Q by resolving information asymmetry for the markets, independent of any subsequent monitoring by the bank.

In the subsequent tables, we offer evidence discounting the possibility that simultaneity accounts for our observed increases in firm value in the presence of bank loans. In addition, our results below support our claim that bank monitoring is at least partly responsible for observed increases in firm value.

1. Simultaneity

As a first check on the direction of causation, we ran unreported pooled Ordinary Least Squares (OLS) regressions, similar to the estimations in Table 2 but without fixed effects. Our results tend to suggest causation runs in the direction we think. Both with and without financial controls, the loan indicator

¹²⁵ Krishnaswami, *supra* note 65, at 420 (finding a significant positive relation between a firm's market-to-book ratio and the proportion of its debt that is private debt). Their measure of market-to-book ratio may be highly correlated with Tobin's Q, which would suggest that firms with bank loans may simply have higher adjusted Tobin's Q even if bank monitoring had no effect.

variable has a statistically significant *negative* relationship with Tobin's Q. This indicates that in a standard cross-sectional relationship, firms with loans have *lower* Tobin's Q than firms without loans. Therefore, it does not appear that firms start with high Tobin's Q and then get bank loans.

In Table 3 we explore this issue further. We attempt to determine whether, as between firms with and without bank loans, systematic differences exist that may be responsible for the positive relationship between loans and firm value. If such a systematic difference exists – again, consider the improved management example – which explains both why certain firms get bank loans and why those firms have higher value, then our causal attribution would be spurious. In that case, bank monitoring could not be said to cause the observed increases in firm value.

We run regressions with firm fixed effects, restricting our sample to: (a) firms in our sample that have a loan at some point during our sample period (the “Loan Firms”) (Cols. A & B); (b) Loan Firms and only comparing the period *before* the loan with the period *during* the loan (Cols. C & D); and (c) Loan Firms and only comparing the period *during* the loan with the period *after* the loan's retirement (Cols. E & F). These three specifications test whether a selection effect is driving our results. By limiting the analysis only to Loan Firms, we control for other fundamental differences between Loan Firms and other firms that may be causing a higher Tobin's Q. Moreover, if we are able to confirm that Tobin's Q both increases when firms get loans and decreases when firms retire loans, we minimize the possibility that an unobserved factor is responsible both for firms obtaining loans and for increases in Tobin's Q. It is unlikely that the effect of this unobserved factor would suddenly appear when a loan was obtained – causing a timely increase in Tobin's Q – and then disappear when a loan was retired, causing a timely decrease.

For all the estimations using the full set of controls (Cols. B, D, and F), the loan's effect on Tobin's Q is positive and significant, providing strong evidence of a positive relation between bank monitoring and Tobin's Q. It is therefore unlikely that simultaneity is responsible for the positive relationship between bank loans and firm value.

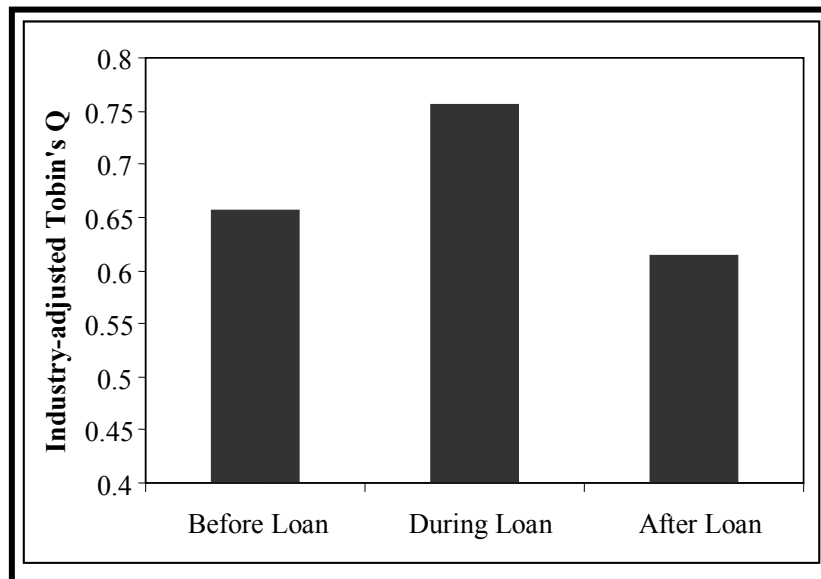
Table 3

Variable	Bank Loans and Firm Value: Exploring Potential Simultaneity									
	A	B	C	D	E	F	G	H	I	J
Loan Indicator	0.047 1.56	0.125*** 2.38	0.036 1.14	0.1* 1.75	0.062 1.61	0.142*** 2.12	0.092*** 3.00	0.155*** 2.78	0.188*** 3.82	0.281*** 3.08
Industry Adj. Tobin's Q in Yr before Loan										
G-index	-0.025*** -2.22	-0.01 -0.46	-0.03*** -2.67	-0.016 -0.77	-0.036** -2.43	-0.04 -1.44	-0.025* -1.83	-0.01 -0.52	-0.046*** -3.29	-0.06*** -2.19
Assets		-0.0001*** -2.79		-0.0001*** -3.09		-0.0002*** -5.07		-0.0001*** -3.23		-0.0001*** -2.62
Firm Age		-0.001 -0.79		-0.001 -0.74		0.001 0.79		-0.001 -1.25		-0.001 -1.55
ROA		2.62*** 13.05		2.47*** 12.04		2.592*** 10.49		0.848*** 7.27		0.568 4.18***
CAPEX/Assets		1.294*** 2.01		0.795 1.25		0.857 1.09		2.584*** 4.63		3.663 5.05
Leverage		-0.316 -1.6		-0.334* -1.69		-0.197 -0.79		0.926*** 7.37		1.008 6.81
R&D per Sales		-0.001 -0.01		-0.009 -0.1		-0.6 -1.34		0.015*** 5.08		0.01*** 3.29
All Firms / Loan Firms only?	Loan Firms	Loan Firms	Loan Firms	Loan Firms	Loan Firms	Loan Firms	All Firms	All Firms	See notes	See notes
Entire period/ Before loan / After loan?	Entire	Entire	Before	Before	After	After	Entire	Entire	Entire	Entire
# of Observations	9529	4575	9042	4277	7050	3519	13710	6711	9201	4484
R-squared	0.628	0.638	0.646	0.66	0.659	0.656	0.628	0.622	0.64	0.627

