

THE EVOLUTION OF DEBT: COVENANTS, THE CREDIT MARKET, AND CORPORATE GOVERNANCE

By Charles K. Whitehead*
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ABSTRACT

The traditional agency cost framing of the firm is premised on the low-cost ability of banks to monitor borrowers and enforce loan covenants in order to mitigate credit risk. Covenants and monitoring constitute a principal governance function of debt, whose effectiveness is tied to the historical, close relationship between lenders and borrowers.

But, clearly, change is afoot. Lenders are now better able to buy and sell loans and other credit instruments, potentially resulting in lower cost alternatives – such as loan trading and credit derivatives – to the traditional reliance on covenants and monitoring. The lender-borrower relationship has transformed as well. What has been the impact on corporate governance?

In this Article, I argue that the governance function of debt has evolved in line with change in the credit market, reflecting greater liquidity in private credit instruments and the impact of new costs and benefits on capital structure and the institutions of corporate governance that extend from it. One outcome for debt governance may be a shift from the traditional dependence on covenants and monitoring to a greater reliance on liquid credit instruments. As new sources of risk capital enhance a firm's ability to opt in favor of private equity, I also raise the possibility of an alternative capital and corporate governance structure – based on a shift from public to private capital, in the case of equity; and private to increasingly public capital, in the case of debt – driven by costs and benefits beyond those within the traditional framing.

Current turmoil in the credit market, however, has called into question the viability of a governance structure that relies, in part, on private credit. Greater liquidity has prompted an increase in agency costs and other market frictions that may overwhelm the associated benefits. New regulation may be necessary, and that regulation may affect growth in the credit market. I offer some preliminary lessons for debt governance.

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I. INTRODUCTION

Debt and equity are like sibling rivals within the traditional agency cost framing of the firm. Shareholders, within that construct, may be inclined to resist new investment that principally benefits creditors, with the result that value-enhancing projects are delayed or abandoned.¹ Lenders, as well, risk the loss of wealth in the face of management opportunism that favors equity over debt.² One response, ultimately at cost to the borrower, is increased monitoring and covenants that restrict its actions and

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¹ Stewart C. Myers, *Determinants of Corporate Borrowing*, 5 J. FIN. ECON. 147, 148-49 (1977).

² Michael C. Jensen & William H. Meckling, *Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure*, 3 J. FIN. ECON. 305, 334-39 (1976); Clifford W. Smith, Jr. & Jerold B. Warner, *On Financial Contracting: An Analysis of Bond Covenants*, 7 J. FIN. ECON. 117, 118-19 (1979). Examples of the tension between debt and equity are set out in Yakov Amihud, Kenneth Garbade & Marcel Kahan, *A New Governance Structure for Corporate Bonds*, 51 STAN. L. REV. 447, 453-54 (1999) (proposing new governance structure for public corporate bonds).

potentially furnish control rights to lenders.³ Covenants and monitoring were presumed to be the least costly means to manage credit risk⁴ in the absence of alternatives, such as portfolio risk management, that did not exist for debt at the time the agency cost construct was introduced.⁵

Most corporate debt is private,⁶ and most private lenders are banks.⁷ Consistent with the role of debt within the traditional framing,⁸ covenants act as early warning “trip wires”⁹ that assist banks to manage credit risk, permitting them to reassess a borrower’s managers when weakened financial conditions increase the risk of opportunism and mitigate loss by renegotiating loans in anticipation of, or following, a breach.¹⁰ Banks are able to monitor a borrower’s compliance at low cost, reinforcing the importance of loan covenants to corporate governance.¹¹ The trade-off for banks is the relative inability to transfer loans they originate to others, further boosting their reliance on covenants and monitoring.¹²

³ *Id.* at 454-56; Jensen & Meckling, *supra* note 2, at 338; Mark Carey *et al.*, *The Economics of the Private Placement Market* 11 (Bd. of Governors of the Fed. Reserve Sys., Staff Study No. 166, Dec. 1993). A lender’s cost of monitoring, for example, may be passed on to the borrower. Amir Sufi, *Information Asymmetry and Financing Arrangements: Evidence from Syndicated Loans*, 62 J. FIN. 629, 630-31 (2007).

⁴ In this Article, “credit risk” is defined as a lender’s exposure to the possibility that a borrower will fail to perform its obligations under a loan or other credit instrument, principally the payment of principal and interest.

⁵ I mark the introduction of the agency cost construct as the publication of Jensen and Meckling’s seminal 1976 article. See Jensen & Meckling, *supra* note 2.

⁶ Arthur E. Wilmarth, Jr., *The Transformation of the U.S. Financial Services Industry, 1975-2000: Competition, Consolidation, and Increased Risks*, 2002 U. ILL. L. REV. 215, 231-39 (2002) (noting shift of large firm borrowings from banks to public markets); Michael Bradley & Michael R. Roberts, *The Structure and Pricing of Corporate Debt Covenants* 2, 8-9 (May 2004) (finding that, in 1993-2001, private corporate debt more than doubled public debt), available at <http://ssrn.com/abstract=466240>.

⁷ Amihud, Garbade & Kahan, *supra* note 2, at 458; Joel Houston & Christopher James, *Bank Information Monopolies and the Mix of Private and Public Debt Claims*, 51 J. FIN. 1863, 1870-79 (1996) (tracking debt structure of 250 publicly traded firms between 1980 and 1990); Marcel Kahan & Bruce Tuckman, *Private vs. Public Lending: Evidence from Covenants* 11-13 (UCLA, Anderson Grad. Sch. Mgmt., Paper 13-93, 1993) (finding that private debt agreements control management actions more than public debt).

⁸ Jensen and Meckling referred to both “bonds,” see Jensen & Meckling, *supra* note 2, at 336, and “loans,” see *id.* at 334, when describing the role of debt. This Article’s focus on bank loans reflects their greater significance to working capital and capital structure.

⁹ George G. Triantis & Ronald J. Daniels, *The Role of Debt in Interactive Corporate Governance*, 83 CAL. L. REV. 1073, 1093-94 (1995).

¹⁰ Daniel R. Fischel, *The Economics of Lender Liability*, 99 YALE L. J. 131, 134-35 (1989) (explaining borrowers’ incentive to engage in opportunism); Oliver Hart & John Moore, *Default and Renegotiation: A Dynamic Model of Debt*, 63 Q. J. ECON. 1, 2 (1998) (describing role of renegotiation in lender-borrower relationship).

¹¹ See *infra* notes 74-79 and accompanying text. In this Article, I refer to “corporate governance” as a mechanism to reduce or deter agency costs arising from management incentives or actions that impede the maximization of firm value. The role of covenants and monitoring in corporate governance is more fully described in Triantis & Daniels, *supra* note 9, at 1082-104. See also Jensen & Meckling, *supra* note 2, at 337-42; Smith & Warner, *supra* note 2, at 121-24.