Notes on Table 3: This table reports regressions with firm fixed effects where the dependent variable is industry-adjusted Tobin's Q. We describe the calculation of industry-adjusted Tobin's Q, along with the definitions of other control variables, in Table 2. Columns A and B report estimations where the sample includes only firms that have loans during our sample period. Columns C and D report estimations on only the Loan Firms and only comparing the period before the loan with the period during the loan. Columns E and F report estimations on only the Loan Firms and only comparing the loan period with the period following the loan's retirement. Columns G and H report estimations on all firms, but controlling for Tobin's Q in the year before firms get bank loans. In Columns I and J, our sample includes only firm-years where either (a) the firm has no loan; or (b) the firm's only loan(s) are for working capital, debt repayment, or commercial paper backup purposes, which are generally unrelated to the financing of good projects. The loan indicator is equal to 1 for only the years that a firm had such a bank loan. Although not shown in the tables, year and firm dummies are included in all regressions. T-statistics appear below the coefficient estimates. Significance levels are indicated by *, **, and *** for 10%, 5%, and 1% respectively.

Figure 2 graphically represents the before, during, and after results from Table 3 that include the full set of financial controls. The average industry-adjusted Tobin's Q for our sample firms in the period before they have a loan is 0.656. Column D in Table 3 shows that the average Tobin's Q goes up by 0.1 when these firms obtain a loan, and Column F shows that the average Tobin's Q decreases by 0.142 when these firms retire their loans.

Figure 2:
Average Industry-Adjusted Tobin's Q Before, During, and After Loan



As an additional test, we run firm fixed effects regressions for the entire sample of firms, also controlling for Tobin's Q in the year before each firm obtains a bank loan (Cols. G & H).¹²⁶ This control variable will capture non-loan factors that may have increased firm value before the loan period and that would therefore produce a spurious positive correlation between a bank loan and Tobin's Q. The loan's effect remains positive and significant in estimations both with and without controls. This provides further comfort that the positive association we find between bank loans and firm value is not driven by some non-loan factor.

2. Monitoring Versus Information Asymmetry Theories

The results in Columns E through F and I through J in Table 3 also support our hypothesis that bank *monitoring* – as distinguished from resolution of information asymmetry – is at least partly responsible for improving firm value.

The results in Columns C and D, comparing the period before the loan with the period during the loan, are consistent with *both* a monitoring theory and an information asymmetry theory. An increase in a firm's Tobin's Q during the loan period as compared to the preceding period may be explained by the market's initial revaluation of the firm in light of the new information conveyed by the bank's lending decision. Or, the value added by bank monitoring over the term of the loan could explain the increase in Tobin's Q.

However, the results in Columns E and F, comparing the periods *during and after* the loan, are best explained by the monitoring theory. The drop in Tobin's Q with the loan's retirement can be explained by the absence of the bank monitor, but it is not likely a result of any new information revealed by the loan's retirement.¹²⁷ To the extent that a bank's lending decision conveys a positive signal to the market regarding, for example, the firm's growth

¹²⁶ According to our coding convention, a firm's loan indicator variable is set to 1 only in years when the firm had a bank loan for all twelve months. Therefore, our control here operates as to the year that is *two* years prior to the year that our loan indicator is first triggered.

¹²⁷ The suggestion has been made that a loan's retirement without renewal may signal the bank's assessment that the firm lacks good projects. However, it is far more likely that the firm merely chose alternative financing, probably in the form of public debt, which is cheaper than private debt above a certain issue size. Krishnaswami, *supra* note 65, at 419-22. Firms may borrow in private debt markets until they establish a good credit history, at which point they turn to cheaper public debt. Douglas W. Diamond, *Monitoring and Reputation: The Choice Between Bank Loans and Directly Placed Debt*, 99 J. POL. ECON. 689, 690 (1991) (theorizing that firms may first build reputations as good borrowers in private debt markets before turning to public debt); Datta, *supra* note 9, at 448 (finding evidence consistent with Diamond's reputation-building hypothesis by showing a negative association between the length of pre-existing bank-firm relationships and at-issue yield spreads for new public debt).

prospects or the promise of its projects, we have no reason to expect the direction of this signal to change simultaneously with the maturity of the loan.

Finally, in Columns I and J, we run estimations seeking to isolate the potential monitoring effects of bank loans on firm value. We borrow a strategy from Christopher James' pathbreaking article on the uniqueness of bank loans.¹²⁸ As earlier noted, James categorizes loans and other financings by stated purpose and compares abnormal stock returns across categories following the public announcements of the debt financings. As between bank loans for debt refinancing and bank loans for capital expenditures, he finds no significant difference in stock price response. He concludes that the positive abnormal returns from new bank loan announcements cannot be explained solely by an information asymmetry theory.¹²⁹ While loans for capital expenditures may signal that the bank has private information about the firm's growth prospects, refinancing loans convey no such signal. The absence of any significant difference in stock price response to an announcement of these two different categories of loans implies that the information asymmetry theory offers at best an incomplete explanation.

Like James, we divide our sample based on the purpose of each loan. We measure the effects of only those loans *least* likely to offer new information to the public markets about the firm's growth prospects or the quality of its projects. Increases in Tobin's Q associated with these "no-information" loans would strongly support a monitoring theory. To identify these loans, we look to the loan's primary purpose as indicated in the DealScan database. We include only loans for working capital, debt repayment, and commercial paper backup purposes in our set of no-information loans.¹³⁰ Working capital loans are typically used for the short-term financing of ordinary course purchases of inventory or other ordinary course operations. Debt repayment loans simply refinance existing debt. A commercial paper backup loan is a bank commitment that backstops the borrower's outstanding commercial paper.¹³¹ The loan commitment assures that the borrower can pay off its commercial paper coming due should it find itself unable to roll over or otherwise refinance the paper. These types of loans seem to convey no strong positive information to public markets about the borrower firm's growth prospects.

¹²⁸ See James, *supra* note 10.

¹²⁹ See *id.* at 228-29.

¹³⁰ Other purposes identified with significant numbers of loans in the DealScan database include general corporate, acquisition, capital expenditure, leveraged buyout, project finance, real estate, recapitalization, takeover, trade finance, and other.

¹³¹ Commercial paper is a low-risk short-term money-market security that firms typically issue in order to manage working capital. Maturities do not exceed nine months, and proceeds are typically used for current transactions and not long-term investments. Because of their low-risk features, they are exempt from Securities Act registration. Federal Reserve Board: About Commercial Paper, <http://www.federalreserve.gov/releases/CP/about.htm> (last visited Sept. 10, 2008).

We compare the effects of these no-information loans to firm-years in which there is no loan. For our models in Columns I and J, our sample includes only firm-years where either (a) the firm has no loan; or (b) the firm's only loan(s) are no-information loans. We ignore all other firm-years – i.e., firm-years in which a firm has a loan other than a no-information loan. Consistent with James' findings, our fixed-effect estimations show positive and significant coefficients on the loan indicator, demonstrating that no-information loans are associated with increases in Tobin's Q.¹³² This result offers further support for our hypothesis that bank loans enhance firm value because of the monitoring that banks perform.¹³³

Overall, the results in Table 3 suggest it is unlikely that our results are explained by reverse causality or selection bias where only high-valued firms get loans. Our results also discount the possibility that an omitted factor is responsible both for firms obtaining loans and increases in Tobin's Q. Moreover, our results are also consistent with our claim that the loan indicator is not just a proxy for the existence of good projects, but that bank monitoring is at least partly responsible for the positive correlation between loans and firm value.

Selection issues remain, however. While we attempt to account for unobservable factors with controls and with our before-after approach looking at only Loan Firms, we are cautious about what this may tell us about non-Loan Firms. It is possible, for example, that unobservable differences exist between Loan Firms and non-Loan Firms, such that bank monitoring may only benefit Loan Firms. The most convincing test of bank monitoring would require random assignment of loans across capital-raising firms. Neither this sort of experiment nor a convincing natural experiment exists. Accordingly, while our non-experimental analyses are imperfect, they represent the best analyses currently possible.

D. *Interactions with Managerial Entrenchment and Free Cash Flow*

In this Section, we investigate the value-enhancing prospects for bank monitoring in specific contexts suggesting severe agency costs. Bank monitoring may be especially important in these contexts. We first consider agency costs induced by conventional corporate governance arrangements: we

¹³² We also ran regressions estimating the effect of loans that would typically be considered "high-information loans": loans for acquisitions, capital expenditures, equipment purchases, project finance, real estate, stock buyouts, and takeovers. Unfortunately, there are only 672 observations in our sample where firms have loans only for these purposes. The results are statistically insignificant.

¹³³ This may not be definitive, of course. While we believe, like James, that our no-information loans convey little or no positive private information about the firm to the market, to the extent these loans do send a positive signal, our monitoring explanation is weaker. See James, *supra* note 10, at 228-29.

explore bank monitoring in the face of managerial entrenchment.¹³⁴ We then test the value of bank monitoring when firms have high free cash flow.¹³⁵ Finally, we address bank monitoring in the presence of both entrenchment and high free cash flow.

1. Interactions with Managerial Entrenchment

In Table 4, we test the effect of bank monitoring on firm value in the presence of specific corporate governance arrangements. GIM and BCF have shown a negative correlation between managerial entrenchment and firm value.¹³⁶ We hypothesize that bank monitoring may mitigate the value-decreasing effects of management entrenchment. Banks' continuing oversight of firms' compliance with financial covenants and operating and investment restrictions may constrain managers despite the slack that entrenchment affords. In Table 4, we interact our loan indicator with several measures of entrenchment. The interaction allows us to observe not simply the effect of, say, the G-index on all firms (Loan Firms and non-Loan Firms), but to observe the effect of the G-index on Loan Firms and non-Loan Firms separately. We include GIM's G-Index (Cols. A & B), BCF's E-Index (Cols. C & D), and a Poison Pill indicator (Cols. E & F).¹³⁷ While we also test interactions between the loan indicator and the other provisions in BCF's E-Index, none of these interactions are statistically significant, and we do not show the results in our tables.

Although the total effect of the loan indicator is positive and significant in all specifications, and the measures of managerial entrenchment are negative and significant in all specifications, the interaction between bank loans and our governance indices do not show statistical significance. The only significant interaction variable is the interaction between the loan indicator and the poison pill indicator in the absence of controls. This suggests that the poison pill is the only entrenchment measure that affects firm value differently as between Loan Firms and non-Loan Firms. The positive coefficient suggests that the presence of a loan may offset the value-decreasing effect of a poison pill. This evidence is only weakly suggestive, but we have more to say about the interaction of bank monitoring with governance indices and individual entrenching provisions in Section 3 below.

¹³⁴ See *supra* Part II.A.4 (discussing entrenchment and its relation to agency costs).

¹³⁵ See *supra* Part II.A.3 (discussing the agency costs of free cash flow).

¹³⁶ See Bebchuk et al., *What Matters*, *supra* note 29, at 53; Gompers et al., *supra* note 2, at 120.