¹² Raghuram Rajan & Andrew Winton, *Covenants and Collateral as Incentives to Monitor*, 50 J. FIN. 1113, 1114 (1995) (explaining that covenants increase bank’s incentive to monitor by decreasing payoff if it fails to do so). See also *infra* notes 84-87 and accompanying text.

Balanced against those costs, a firm can improve its borrowing capacity and increase its share price through the debt capital available to fund new projects and the positive signal provided by new lending.¹³ The resulting benefits can be tangible – a decline in the overall cost of capital as investors free-ride on the enhanced oversight provided by self-interested bank monitors.¹⁴ Thus, the competing interests of debt and equity are balanced by the benefits of a capital structure that includes both. Like siblings, the result is a virtuous, if not always peaceful, equilibrium within the firm.

But, clearly, change is afoot. As the capital market becomes more complete,¹⁵ we may expect credit risk to be transferred and shared among market participants at lower cost than if borne separately.¹⁶ The last two decades, in fact, witnessed an increase in private credit liquidity – as illustrated by the rise in syndicated loans¹⁷ and credit derivatives¹⁸ – fueled by change in the traditional bank-borrower relationship and the entry of new investors into the credit market. Banks began to manage credit risk through purchases and sales of loans and other credit exposure – generating higher returns on

¹³ Stewart C. Myers, *Still Searching for Optimal Capital Structure*, in ARE THE DISTINCTIONS BETWEEN DEBT AND EQUITY DISAPPEARING? 80, 83-88 (Richard W. Kopcke & Eric S. Rosengren eds., 1989); Eugene F. Fama, *What's Different About Banks?*, 15 J. MONETARY ECON. 29, 36-37 (1985) [hereinafter Fama, *What's Different*].

¹⁴ Jensen & Meckling, *supra* note 2, at 337-39; Bradley & Roberts, *supra* note 6, at 1-4; Joanna M. Shpeherd, Frederick Tung & Albert H. Yoon, *What Else Matters for Corporate Governance: The Case of Bank Monitoring*, 88 BOSTON UNIV. L. REV. 991, 1039 (2008) (finding benefits of bank monitoring greatest for companies with free cash flow and significant management entrenchment).

¹⁵ The theoretical basis for complete capital markets is set out in KENNETH J. ARROW, ESSAYS IN THE THEORY OF RISK-BEARING 121-43 (3d prtg. 1976); Kenneth J. Arrow, *The Role of Securities in the Optimal Allocation of Risk-bearing*, 31 REV. ECON. STUD. 91, 91-96 (1964); and Kenneth J. Arrow & Gerard Debreu, *Existence of an Equilibrium for a Competitive Economy*, 22 ECONOMETRICA 265, 265-66 (1954).

¹⁶ See Ronald J. Gilson & Charles K. Whitehead, *Deconstructing Equity: Public Ownership, Agency Costs, and Complete Capital Markets*, 108 COLUM. L. REV. 231, 243-53 (2008) (describing impact of market completeness on risk-bearing function of equity); Darrell Duffie, *Innovations in Credit Risk Transfer: Implications for Financial Stability* 1-2 (BIS Working Paper No. 255, Jul. 2008) (noting that credit risk transfer instruments improve financial stability by dispersing risks among investors), available at <http://www.bis.org/publ/work255.pdf?noframes=1>.

¹⁷ See *infra* notes 107-113 and accompanying text.

¹⁸ See *infra* notes 114-121 and accompanying text. My focus in this Article is on the use of credit derivatives to hedge credit risk and the impact of growth in the private credit market on corporate governance. Yet, for many, derivatives are associated with the financial blow-ups of the 1990s and, more recently, with concern over credit market speculation on companies that appear to be financially troubled. See Gretchen Morgenson, *In the Fed's Cross Hairs: Exotic Game*, N.Y. TIMES, Mar. 23, 2008, at BU1. The growth of the credit derivatives market has also raised regulatory and systemic risk concerns over the ability to document and settle an increasing number of over-the-counter transactions, Michael M. Grynbaum, *As Losses Mount, the Fed and the White House Step Up; Derivatives Trading Is Scrutinized*, N.Y. TIMES, June 10, 2008, at C1, uncertainty about the legal effect of swap agreements, Gretchen Morgenson & Vikas Bajaj, *MBIA Debt Is Setting Up A Quandary*, N.Y. TIMES, June 18, 2008, at C1, and the lack of transparency in the market, Nelson D. Schwartz & Julie Creswell, *Desperate for a Solution, but Who Understands the Problem?*, INT'L HERALD TRIB., Mar. 25, 2008, at 15. A discussion of the risks of speculation and the systemic issues surrounding credit derivatives is included in Frank Partnoy & David A. Skeel, Jr., *The Promise and Perils of Credit Derivatives*, 75 U. CIN. L. REV. 1019, 1032-50 (2007).

their loan portfolios, a portion of which could be passed on to borrowers through increased lending limits and lower interest rates. Weighed against those benefits were greater agency costs principally arising from the limited information about borrowers available in the market and the dispersed ownership traditionally associated with public debt, but increasingly a feature of private credit.¹⁹

On balance, we could anticipate an increase in the ability of firms to incur debt – an outcome that, on its face, was consistent with the higher levels of borrowing that occurred in the mid-1990s and during the most recent private equity wave.²⁰ When the credit market soured, partly due to difficulty in valuing new credit instruments, the fallout was seemingly ubiquitous – with losses, beginning in the summer of 2007, ranging globally from government investment pools in Florida²¹ to agricultural cooperatives in Japan.²² Changes in the credit market likewise affected the supply of capital. A substantial drop in the price of leveraged loans reportedly resulted in a slowdown in secondary loan trading and, in turn, a bottleneck in new commercial lending.²³

Thus, a firm's decision to borrow must increasingly take into account change in the credit market beyond the traditional bank-borrower relationship that underlies the standard framing of the firm, a trend that I argue is likely to continue after the current credit crisis has passed.²⁴ That shift suggests an evolution in the factors that shape a firm's capital structure, from the agency cost construct, based on the sibling rivalry of debt and equity, to one that must now increasingly take account of the costs and benefits of an increasingly liquid private credit market.²⁵

¹⁹ See *infra* notes 36-64, 122-126, 154 and accompanying text.

²⁰ See Thomas Boulton, Kenneth Lehn & Steven Segal, *The Rise of the U.S. Private Equity Market*, in NEW FINANCIAL INSTRUMENTS AND INSTITUTIONS: OPPORTUNITIES AND POLICY CHALLENGES 141, 142, 149-51 (Yasuyuki Fuchita & Robert E. Litan eds., 2007) (finding number, market value, and industry distribution of companies going private has increased over time); Wilmarth, *supra* note 6, at 378-85 (describing aggressive growth of large U.S. banks, beginning in mid-1990s, in high risk syndicated lending). Other factors, such as declining interest rates and investors' search for higher yielding investments, also helped borrowers to obtain capital at low cost. Andrew Ross Sorkin, *The Money Binge*, N.Y. TIMES, Apr. 4, 2007, at H1 (describing increase in private equity funds' access to cheap debt).