¹³⁷ The Poison Pill indicator is set to 1 when a firm has a poison pill. See *infra* Part III.D.4 (discussing poison pills).

Table 4

Bank Loans and Firm Value: Interactions with Entrenchment Provisions						
Variable	A	B	C	D	E	F
Loan Indicator	0.046 0.49	0.233 1.4	0.069 1.34	0.186* 1.94	0.021 0.49	0.162** 1.96
G-index	-0.041*** -3.74	-0.038* -1.79				
Loan Indicator * G-index	0.004 0.45	-0.009 -0.52				
E-index			-0.075*** -3.71	-0.073* -1.82		
Loan Indicator * E-index			0.008 0.43	-0.016 -0.45		
Poison Pill					-0.262*** -5.98	-0.211** -2.52
Loan Indicator * Poison Pill					0.11** 2.22	-0.025 -0.26
Assets		-0.0001*** -3.27		-0.0001*** -3.3		-0.0001*** -3.58
Firm Age		-0.001 -1.21		-0.001 -1.36		-0.001 -0.86
ROA		0.848*** 7.26		0.841*** 7.21		1.155*** 6.91
CAPEX/Assets		2.578*** 4.62		2.582*** 4.62		2.968*** 5.19
Leverage		0.926*** 7.37		0.914*** 7.28		0.888*** 5.98
R&D per Sales		0.015*** 5.08		0.015*** 5.13		0.017*** 4.31
Total Effect of Indicator	0.084*** 2.76	0.155*** 2.78	0.087*** 2.84	0.151*** 2.74	0.083*** 2.72	0.148*** 2.66
Number of Observations	13710	6711	13710	6711	13710	6359
R-squared	0.628	0.622	0.628	0.622	0.629	0.629

This table reports regressions with firm fixed effects where the dependent variable is industry-adjusted Tobin's Q. We describe the calculation of industry-adjusted Tobin's Q, along with the definitions of other control variables, in Table 2. Columns A and B report estimations including an interaction between the G-index and the loan indicator; Columns C and D include an interaction between the E-index and the loan indicator; and Columns E and F include an interaction between the loan indicator and the Poison Pill indicator. The total effect of the loan indicator on Tobin's Q is the coefficient on the loan indicator plus the

coefficient on the interaction variable multiplied by the mean percentage of G-index/E-index/Poison Pill, respectively. Although not shown in the tables, year dummies and firm fixed effects are included in all regressions. T-statistics appear below the coefficient estimates. Significance levels are indicated by *, **, and *** for 10%, 5%, and 1%, respectively.

2. Interactions with Free Cash Flow

Next, in Table 5 we explore the effect of bank loans and free cash flow on firm value. We include free cash flow because it is one of the primary channels through which managers may act in their self-interest – spending free cash on perquisites or empire-building, for example – to the detriment of shareholders.¹³⁸ The presence of a bank loan, however, may reduce these agency costs by monitoring managers' use of discretionary funds. Controlling for entrenchment with the G-index, we use interaction variables to determine whether the positive effect of bank monitoring on firm value is stronger in firms with higher free cash flow, where agency costs are potentially higher.

For our measure of free cash flow, we use operating income minus interest expense, taxes, preferred dividends, and common dividends, scaled by the book value of the firm's assets. For estimations without interactions (Cols. A & B), the results indicate that, controlling for entrenchment, the loan indicator has a positive relationship with Tobin's Q, while free cash flow is not statistically significant. This is consistent with our earlier findings on the positive association between bank monitoring and firm value, though it says little about the effect of free cash flow. However, when we include the interactions between free cash flow and the loan indicator (Cols. C & D), we find a negative coefficient on the independent free cash flow variable and a positive coefficient on the interaction term. Together these coefficients suggest that: (a) when bank monitoring exists to control agency costs of free cash flow, free cash flow may improve firm value; but (b) in the absence of bank monitoring, the agency costs associated with free cash flow may reduce firm value.¹³⁹ Finally, in the last two columns (Cols. E & F), we add a third interaction term, an indicator variable ("Top 1/3") for the firms in our sample that rank in the top one-third in terms of free cash flow. For these firms, the indicator is set to one, and it is set to zero otherwise. The positive and significant coefficient on the triple interaction of the loan indicator, free cash flow, and Top 1/3 indicates that the positive effect of bank monitoring and free cash flow on firm value is especially strong for firms with higher free cash flow. Overall, our results strongly suggest that bank monitoring interacts with

¹³⁸ See *supra* Part II.A.3 (defining free cash flow).

¹³⁹ In both these regressions and Columns E and F, the negative coefficient on the independent loan indicator variable is not meaningful, given these interactive models. Technically, it shows the effect of a loan when free cash flow is zero, which will never occur. In any event, the total effect of the loan in each model is still positive, a result we have not included in the table.

free cash flow to enhance firm value. This is consistent with our hypothesis that the value-enhancing effect of bank monitoring may matter most where agency costs are high.

Table 5

Bank Loans and Firm Value: Interactions with Free Cash Flow						
Variable	A	B	C	D	E	F
Loan Indicator	0.087*** 2.81	0.149*** 2.7	-0.273*** -6.84	-0.23*** -3.24	-0.243*** -6.07	-0.194*** -2.74
Free Cash Flow	-0.122 -1.54	-0.348 -1.55	-0.458*** -5.57	-0.926*** -3.97	-0.443*** -5.4	-0.891*** -3.84
Loan Indicator * Free Cash Flow			3.075*** 14.01	3.398*** 8.4	1.624*** 5.61	1.544*** 3.09
Loan Indicator * Free Cash Flow * Top 1/3					1.884*** 7.65	2.739*** 6.3
G-index	-0.037*** -3.59	-0.037* -1.86	-0.037*** -3.59	-0.036* -1.82	-0.036*** -3.51	-0.034* -1.7
Assets		-0.0001*** -3.5		-0.0001*** -3.74		-0.0001*** -3.83
Firm Age		-0.004 -0.62		-0.003 -0.48		-0.003 -0.54
ROA		1.163*** 6.95		1.18*** 7.1		1.188*** 7.17
CAPEX/Assets		2.957*** 5.16		2.648*** 4.65		2.446*** 4.3
Leverage		0.891*** 5.99		0.697*** 4.67		0.72*** 4.83
R&D per Sales		0.016*** 4.24		0.009*** 2.41		0.01** 2.51
Firm fixed effects?	Yes	Yes	Yes	Yes	Yes	Yes
Number of Observations	12833	6359	12833	6359	12833	6359
R-squared	0.637	0.629	0.643	0.633	0.645	0.636

This table reports regressions with firm fixed effects where the dependent variable is industry-adjusted Tobin's Q. We describe the calculation of industry-adjusted Tobin's Q, along with the definitions of other control variables, in Table 2. We add free cash flow measures to the estimations reported in this table, where our measure of free cash flow is calculated as operating income minus the sum of the following components: (a) total income taxes minus the change in deferred taxes from the previous year to the current year; (b) gross interest expenses on debt; (c) dividend payments on preferred stocks; and (d) dividend

payments on common stocks. This is divided by the firm's book value of assets. Columns A and B report estimations including the free cash flow measure; Columns C and D add an interaction between free cash flow and the loan indicator; Columns E and F add an additional interaction term between the loan indicator, free cash flow, and an indicator variable for firms with free cash flow in the top 1/3 of our sample. Although not shown in the tables, year dummies are included in all regressions. T-statistics appear below the coefficient estimates. Significance levels are indicated by *, **, and *** for 10%, 5%, and 1%, respectively.

3. Interactions with Managerial Entrenchment and Free Cash Flow

The results from Table 5 above suggest that bank monitoring may improve managers' use of discretionary cash to increase firm value. In Tables 6 and 7, we explore the effects of bank loans, management entrenchment, and free cash flow on firm value. We test for value-enhancing effects of bank loans, now in the context of specific entrenchment arrangements. Specifically, we test for the effects of free cash flow on firm value for a given level of entrenchment, and then test to see whether the presence of a loan affects this interaction of free cash flow and management entrenchment. We interact our bank loan indicator with free cash flow and various measures of management entrenchment. In Table 6, for our measures of entrenchment we use our two governance indices – the G-index and E-index. In Table 7, our measures of entrenchment are each of the six individual entrenchment provisions comprising the E-index.

Our results in Table 6 support the findings of Table 5. We find that for a given level of entrenchment, free cash flow in the presence of bank monitoring improves firm value. In Columns A and B of Table 6, we see positive and significant coefficients on the interaction of free cash flow and the G-index, indicating that for a given governance quality, firm value increases with free cash flow.¹⁴⁰ When we interact the loan indicator with free cash flow and the G-index, we similarly find a positive and significant relation to firm value. This suggests that for a given governance quality (a given level of entrenchment), free cash flow in the presence of bank monitoring may improve firm value. We obtain similar results in Columns C and D, where we use the E-index as our entrenchment measure, though in the model with full controls, the coefficient is insignificant.

¹⁴⁰ A recent empirical study finds evidence of a *negative* relationship between firm value and the interaction between free cash flow and managerial entrenchment. Jianxin (Daniel) Chi & D. Scott Lee, *The Conditional Nature of the Value of Corporate Governance* 22 tbl.3 (June 6, 2005) (unpublished manuscript, on file with author). Our specification differs somewhat from theirs. In all of our estimations reported in Tables 6 and 7, we consistently find a positive and significant relationship between firm value and the interaction of free cash flow with our entrenchment measures.

Table 6

Bank Loans and Firm Value: Interactions with Free Cash Flow and Governance Indices				
Variable	A	B	C	D
Loan Indicator	-0.145*** -3.54	-0.055*** -0.74	0.01 0.28	0.117* 1.75
Free Cash Flow	-2.011*** -6.94	-2.692*** -4.92	-0.726*** -8.1	-1.122*** -4.73
G-index	-0.073*** -6.58	-0.072*** -3.41		
Free Cash Flow *	0.243*** 5.81	0.284*** 3.83		
Free Cash Flow * G- Index * Loan Indicator	0.209*** 8.52	0.189*** 4.18		
E-index			-0.166*** -8.48	-0.17*** -4.36
Free Cash Flow			0.759*** 11.25	0.973*** 8.08
Free Cash Flow * E- Index * Loan Indicator			0.286*** 3.38	0.132 0.82
Assets		-0.0001*** -3.75		-0.0001*** -3.83
Firm Age		-0.0003 -0.53		-0.00032 -0.52
ROA		1.182*** 7.1		1.068*** 6.42
CAPEX/Assets		2.694*** 4.72		2.607*** 4.58
Leverage		0.626*** 4.11		0.444*** 2.86
R&D per Sales		0.012*** 3.01		0.015*** 3.82
Firm fixed effects?	Yes	Yes	Yes	Yes
Number of Observations	12833	6359	12833	6359
R-squared	0.643	0.633	0.643	0.635

This table reports regressions with firm fixed effects where the dependent variable is industry-adjusted Tobin's Q. We describe the calculations of industry-adjusted Tobin's Q, free cash flow, and the other control variables in Table 2. This table reports estimations that include interactions between free cash flow and two governance indices (the G-index and E-index) and among free cash flow, the governance indices, and the loan indicator. In

Columns A and B, the governance index is GIM's G-index. In Columns C and D, the governance index is BCF's E-index. Although not shown in the tables, year dummies are included in all regressions. T-statistics appear below the coefficient estimates. Significance levels are indicated by *, **, and *** for 10%, 5%, and 1%, respectively.