²¹ Michael Peltier, *Florida Probes Countrywide over Subprime Loans*, REUTERS, Jan. 31, 2008, <http://www.reuters.com/article/ousiv/idUSN3134915520080201>.

²² Yuka Hayashi & Kazuhiro Shimamura, *Subprime Woes Hit Norinchukin Bank in Japan*, WALL ST. J., Nov. 28, 2007, at C8.

²³ See Liz Rappaport & Peter Lattman, 'Anyone For Some Used Corporate Debt?' – *Why Leveraged Loans That Financed Buyouts Are Causing Bottleneck*, WALL ST. J., Feb. 6, 2008, at C1.

²⁴ See *infra* notes 225-247 and accompanying text.

²⁵ This Article joins other, recent scholarship on the impact of financial markets on capital structure. See, e.g., Michael Faulkender & Mitchell A. Petersen, *Does the Source of Capital Affect Capital Structure?*, 19 REV. FIN. STUD. 45, 45-47 (2006) (arguing that source of capital affects capital structure); Sheridan Titman, *The Modigliani and Miller Theorem and the Integration of Financial Markets*, 31 FIN. MGMT. 101, 104-05 (2002); Mark T. Leary, *Bank Loan Supply, Lender Choice, and Corporate Capital Structure 2-3* (Dec. 28, 2005) (finding credit market liquidity has impact on leverage ratios), available at http://www.chicagofed.org/news_and_conferences/conferences_and_events/files/2006bsc_leary.pdf.

Likewise, to the extent developments in the credit market affect how credit risk is managed, the traditional reliance on covenants and monitoring may also begin to evolve. Covenants and monitoring may no longer be the lowest cost means to manage credit risk, shaping their role, and the role of debt, within corporate governance. How will those changes be reflected?

One argument is that the ability to transfer or diversify away credit risk – the “decoupling” of economic and control rights²⁶ – will limit the effectiveness of covenants and weaken debt governance by dampening a lender’s incentive to monitor borrowers or act in the interest of others to whom loans or credit exposure have been transferred. Thus, changes in the private credit market – and the resulting commodization of credit – reflect a tension between the potential benefits of transferring credit risk and the frictions that result from increasing liquidity. Counterparties who take on that credit risk, the analysis goes, may be better able to manage it at lower cost, but are unable to oversee borrowers as effectively, resulting in an increase in agency costs and an overall decline in governance.²⁷ Moreover, based on their special knowledge of each borrower’s credit quality, banks may have an incentive to transfer lower quality assets to third parties – with a decline in lender oversight for those borrowers most in need of debt governance.²⁸ However, as I argue, that may not be the entire answer.

Banks have a significant incentive to minimize the potential for moral hazard arising from the information asymmetries around private borrowers for whom there is limited public information. Spanning that gap – by designing resale arrangements in order to address potential agency problems – may increase a bank’s ability to transfer loans at lower cost, as well as enhance profitability.²⁹ Thus, as the private credit market becomes more liquid, loans may be structured and lending relationships adjusted to mitigate agency costs. Retaining some portion of a borrower’s credit risk, increasingly relying on reputation, and tightening covenant levels, for example, may offset the weakened oversight otherwise resulting from a transfer of credit risk.³⁰ Rather than a decline, those changes may instead provide alternative means of corporate governance.

One interesting possibility is prompted by increasing liquidity in the credit market itself. In a more complete market, actions that affect a firm’s credit quality are reflected in changes in the price at which a firm’s loans and other credit instruments trade. Those changes may affect a borrower’s cost of capital – either in subsequent loans, including a change in the price and non-price terms on which the loans are

²⁶ Henry T.C. Hu & Bernard Black, *Debt, Equity, and Hybrid Decoupling: Governance and Systemic Risk Implications* 18 (Jan. 2008), available at <http://ssrn.com/abstract=1084075>.

²⁷ Partnoy & Skeel, *supra* note 18, at 1033-34; Hu & Black, *supra* note 26, at 18-28.

²⁸ See Adam B. Ashcraft & João A.C. Santos, *Has the Credit Default Swap Market Lowered the Cost of Corporate Debt?* 5-6 (Fed. Reserve Bank of New York Staff Report No. 290, Jul. 2007) (finding that decline in monitoring as a result of hedging increases cost of debt for risky and less transparent firms), available at http://www.newyorkfed.org/research/staff_reports/sr290.html.

²⁹ See George G. Pennacchi, *Loan Sales and the Cost of Bank Capital*, 43 J. FIN. 375, 376 (1988) (demonstrating positive effect of designing loan resale contracts to minimize moral hazard).

³⁰ See *infra* notes 160-195 and accompanying text.

made,³¹ or most recently, by tying the interest rate on loan facilities to the price of a borrower's credit default swaps.³² The intuition is that, like public equity, private credit may begin to provide a discipline – through the feedback furnished by market participants – that complements the traditional protections provided by contract.³³

Greater capital market completeness also raises an intriguing question: Do the changes in debt, when coupled with the increased staying power of private equity,³⁴ foretell the possibility of a more basic shift in capital structure and corporate governance? For equity, a firm may increasingly choose to rely on private sources of risk capital, rather than on public share ownership. For debt, lenders may shift from their traditional dependence on covenants and monitoring in private loans to lower cost instruments that trade with increasing liquidity in an evolving credit market. Taken together, I suggest, we may begin to see the outline of an alternative capital and corporate governance structure whose evolution – from public to private capital, for equity; and private to increasingly public capital, for debt – reflects a new set of costs and benefits beyond those within the traditional framing.³⁵

Yet, the recent subprime loan crisis has been blamed on costs associated with new credit instruments, calling into question the viability of a governance structure that relies, in part, on an increasingly liquid private credit market. To what extent did agency problems arising from the transfer of subprime loans to third-party purchasers limit, or even exceed, the benefits from financial innovation that fueled the rise in subprime liquidity?³⁶ And is there likely to be a similar cost-benefit outcome within the corporate credit market, portending a decline in the role of private credit in corporate governance?

Although agency problems in the securitization market have begun to receive national attention, concerns over those problems have troubled industry participants,

³¹ Morgan Stanley and Goldman Sachs, for example, have tied their lending commitments to the price of credit insurance on their own debt. Increases in the price of that insurance will impact the terms on which they can borrow funds, resulting in a parallel reduction in their own lending obligations. Henny Sender, *MS and Goldman Change Approach to Lending*, FT.COM, Aug. 17, 2008, available at <http://www.ft.com/cms/s/0/4f84f56c-6c8d-11dd-96dc-0000779fd18c.html>.

³² See Pierre Paulden & Caroline Hyde, *Citigroup, Credit Suisse Link Loans to Swaps in Shift*, BLOOMBERG.COM, Oct. 29, 2008, available at http://www.bloomberg.com/apps/news?pid=20602007&sid=a1zQ3Jykfb7Y&refer=govt_bonds.

³³ See *infra* notes 196-214 and accompanying text.

³⁴ Gilson & Whitehead, *supra* note 16, at 235-36. See also *infra* notes 215-219 and accompanying text.

³⁵ See *infra* notes 220-223 and accompanying text.

³⁶ Many subprime mortgages were extended by originating lenders that intended to transfer all or a portion of their loans to third parties. The purchaser was often a securitization vehicle, or its sponsor, which financed its purchase through the sale of securities to other investors. Very often those investors included other securitization vehicles that would combine different subprime tranches, sometimes with derivatives tied to subprime risk, and issue securities to a final tier of end-investors. Gary B. Gorton, *The Subprime Panic* 1, 12-19 (NBER Working Paper No. 14398, 2008), available at <http://www.nber.org/tmp/1063-w14398.pdf>.

investors, and academics for some time,³⁷ sparked, in the case of the subprime market, by its rapid and substantial growth.³⁸ Many of the problems stemmed from the incentives of loan brokers, who were paid to originate new loans but, upon resale, bore none of the direct economic consequences if those loans later declined in value. Brokers, consequently, could misrepresent a prospective borrower's creditworthiness to subsequent purchasers or extend "predatory" loans, with limited disclosure, to less sophisticated borrowers in order to maximize their commissions.³⁹ Perhaps less egregiously, mortgage brokers also faced incentives to churn existing loans by encouraging borrowers to refinance and re-refinance mortgages in order to increase their origination revenues.⁴⁰ Brokers, in addition, had less incentive to incur costs – such as resources to collect "soft" information about a borrower's credit quality – beyond what was necessary to identify loans that met the minimum, objective requirements to be transferred to third-party purchasers.⁴¹ Finally, loan purchasers faced the risk that originators would cherry pick the assets they sold, transferring lower quality mortgages to less knowledgeable investors while retaining higher quality mortgages on their own balance sheets.⁴² The resulting costs – evidenced by the recent, spectacular losses in the subprime market – may have overwhelmed the benefits of risk diversification and increased subprime liquidity that resulted from financial innovation.⁴³

There are, however, important differences between subprime mortgage loans and the corporate debt underlying this Article's focus on the changing role of credit instruments. By their nature, subprime mortgages rely on collateral – real property – rather than on covenants as a principal means to manage a lender's credit risk, reducing the

³⁷ See Will Alexander, Scott Grimshaw, Grant McQueen & Barrett Slade, *Some Loans are More Equal than Others: Third-Party Originations and Defaults in the Subprime Mortgage Industry*, 30 REAL ESTATE ECON. 667, 696-97 (2002) (noting increase in coupons on broker-originated loans, reflecting market's awareness of higher default risk). See also Amany El Anshasy, Gregory Elliehausen & Yoshiaki Shimazaki, *The Pricing of Subprime Mortgages by Mortgage Brokers and Lenders* 4-6 (June 2006) (describing potential agency problems, but finding borrowers did not pay more for broker-originated loans than for lender-originated loans), available at http://www.cambweb.org/main/cwo/pdfs/misc_assets/GW_brokerstudy_06.pdf; Michael LaCour-Little, *The Pricing of Mortgages by Brokers: An Agency Problem?* 22-23 (June 2008) (finding loans to lower income or poorer credit borrowers originated by mortgage brokers are more expensive than comparable loans by direct retail lenders), available at <http://business.fullerton.edu/FInance/Journal/papers/pdf/forth/accepted/Pricing%20of%20motgages%20by%20brokers.pdf>.

³⁸ Benjamin J. Keys, Tanmoy Mukherjee, Amit Seru & Vikrant Vig, *Did Securitization Lead to Lax Screening? Evidence From Subprime Loans* 5, 11 (EFA 2008 Athens Meetings Paper, Apr. 2008), available at <http://ssrn.com/abstract=1093137>.

³⁹ Anahasy, Elliehausen & Shimazaki, *supra* note 37, at 4; Christopher L. Peterson, *Predatory Structured Finance*, 28 CARDOZO L. REV. 2185, 2255-56 (2007) (describing shortfalls in consumer protection laws).

⁴⁰ Michael LaCour-Little & Gregory H. Chun, *Third Party Originators and Mortgage Prepayment Risk: An Agency Problem?*, 17 J. REAL ESTATE RES. 55, 58-59 (1999) (finding higher rates of prepayment among loans originated by mortgage brokers).

⁴¹ Keys, Mukherjee, Seru & Vig, *supra* note 38, at 2-3.

⁴² *Id.* at 3.

⁴³ See Atif Mian & Amir Sufi, *The Consequences of Mortgage Credit Expansion: Evidence from the U.S. Mortgage Default Crisis* 22-26 (Oct. 2008) (testing various hypotheses regarding growth of subprime loan market), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1072304.

ongoing need to monitor borrowers. Although lenders have traditionally looked first to a borrower's credit quality before extending a loan, if the borrower defaults, the lender's credit risk is offset by its ability to realize value from sale of the underlying property.⁴⁴ Banks, by contrast, have traditionally relied more heavily on covenants and monitoring to mitigate credit loss. In the case of unsecured loans, a failure to monitor – or, with a decline in covenants, an inability to adjust credit risk upon a change in a borrower's credit quality – may increase the risk of a corporate loan without the fallback of collateral in the event of default. Consequently, unlike subprime mortgages – where lenders and prospective investors may have taken comfort in collateral values – a decline in covenants and monitoring is understood to significantly alter the credit risk of a corporate loan, prompting (as I argue in this Article) alternative means of debt governance.⁴⁵

The phenomenal rise in U.S. housing prices during the run-up to the subprime crisis⁴⁶ may have further induced lenders to rely on collateral values to extend mortgage loans – without considering a borrower's ability to repay her loans⁴⁷ and with little change in loan terms in response to variation in a borrower's credit quality.⁴⁸ The rise in housing prices may not itself have induced greater subprime lending,⁴⁹ but the resulting increase in collateral values may have overshadowed a borrower's poor credit quality and minimized delinquency and foreclosure rates, since troubled borrowers were able to easily refinance their loans or sell their homes.⁵⁰

Loan quality, consequently, declined in the subprime market in line with rising real property values. Some portion of that decline reflected agency problems between loan originators and appraisers, who were reportedly often pressured to hike a property's value or risk the loss of future business.⁵¹ The decline may have also reflected the incentives of originators to pass lower-quality loans to third-party purchasers, in part using securitization structures that were intended to address the heightened credit risk

⁴⁴ Randal C. Picker, *Security Interests, Misbehavior, and Common Pools*, 59 U. CHI. L. REV. 645, 651-52 (1992) (noting that, with mortgages, lender's interaction with borrowers typically limited to collecting checks and reminding borrowers to maintain house insurance); Rajan & Winton, *supra* note 12, at 1135 (noting that collateral obviates need to investigate borrowers).

⁴⁵ See *infra* notes 160-195 and accompanying text.

⁴⁶ Gorton, *supra* note 36, at 5-6, 20.