For estimations reported in Table 7, we use similar specifications, except that instead of a governance index, we interact using the six individual entrenchment provisions from the E-index. Our results are largely consistent with those in Table 6. Regarding interactions between free cash flow and individual entrenchment provisions, we find that firm value increases with free cash flow, given the presence of any of the following: a poison pill, a supermajority requirement for mergers, a staggered board, limits to bylaw amendments, and golden parachutes. Coefficients are positive and significant in each model – with and without controls. Only limits on charter amendments have no statistically significant interactive effect with free cash flow. When we include the loan indicator in the interaction, we find positive and statistically significant interactions in the presence of staggered boards, poison pills (in the specification without the full set of controls), and golden parachutes (in the specification with the full set of controls). These results suggest that with any of these three entrenching provisions, free cash flow in the presence of bank monitoring improves firm value.

Table 7

Bank Loans and Firm Value: Interactions with Free Cash Flow and Entrenchment Provisions						
Variable	A	B	C	D	E	F
Loan Indicator	-0.008 -0.23	0.112* 1.74	0.078** 2.44	0.153*** 2.67	0.017 0.48	0.07 1.07
Free Cash Flow	-0.624*** -7.2	-1.044*** -4.45	-0.177** -2.18	-0.432* -1.91	-0.645*** -7.36	-0.952*** -4.09
Poison Pill	-0.524*** -12.1	-0.546*** -7.0				
Free Cash Flow * Poison Pill	2.16*** 10.61	2.716*** 7.94				
Free Cash Flow * Poison Pill * Loan Indicator	1.258*** 4.98	0.49 1.07				
Supermajority for Merger			-0.121 -1.49	-0.228 -1.44		
Free Cash Flow * Supermajority			1.133*** 2.87	2.235*** 2.66		
Free Cash Flow * Supermajority * Loan Indicator			0.402 0.87	-0.124 -0.14		
Staggered Board					-0.34*** -4.91	-0.168 -1.11
Free Cash Flow * Staggered Board					2.29*** 11.07	2.61*** 7.27
Free Cash Flow * Staggered Board * Loan Indicator					0.911*** 3.57	1.055** 2.18
Firm fixed effects?	Yes	Yes	Yes	Yes	Yes	Yes
Full Set of Controls	No	Yes	No	Yes	No	Yes
Number of Observations	12833	6359	12833	6359	12833	6359
R-squared	0.644	0.635	0.637	0.629	0.643	0.634

Table 7 (continued)

Bank Loans and Firm Value: Interactions with Free Cash Flow and Entrenchment Provisions						
Variable	A	B	C	D	E	F
Loan Indicator	0.089*** 2.81	0.153*** 2.72	0.087*** 2.79	0.151*** 2.7	0.051 1.48	0.137** 2.21
Free Cash Flow	-0.223*** -2.72	-0.422* -1.88	-0.127 -1.59	-0.342 -1.52	-0.472*** -5.51	-0.836*** -3.52
Limits to Amend Bylaws	-0.336*** -4.37	-0.442*** -2.98				
Free Cash Flow * Limits to Amend Bylaws	1.514*** 4.69	2.278*** 4.25				
Free Cash Flow * Limits to Amend Bylaws * Loan Indicator	-0.239 -0.59	-0.32 -0.36				
Limits to Amend Charter			-0.145 -0.91	0.011 0.03		
Free Cash Flow * Limits to Amend Charter			0.88 0.9	0.709 0.34		
Free Cash Flow * Limits to Amend Charter * Loan Indicator			-0.053 -0.05	-0.594 -0.21		
Golden Parachute					-0.236*** -6.04	-0.192*** -2.63
Free Cash Flow * Golden Parachute					1.701*** 8.46	2.089*** 5.32
Free Cash Flow * Golden Parachute * Loan Indicator					0.498** 1.99	0.194 0.39
Firm fixed effects?	Yes	Yes	Yes	Yes	Yes	Yes
Full set of Controls	No	Yes	No	Yes	No	Yes
Number of Observations	12833	6359	12833	6359	12833	6359
R-squared	0.637	0.63	0.636	0.628	0.64	0.631

This table reports regressions with firm fixed effects where the dependent variable is industry-adjusted Tobin's Q. We describe the calculations of industry-adjusted Tobin's Q, free cash flow, and the other control variables in Table 2. This table reports estimations that include interactions between free cash flow and the three entrenchment provisions and

among free cash flow, the entrenchment provisions, and the loan indicator. Although not shown in the tables, year dummies are included in all regressions. The full set of controls found in Tables 2 through 6 are included in the estimations reported in Columns B, D, and F, but omitted for brevity. T-statistics appear below the coefficient estimates. Significance levels are indicated by *, **, and *** for 10%, 5%, and 1%, respectively.

4. Strong Entrenchment: When Bank Monitoring May Matter Most

Why might bank monitoring have this value-enhancing effect with free cash flow in the presence of these three entrenchment provisions, but not with the other entrenchment provisions that also merit inclusion in the E-index? Again, it may be that bank monitoring matters most in situations with high agency costs. These three provisions – staggered boards, poison pills, and golden parachutes – have direct relevance for managerial slack and entrenchment, while the others arguably do not.

Our estimations involving the staggered board offer our strongest results for the value of bank monitoring. Consistent with our high agency cost theory, the corporate governance literature recognizes the special potency of the staggered board as an entrenching device.¹⁴¹ An effective staggered board prevents the timely ouster of a majority of the firm's board of directors, requiring even a majority of shareholders to wait through at least two annual elections to accomplish the task.¹⁴² This delay in gaining control of the firm strongly deters a proxy fight or other hostile takeover. Moreover, Lucian Bebchuk and Alma Cohen offer empirical evidence suggesting that a staggered board reduces firm value.¹⁴³ Similarly, the poison pill has been recognized as another potent entrenchment tool, especially when used in combination with a staggered board.¹⁴⁴ A poison pill effectively precludes a hostile acquirer from purchasing a block of the target's stock above some percentage threshold.¹⁴⁵ It

¹⁴¹ See Lucian Arye Bebchuk, Joan C. Coates IV & Guhan Subramanian, *The Powerful Antitakeover Force of Staggered Boards: Theory, Evidence, and Policy*, 54 STAN. L. REV. 887, 890 (2002) [hereinafter Bebchuk et al., *Staggered Boards*]; Bebchuk & Cohen, *Entrenched Boards*, *supra* note 24, at 411.