⁴⁷ Ann M. Burkhardt, *Lenders and Land*, 64 MO. L. REV. 249, 278-79 (1999) (noting effect of pressure to produce loans to minimize required loan documentation); Luci Ellis, *The Housing Meltdown: Why did it Happen in the United States?* 6, 21 (BIS Working Paper No. 259, Sept. 2008) (describing easing of individual lender's underwriting standards), available at <http://www.bis.org/publ/work259.pdf>.

⁴⁸ Keys, Mukherjee, Seru & Vig, *supra* note 38, at 13.

⁴⁹ See Mian & Sufi, *supra* note 43, at 26-29.

⁵⁰ Ellis, *supra* note 47, at 13; Janet L. Yellen, *The Mortgage Meltdown, Financial Markets, and the Economy*, FRBSF ECON. NEWSLETTER No. 2008-35-36, Nov. 7, 2008, at 2.

⁵¹ George H. Lentz & Ko Wang, *Residential Appraisal and the Lending Process: A Survey of Issues*, 15 J. REAL ESTATE RES. 11, 25-26 (1998) (describing potential agency problems). See 2007 NATIONAL APPRAISAL SURVEY – A SNAPSHOT OF THE REAL ESTATE VALUATION INDUSTRY – EXECUTIVE OVERVIEW 3 (October Res. Corp., Dec. 2006) (noting that 90 percent of respondents indicated pressure to adjust property values upwards), available at http://www.appraisalinstitute.org/newsadvocacy/downloads/ltrs_tstmny/2007/Ntnl_Apprsl_Srvy.pdf.

that investors might bear.⁵² Interestingly, while the evidence is still mixed, there is some indication that the decline in lending and appraisal standards applied equally to those loans kept on and off an originator's books.⁵³ That result likely reflected the practice of some purchasers to buy randomly selected bundles of loans, with lenders unaware *ex ante* of which loans they would retain.⁵⁴ Even after loans were transferred, the originator and underwriters often acquired ownership of a portion of the resulting securitized instruments.⁵⁵ Thus, the risk of moral hazard may have been partly offset by a market discipline that required originators to retain some portion of the credit risk.⁵⁶

What, then, fueled the decline in loan quality? No doubt, some portion can be attributed to agency costs arising from the unbundling of the traditional bank-borrower relationship. The substantial losses incurred by participants in the securitization process, however, suggest that something else was also involved. There is some evidence that moral hazard among institutional investors, fueled by the unique nature of the subprime market, may have played a significant role. Investment mandates by regulated purchasers of securitized assets typically are tied to credit ratings. Pension funds, for example, may be restricted from investing in assets that are rated below investment grade – without distinguishing between structured and corporate credit ratings,⁵⁷ even though structured instruments typically provide a higher yield than their corporate counterparts.⁵⁸ Consequently, asset managers have an incentive to invest in securitized products, such as subprime mortgage instruments, in order to outperform their peers or the benchmarks against which they are measured – trading credit quality for yield, enhancing fund returns and their own management fees, and weakening the pressure on loan originators to monitor a borrower's credit quality.⁵⁹

Part of an investor's ability to make that trade reflected the unique growth of the subprime mortgage market, which witnessed unusually low default levels during the

⁵² See Kathleen C. Engel & Patricia A. McCoy, *Turning a Blind Eye: Wall Street Finance of Predatory Lending*, 75 *FORDHAM L. REV.* 2039, 2048-64 (2007) (describing role of securitization in subprime lending).

⁵³ Keys, Mukherjee, Seru and Vig, for example, found that a doubling of securitization volume on average is associated with a 20 percent increase in mortgage defaults. Keys, Mukherjee, Seru & Vig, *supra* note 38, at 22. Ellis, by contrast, found that the growth in payment arrears during the start of the subprime crisis applied equally to securitized loans and loans that remained on an originator's balance sheet. Ellis, *supra* note 47, at 14.

⁵⁴ Keys, Mukherjee, Seru & Vig, *supra* note 38, at 3, 17; Ellis, *supra* note 47, at 14. See also Thomas W. Albrecht & Sarah J. Smith, *Corporate Loan Securitization: Selected Legal and Regulatory Issues*, 8 *DUKE J. COMP. & INT'L L.* 411, 426 (1998) (noting that, within homogenous asset types, assets for securitization are generally chosen at random).

⁵⁵ Engel & McCoy, *supra* note 52, at 2065-68; Gorton, *supra* note 36, at 29-31; Charles W. Calomiris, *The Subprime Turmoil: What's Old, What's New, and What's Next* 26 (Oct. 2008), available at http://www.aei.org/docLib/20081002_TheSubprimeTurmoil.pdf.

⁵⁶ See *infra* notes 162-165 and accompanying text.

⁵⁷ Calomiris, *supra* note 55, at 28-29.

⁵⁸ Adam B. Ashcraft & Til Schuermann, *Understanding the Securitization of Subprime Mortgage Credit* 11 n.7 (Wharton Fin. Inst. Center Working Paper No. 07-43, Mar. 2008), available at <http://ssrn.com/abstract=1071189>.

⁵⁹ *Id.* at 9-11.

last economic downturn in 2001-2003. Securitization sponsors relied on those default rates in structuring new instruments, and rating agencies used them to assign credit ratings to the resulting investment products.⁶⁰ Those levels, nevertheless, were recognized among institutional investors (and, we may suppose, by the rating agencies themselves) to be substantially below the most likely default rates in the event of a future downturn. However, since they were commonly accepted, the 2001-2003 rates provided a unique opportunity for fund managers – and for loan originators, banks, and others who held subprime assets – to purposely invest in higher-yielding but riskier investments and to “plausibly deny” their awareness of the risk of any later loss.⁶¹ By contrast, in other securitization products, investors typically focus on the identity of the asset originators, portfolio composition, and the assets’ past performance – with more realistic default rates, based upon a longer history of securitization, than the understated levels used in the subprime market.⁶²

Accordingly, while agency problems contributed to the subprime crisis and, more generally, extended to other credit instruments as the private credit market became more liquid,⁶³ significant differences between subprime and corporate loans suggest that the agency problems that sparked the current crisis may not apply equally to corporate credit. In addition, the development of alternative means to mitigate agency costs in the corporate market may reflect the relative inability of market participants and institutional investors to “plausibly” understate default levels. There are, nevertheless, lessons to be learned from the subprime experience, and as I argue in this Article, those lessons are likely to reinforce the trend towards greater liquidity in private credit instruments.⁶⁴

This Article proceeds as follows. Part II considers loan covenants, monitoring, and liquidity within the traditional agency cost framing of the firm. Covenants and monitoring were presumed to be the least costly means to manage credit risk in light of the limited ability of lenders, at the time the traditional framing was introduced, to buy and sell loans and other credit instruments.

In Part III, I describe how the business of lending has evolved, resulting in change in credit risk management and the creation of an increasingly liquid credit market. Private credit may now offer lower cost alternatives to covenants and monitoring in managing credit risk.

⁶⁰ See Engel & McCoy, *supra* note 52, at 2054-58.

⁶¹ Calomiris, *supra* note 55, at 18-19, 26-31. The same pressure for profits prompted Chuck Prince, the then-CEO of Citigroup, to famously remark, “So long as the music is playing, you’ve got to keep dancing. We’re still dancing.” John Kay, *Bankers, Like Gangs, Just Get Carried Away*, FIN. TIMES (Asia), Feb. 13, 2008, at 9.

⁶² Calomiris, *supra* note 55, at 29-30.

⁶³ In the case of corporate loans, for example, there was a significant decline in private equity loan covenants in the year leading up to the credit slowdown, which – like in the subprime market – may have been attributed to agency problems arising from the transfer of those loans in the secondary market. See *infra* notes 149-153 and accompanying text.

⁶⁴ See *infra* notes 225-247 and accompanying text. See also Steven L. Schwarcz, *Complexity as a Catalyst of Market Failure: A Law and Engineering Inquiry* 5-28 (unpublished paper, on file with author).

Part IV explores the impact of private credit liquidity on capital structure and governance. Greater liquidity may increase the agency cost of lending, prompting new means to minimize that cost and, by extension, changes in the governance function of debt. Debt may, as a result, shift from a governance function based on private loans to a greater reliance on liquid credit instruments. I also consider the implications of the evolution of debt more generally for change in capital structure and corporate governance.

In Part V, I describe some lessons to be learned from the current credit crisis. Rather than blocking the growth of private credit, regulatory and market responses to the recent problems are likely to reinforce the financial system and, I suggest, the continued expansion of the private credit market. Part VI concludes.

II. COVENANTS, MONITORING, AND LIQUIDITY

A central theme of this Article is that capital structure and corporate governance are increasingly driven by completeness in the capital market. Covenants and monitoring, within the standard framing, are presumed to be the least costly means for lenders to mitigate credit risk – reflecting the traditional bank-borrower relationship at the time the agency cost construct was introduced. Subsequent changes in the lending business have introduced the possibility of lower cost alternatives, prompting an evolution in the role of debt within corporate governance.

Covenant levels, within the traditional framing, are set by reference to agency cost.⁶⁵ The optimal level is determined by weighing the benefits of covenants against the costs to monitor, implement, and enforce the terms of the loan contract. Overall, firms choose to fund with debt so long as it is cheaper than the alternatives, such as public equity.⁶⁶

Within that trade-off, the traditional construct distinguishes between public and private debt. Public bonds are widely held and easily transferable, increasing their agency cost – in part, through the collective action problem of dispersed ownership – but permitting holders to inexpensively diversify, manage, and transfer credit risk. The result is typically less restrictive covenants in light of greater publicly available information about those borrowers, the higher cost to monitor and enforce compliance,⁶⁷ and a decline in the ability to mitigate credit risk through contract.⁶⁸

⁶⁵ References in this Article to “covenant levels” are to the number and restrictiveness of covenants in a loan agreement.

⁶⁶ See Jensen & Meckling, *supra* note 2, at 342-51; Saul Levmore, *Monitors and Freeriders in Commercial and Corporate Settings*, 92 YALE L.J. 49, 67 (1982); Faulkender & Petersen, *supra* note 25, at 45-46.

⁶⁷ For example, maintenance covenants, which are common in private bank loans, require the borrower to meet its obligations on a regular basis; incurrence covenants, which are more frequent in public debt, are triggered only upon occurrence of a specified event, such as a new borrowing, a dividend distribution, or an acquisition. Iliia D. Dichev & Douglas J. Skinner, *Large-Sample Evidence on the*

By contrast, private debt builds on the pre-existing relationship between lenders and borrowers. Lenders rely on that relationship to monitor and enforce covenants to address credit risk, typically at lower cost than public debt holders.⁶⁹ Covenants, however, can be expensive and imperfect predictors of management behavior, reflecting the *ex ante* difficulty of assessing a borrower's future action and performance.⁷⁰ Thus, in order to minimize their cost, the risk that some covenants will limit profitable activity is offset by the ability, among a small group of lenders, to inexpensively renegotiate covenants that have become too restrictive, as well as to exercise control rights.⁷¹

Delegating authority to an intermediary, such as a bank, may lower agency costs to the extent the bank is better able to monitor and respond to change in a borrower's circumstances.⁷² Those functions, however, can be managed just as well by a non-bank intermediary, suggesting one reason for the decline in traditional banking in the face of new lenders, products, and markets over the last thirty years.⁷³

Banks, nevertheless, remain an important source of capital. A key feature is their ability to obtain quasi-public information about borrowers at lower cost than other financial intermediaries.⁷⁴ Banks rely on monitoring and long-term relationships to develop that information, without the cost of duplication across multiple lenders.⁷⁵

Debt Covenant Hypothesis, 40 J. ACCT. RES. 1091, 1098-1101 (2002); Carey *et al.*, *supra* note 3, at 11-12.

⁶⁸ Amihud, Garbade & Kahan, *supra* note 2, at 450-51, 459-60, 462-65.

⁶⁹ Kahan & Tuckman, *supra* note 7, at 7, 25-26.

⁷⁰ Steven Fazzari, R. Glenn Hubbard & Bruce C. Petersen, *Financing Constraints and Corporate Investment*, 1988 BROOKINGS PAPERS ON ECON. ACTIVITY 141, 151-52 (1988) (explaining negative effects of covenant restrictions on investment opportunities); Triantis & Daniels, *supra* note 9, at 1093-94.

⁷¹ Patrick Bolton & David S. Scharfstein, *Optimal Debt Structure and the Number of Creditors*, 104 J. POL. ECON. 1, 14 (1996) (predicting that higher default risk firms prefer to borrow from fewer creditors); Smith & Warner *supra* note 2, at 150-51; Carey *et al.*, *supra* note 3, at 13-14, 36-38; Nicolae Gârleanu & Jeffrey Zwiebel, *Design and Renegotiation of Debt Covenants* 1-4 (Working Paper, Apr. 2008) (finding that covenants are tight at inception, but frequently relaxed upon renegotiation), available at <http://finance.wharton.upenn.edu/~garleanu/coven.pdf>.

⁷² See Douglas W. Diamond, *Financial Intermediation and Delegated Monitoring*, 51 REV. ECON. STUD. 393, 393-95 (1984) (developing model in which financial intermediary has net cost advantage relative to direct lending) [hereinafter Diamond, *Intermediation*]; Fama, *What's Different*, *supra* note 13, at 36-38.

⁷³ See Eugene F. Fama, *Banking in the Theory of Finance*, 6 J. MONETARY ECON. 39, 41-42 (1980); Franklin Allen & Anthony M. Santomero, *What Do Financial Intermediaries Do?* 1-2 (Wharton Fin. Inst. Center, Working Paper 99-30-B, 1999) (describing transformation of U.S. banking system), available at <http://fic.wharton.upenn.edu/fic/papers/99/9930.pdf>.