¹⁴² A staggered board is most effective when the firm's governance arrangements do not permit shareholders to: (a) effect amendments that unstage the board; (b) increase the number of board seats and fill them; or (c) remove directors without cause. Our data do not distinguish among levels of effectiveness for staggered boards. This only biases our sample against us, however.

¹⁴³ See Bebchuk & Cohen, *Entrenched Boards*, *supra* note 24, at 421-28.

¹⁴⁴ See *id.* at 412 (“Staggered boards also protect incumbents from removal via a hostile takeover because of the interaction between incumbents and a board's power to adopt and maintain a poison pill.”); Bebchuk et al., *Staggered Boards*, *supra* note 141, at 904.

¹⁴⁵ Some have cautioned not to overrate the presence of a pill, since a firm without a pill can always adopt one without shareholder approval, even in the face of a hostile bid. John C. Coates IV, *Takeover Defenses in the Shadow of the Pill: A Critique of the Scientific Evidence*, 79 TEX. L. REV. 271, 337 (2000). So even a firm without a pill is protected by a “shadow pill.” *Id.* On the other hand, whether a pill is in place or not may have a signaling

does this by diluting the value of the acquirer's stock in the target firm once the percentage threshold is reached.¹⁴⁶ The standard maneuver to defeat a pill is to obtain control of the board in order to redeem the pill. But an effective staggered board prevents this approach. So, together the pill and the staggered board offer very strong entrenchment.¹⁴⁷

The golden parachute operates a bit differently from these other two devices in creating agency costs. A golden parachute promises incumbent managers a handsome payout upon a change of control of the firm. The parachute in effect offers a soft landing for ousted executives. Unlike other "entrenching" provisions, the parachute generates agency costs not by insulating managers from the takeover market, but by easing their transition to unemployment. By reducing the sting of takeover market discipline, the parachute may encourage managerial slack.¹⁴⁸

By comparison, for three provisions of the E-index – supermajority voting for mergers, limits to by-law amendments, and limits to charter amendments – the joint interactions with free cash flow and the loan indicator in Table 7 produce no significant results. This lack of results might be explained by the fact that these three provisions are in some sense second-order entrenchment devices that do not by themselves directly protect managers from hostile takeovers. Limits to by-law and charter amendments do not directly enable managerial slack. Instead, they prevent shareholder modification of other provisions – namely, staggered boards and poison pills – that do directly entrench managers by shielding them from capital market discipline. Similarly, a supermajority voting requirement for mergers seems of secondary importance for entrenchment purposes because shareholders would only get to vote on a merger proposal after its approval by the board. Therefore, a supermajority requirement would matter in a hostile takeover context only if management lost control of the board – i.e., if the staggered board were

effect to potential acquirers. A pill in place may signal the board's determination to fight any hostile bid, while the absence of a pill – or the removal of an existing pill – may signal management's "softness" to a potential acquirer. Bebchuk et al., *What Matters*, *supra* note 29, at 10. The shadow pill phenomenon may partly explain why we do not obtain stronger results in the interaction of free cash flow, poison pill, and the loan indicator. *See* pp. 1035-1036 tbl.7 cols.A & B.

¹⁴⁶ The dilution is effected by issuing rights to all stockholders to purchase securities – typically of the target but sometimes of the acquirer – at steep discounts once the acquirer's stock holdings in the target exceed the specified percentage threshold. The rights may be exercised by all stockholders except the unwanted acquirer.

¹⁴⁷ The empirical results of Brown and Caylor confirm that the absence of staggered boards and poison pills is important for firm value. *See* Brown & Caylor, *supra* note 32, at 422.

¹⁴⁸ Of course, this may benefit shareholders to the extent it renders management more amenable to a takeover. Marcel Kahan & Edward B. Rock, *How I Learned to Stop Worrying and Love the Pill: Adaptive Responses to Takeover Law*, 69 U. CHI. L. REV. 871, 884 (2002).

ineffective at preventing a loss of control. Supermajority requirements, then, offer only a “second line of defense.”¹⁴⁹

In general, our results are consistent with the idea that free cash flow with strong entrenchment may present a situation where bank monitoring matters most. That is, bank oversight of managers’ use of discretionary funds may add the most value when agency costs are highest – when strong entrenchment would otherwise encourage managers to squander free cash.

IV. IMPLICATIONS FOR LAW AND FUTURE RESEARCH

Our study is the first to integrate into the empirical corporate governance literature a careful consideration of the effects of bank monitoring for reducing agency costs. Using the established measure of Tobin’s Q for firm value, we find evidence consistent with our hypothesis that bank monitoring adds value. Controlling for the G-index and for potential simultaneity, we find a positive and significant relation between firm value and the presence of a bank loan. This suggests that bank monitoring may help counteract the value-decreasing effect of managerial entrenchment. In addition, using measures of free cash flow to differentiate companies with high agency costs, we find that bank monitoring interacts with free cash flow to enhance firm value. Finally, we investigate interactions among our loan indicator, free cash flow, and various measures of governance quality. Our results suggest first that, for a given quality of corporate governance, free cash flow in the presence of bank monitoring improves firm value. Second, differentiating among E-index provisions, we find results consistent with our claim that bank monitoring may matter most when strong entrenchment would otherwise encourage managers to squander free cash – i.e., when agency costs are high.

More generally, our findings strongly suggest that corporate governance may involve more than just corporate law. Contracting parties may share an interest with shareholders in controlling managerial agency costs. Bank monitoring may perform such a function even outside the confines of financial distress. Bank governance may substitute for conventional modes of corporate governance. This potential for bank monitoring as a governance device has important implications in a number of areas.

A. *Reconceptualizing Regulation of Creditors and Credit Markets*

A fundamental rethinking may be in order for various legal doctrines and regulatory structures that affect bank lending and banks’ exercise of their creditor remedies. Every few decades, for example, court-created doctrines arise to protect borrowers through equitable policing of bank collection efforts.¹⁵⁰ Lender liability became a big concern for bankers in the 1980s,¹⁵¹

¹⁴⁹ Bebchuk et al., *What Matters*, *supra* note 29, at 9.

¹⁵⁰ See generally Jonathan M. Landers, *Deepening Insolvency Comes of Age*, N.Y.L.J., Oct. 5, 2006 (describing a history of court-created doctrines to protect borrowers *ex post*).

despite the fact that in only a handful of egregious cases did courts actually pin liability on a bank.¹⁵² Now in the 2000s, the confused doctrine of deepening insolvency has been recognized by at least a few courts as a separate cause of action against a lender.¹⁵³ To the extent these doctrines impede banks from exercising their contract remedies, the doctrines may tend to reduce firm value in the aggregate. A given firm may be spared the scythe, but overall, impeding creditor collection may simply facilitate managerial slack.¹⁵⁴ Further empirical research may show this to be the case.

Similarly, regulatory changes that affect the availability of bank credit may potentially affect firm value, not simply by affecting financing options but by affecting the availability of bank monitoring for public companies.¹⁵⁵ A whole host of other regulatory structures might also indirectly affect the efficacy of bank monitoring for borrower firm value. As noted earlier, for example, risk diversification by lead banks may reduce their incentive to monitor.¹⁵⁶ Deepening loan markets and markets for credit derivatives offer banks the ability to shed risk. Regulatory intervention in these markets that affect banks' risk diversification strategies may therefore indirectly affect borrower firm values by altering bank monitoring incentives. These many regulatory areas deserve further attention from researchers and policy makers.¹⁵⁷

¹⁵¹ See Daniel R. Fischel, *The Economics of Lender Liability*, 99 YALE L.J. 131, 143-44 (1989).

¹⁵² See, e.g., *K.M.C. Co. v. Irving Trust Co.*, 757 F.2d 752, 761-62 (6th Cir. 1985) (imposing a duty of good faith on the lender in demanding repayment, and finding that the lender had an obligation to give notice before refusing to advance funds under a line of credit).

¹⁵³ *In re Exide Technologies, Inc.*, 299 B.R. 732, 750-52 (Bankr. D. Del. 2003) (upholding a deepening insolvency claim against the debtors' secured lenders for causing the debtors to fraudulently continue operating the business long after the debtors should have been liquidated); see also *Official Comm. of Unsecured Creditors v. R. F. Lafferty & Co.*, 267 F.2d 340, 349 (3d Cir. 2001) (finding an independent cause of action against firm managers and third parties for improperly expanding corporate debt and prolonging the life of an insolvent company). As happened with lender liability, however, courts appear to be abandoning the cause of action for deepening insolvency. Hugh M. McDonald, Todd S. Fishman & Laura Martin, *Lafferty's Orphan: The Abandonment of Deepening Insolvency*, AM. BANKR. INST. J., Jan. 26, 2008, at 1.

¹⁵⁴ Cf. Fischel, *supra* note 151, at 151 (commenting that imposition of extracontractual duties upon lenders encourages borrower opportunism).

¹⁵⁵ For example, reserve requirements are set by the Federal Reserve in order to assure bank solvency. Reserve requirements specify the amount of funds that a depository institution must hold in reserve against its deposit liabilities. *Ceteris paribus*, a higher reserve requirement means less bank lending overall.

¹⁵⁶ See *supra* Part II.B.2.

¹⁵⁷ See Douglas G. Baird & Robert K. Rasmussen, *Anti-Bankruptcy 1* (Dec. 2007) (unpublished manuscript, on file with author).

B. *Implications for Future Research*

The design of empirical corporate governance research should account for bank governance. Otherwise, results may be biased. In addition, further investigation of interactions among bank loans, various governance arrangements, and firm characteristics may prove fruitful. We have taken a first step in this direction, but many questions remain.

More generally, bank governance itself has been understudied. We have proffered initial evidence that bank monitoring is associated with increases in firm value. Further exploration of the details of bank lending arrangements may help identify specific loan terms – specific covenants or reporting obligations, for example – that may be especially important for effective bank monitoring. Optimal loan terms for this purpose may vary by industry or other firm characteristics.¹⁵⁸

Finally, besides bank loans, other important sources of contract governance and monitoring may exist. Researchers have suggested, for example, that insurers of directors' and officers' liability risk may be effective monitors.¹⁵⁹ Other firm contracts may also include monitoring arrangements that not only protect the particular contracting party but also improve firm value. Labor agreements and major supply contracts, for example, may be fruitful targets for empirical research.

* * *

We know that corporate law matters. We also know a fair bit about which specific corporate governance provisions matter. But what *else* matters? Our article takes a first step in answering this important but underappreciated question. Bank monitoring may serve an important governance function, improving firm value by constraining managerial slack that eludes conventional corporate governance arrangements.

¹⁵⁸ One study finds, for example, that small firms generally have weaker corporate governance provisions than large firms. See Aggarwal & Williamson, *supra* note 32, at 3. Different types of firms may also be differentially affected by particular loan arrangements for purposes of improving firm value.

¹⁵⁹ See *supra* note 19 and accompanying text.