⁷⁴ Fischer Black, *Bank Funds Management in an Efficient Market*, 2 J. FIN. ECON. 323, 323-24 (1975); Fama, *What's Different*, *supra* note 13, at 35-39; Triantis & Daniels, *supra* note 9, at 1083-90.

⁷⁵ Douglas G. Baird & Robert K. Rasmussen, *Private Debt and the Missing Lever of Corporate Governance*, 154 U. PA. L. REV. 1209, 1212-13, 1219-23 (2006) (describing role of banks and covenants in corporate decision-making of firms in financial distress); Diamond, *Intermediation*, *supra* note 72, at 393-95.

Consequently, borrowers for whom there is less publicly available information are more likely to rely on banks than the public market.⁷⁶

Covenant levels are determined, in part, by the amount of borrower information that a lender possesses or can cheaply acquire.⁷⁷ If the lender is less well-informed, it is more likely to seek stricter covenants in order to more closely control a borrower's future activities. Accordingly, even in the case of public bonds, tighter covenants may be necessary in order to offset the lower levels of information available about a less transparent borrower.⁷⁸ Covenants, however, may not be as effective if they cannot be monitored and enforced, potentially resulting in fewer covenants – and an increase in the real cost of capital – if the lender is unable to do so inexpensively.⁷⁹ Thus, a bank's low-cost ability to obtain information about borrowers and monitor compliance with loan obligations creates a competitive advantage over other lenders.

Reputation may also play a role in setting covenant levels. A firm that repeatedly accesses the credit market has an economic interest in developing a reputation as a “good” borrower. If the borrower can benefit (for example, through fewer covenants or a lower cost of capital), then – even if not contractually obligated to do so – it has an incentive to act in a manner consistent with the lender's interests. Lenders may, in turn, begin to relax their reliance on covenants and monitoring in loans to borrowers with established reputations.⁸⁰

To be sure, the traditional agency cost model considered the use of diversification to manage risk and, in particular, its relationship to optimal capital structure. Portfolio theory suggests there should be a less costly means for banks to manage credit risk than covenants and monitoring.⁸¹ Doing so effectively, however, required a liquid market for the purchase and sale of credit, which did not exist at the time the agency cost framing was introduced.⁸² Thus, the benefits of diversification were presumed to

⁷⁶ Fama, *What's Different*, *supra* note 13, at 30; Hayne E. Leland & David H. Pyle, *Informational Asymmetries, Financial Structure, and Financial Intermediation*, 32 J. FIN. 371, 384 (1977) (noting that less risky firms have incentive to deal with intermediaries better able to sort risk); Carey *et al.*, *supra* note 3, at 11.

⁷⁷ David J. Denis & Vassil T. Mihov, *The Choice Among Bank Debt, Non-bank Private Debt, and Public Debt: Evidence from New Corporate Borrowings*, 70 J. FIN. ECON. 3, 6 (2003); Rajan & Winton, *supra* note 12, at 1114-15; Gârleanu & Zwiebel, *supra* note 71, at 3-4.

⁷⁸ Smith & Warner, *supra* note 2, at 122-24; Bradley & Roberts, *supra* note 6, at 2-3

⁷⁹ Gârleanu & Zwiebel, *supra* note 71, at 3-4; Kahan & Tuckman, *supra* note 7, at 6-7.

⁸⁰ Arnoud W.A. Boot, Stuart I. Greenbaum & Anjan V. Thakor, *Reputation and Discretion in Financial Contracting*, 83 AM. ECON. REV. 1165, 1165-67 (1993); Douglas W. Diamond, *Monitoring and Reputation: The Choice Between Bank Loans and Directly Placed Debt*, 99 J. POL. ECON. 689, 690-91, 716 (1991) [hereinafter Diamond, *Monitoring*]; Kose John & David C. Nachman, *Risky Debt, Investment Incentives, and Reputation in a Sequential Equilibrium*, 40 J. FIN. 863, 864-65 (1985). The risk of relying on reputation in place of traditional contractual protections is described *infra* at notes 181-182 and accompanying text.

⁸¹ Markowitz first demonstrated the benefits of portfolio diversification in 1952, for which he won the Nobel Prize in Economics in 1990. See Harry Markowitz, *Portfolio Selection*, 7 J. FIN. 77 (1952).

⁸² See Jensen & Meckling, *supra* note 2, at 348-50 (applying diversification analysis to shareholdings).

be principally limited to equity, with banks instead relying on contractual protections – such as covenants and monitoring – to manage their credit exposure.⁸³

A bank's informational advantage also limited its ability to resell loans to investors, suggesting one reason why a liquid credit market failed to develop before changes in the lending business in the 1980s.⁸⁴ Less knowledgeable purchasers were likely to discount a loan's value, or attempt to engage in their own costly monitoring of a borrower, resulting in a drop in the price at which the loan could be sold.⁸⁵ Consequently, banks were better off if they held the loans they originated until maturity, informing the historical presumption that bank assets were unmarketable.⁸⁶ The inability to transfer loans, in turn, reinforced the value to lenders of covenants and monitoring to manage credit risk.⁸⁷

The upshot was that covenants were costly – but, in light of the capital market of the period, were understood within the traditional framing to be the least costly means of managing credit risk. Alternatives had not yet been introduced, in part due to the absence of a liquid credit market, so that lenders placed greater reliance on covenants and monitoring, which limited liquidity even further. Market participants looked to minimize the related cost by relying on bank intermediaries and reputation.

In the next Part, I describe changes in the credit market that enabled banks to begin to actively manage their credit exposure. The transformation of the lending business broke the log jam between covenants and liquidity. The result was a shift in the costs and benefits that shape capital structure, and a decline in the cost of managing credit risk, beyond those presumed within the traditional framing of the firm.

III. THE EVOLUTION OF THE CREDIT MARKET

Managing credit risk lies at the heart of a bank's traditional function as an intermediary between depositors and borrowers.⁸⁸ A key to that business model is the bank's ability to balance the interests of investors in liquid liabilities (deposits) against its

⁸³ John B. Morgan, *Managing a Loan Portfolio Like an Equity Fund*, THE BANKERS MAG., Jan.-Feb. 1989, at 28; Edward I. Altman, *Corporate Bond and Commercial Loan Portfolio Analysis* 2-3, 12, 23 (Wharton Fin. Inst. Center, Working Paper 96-41, 1996).

⁸⁴ Those changes are described *infra* at notes 90-121 and accompanying text.

⁸⁵ Diamond, *Intermediation*, *supra* note 72, at 410. The asymmetry resulted in the classic “lemons problem” described in George A. Akerlof, *The Market for Lemons: Quality Uncertainty and the Market Mechanism*, 84 Q. J. ECON. 488 (1970).

⁸⁶ See Amihud, Garbade & Kahan, *supra* note 2, at 466; Levmore, *supra* note 66, at 70; Gary Gorton & George Pennacchi, *Banks and Loan Sales: Marketing Non-marketable Assets* 1-3, 29 (Nat'l Bureau of Econ. Res., Working Paper No. 3551, 1990) (examining opening of loan sales markets during 1980s).

⁸⁷ See Black, *supra* note 74, at 329-30; Philip E. Strahan, *Borrower Risk and the Price and Non-price Terms of Bank Loans* 2-8 (Oct. 1999) (finding that banks adjust price and non-price terms to facilitate monitoring and limit loan losses), available at <http://ssrn.com/abstract=192769>.

⁸⁸ Bert Scholtens & Dick van Wensveen, *A Critique on the Theory of Financial Intermediation*, 24 J. BANKING & FIN. 1243, 1247-48 (2000) (noting that managing risk has always been “the bread and butter of financial intermediaries”).

borrowers' interests in longer-term, illiquid assets (loans), with loan portfolio risks spread across depositors and over time.⁸⁹

The business of banking, and the role of banks as intermediaries, began to change in the 1970s and 1980s, driven by increasing bank and non-bank competition,⁹⁰ product and other innovation in the marketplace,⁹¹ and changes in financial services regulation.⁹² In particular, the introduction of new regulatory capital requirements made it more expensive for banks to continue the lending business as they had before⁹³ – typically, in the past, by assessing credit risk and borrower concentrations at the time a loan was made and then holding that loan to its maturity.⁹⁴ Banks looked to offset the resulting decline in profitability by increasing their credit exposure,⁹⁵ a trend that was boosted by the flight of higher quality borrowers to the public capital market.⁹⁶ They also began to consider entry into new businesses, such as trading for their own account and selling new products and services, which were more profitable

⁸⁹ See Franklin Allen & Douglas Gale, *Financial Markets, Intermediaries, and Intertemporal Smoothing*, 105 J. POL. ECON. 523, 525 (1997); Douglas W. Diamond & Philip H. Dybvig, *Banks Runs, Deposit Insurance, and Liquidity*, 91 J. POL. ECON. 401, 405 (1983) (describing banks' "role of turning illiquid assets into liquid assets"); Fama, *What's Different*, *supra* note 13, at 34-35. Since a bank's owners bear the residual risk of the lending business, depositors (and others who free ride on the bank's oversight) can be assured of a credible screening and monitoring process. Gary B. Gorton & Joseph G. Haubrich, *Loan Sales, Recourse, and Reputation: An Analysis of Secondary Loan Participations* 14-15 (Rodney L. White Center Fin. Res. Working Papers 14-87, May 1987). Deposit insurance and other subsidies may, however, increase the risk of moral hazard by reducing the cost to banks and their owners of making risky loans. See Rajeev Dehejia & Adriana Lleras-Muney, *Financial Development and Pathways of Growth: State Branching and Deposit Insurance Laws in the United States, 1900-1940*, 50 J. L. & ECON. 239, 240 (2007).

⁹⁰ See KERRY COOPER & DONALD R. FRASER, *BANKING DEREGULATION AND THE NEW COMPETITION IN FINANCIAL SERVICES* 2-17 (1984); LOWELL L. BRYAN, *BREAKING UP THE BANK: RETHINKING AN INDUSTRY UNDER SIEGE* 22-28 (1988); Allen & Santomero, *supra* note 73, at 5-10.

⁹¹ See Allen N. Berger, Anil K. Kashyap & Joseph M. Scalise, *The Transformation of the U.S. Banking Industry: What a Long, Strange Trip It's Been*, 1995 BROOKINGS PAPERS ON ECON. ACTIVITY 55, 68-70 (1995); Allen & Santomero, *supra* note 73, at 8-10.

⁹² See COOPER & FRASER, *supra* note 90, at 195-217; ROBERT E. LITAN, *WHAT SHOULD BANKS DO?* 33-59 (1987); Berger, Kashyap & Scalise, *supra* note 91, at 127.

⁹³ See Charles K. Whitehead, *What's Your Sign? – International Norms, Signals, and Compliance*, 27 MICH. J. INT'L L. 695, 721-25 (2006) (describing implementation of Basel Accord on bank regulatory capital); Charles Smithson *et al.*, *Results from the 2002 Survey of Credit Portfolio Management Practices* 5 (2002) (noting that regulatory capital was primary motivation to transfer loans), available at http://www.isdadocs.org/c_and_a/pdf/2002-cpm-survey.pdf.

⁹⁴ See JOHN B. CAOUILLE, EDWARD I. ALTMAN & PAUL NARAYANAN, *MANAGING CREDIT RISK: THE NEXT GREAT FINANCIAL CHALLENGE* 65 (1998); Altman, *supra* note 83, at 1; Paul Glasserman, *Probability Models of Credit Risk* 1 (Columbia Bus. Sch., Working Paper, 2000), available at http://www2.gsb.columbia.edu/faculty/pglasserman/B6014/Prob_Credit.pdf.

⁹⁵ See JAMES R. BARTH, R. DAN BRUMBAUGH, JR. & ROBERT E. LITAN, *THE FUTURE OF AMERICAN BANKING* 18 (1992); David T. Llewellyn, *Banking in the 21st Century: The Transformation of an Industry*, in *THE FUTURE OF THE FINANCIAL SYSTEM* 141, 142-43, 152-53 (Malcom Edey ed., 1996); Allen & Santomero, *supra* note 73, at 5-9. *But see* Patricia Jackson *et al.*, *Capital Requirements and Bank Behaviour: The Impact of the Basle Accord* 20-21 (Basle Comm. on Banking Supervision, Working Paper No. 1, 1999) (arguing there is no reliable evidence on impact of regulatory capital requirements on bank risk-taking), available at http://www.bis.org/publ/bcbs_wp01.pdf.

⁹⁶ JAMES L. PIERCE, *THE FUTURE OF BANKING* 64 (1991); Gorton & Haubrich, *supra* note 89, at 14-15.

than lending and not subject to the same levels of credit risk.⁹⁷ Competing products (such as money market funds) also began to offer attractive alternatives to bank deposits, so that banks could no longer count on depositors to cushion against loan losses.⁹⁸

Driven by those changes, banks began to reassess the lending business – with many turning to a defensive, portfolio-based strategy in order to minimize their overall credit cost.⁹⁹ A bank's exposure was typically concentrated within the geography in which its branches were located and among clients with which it had established relationships.¹⁰⁰ Diversifying that risk could result in a more balanced and profitable loan portfolio, for example, by limiting the impact of an economic downturn in one region by trading loans from that region for loans from another part of the country. Yet, actively managing portfolio risk was, at the time, principally limited to equities, with credit risk instead being transferred through traditional (and more costly) instruments like financial guarantees and credit insurance. A liquid market to buy and sell credit risk, as well as the creation of a measure of default risk and correlation across loans, was necessary in order for portfolio risk management to be extended to debt.¹⁰¹

The banking industry responded. New technologies were developed to measure risk and diversification across loan portfolios – enabling banks to assess loans on a credit-by-credit basis and decide which assets to buy and sell, and at what price, in order to optimize a loan portfolio's return-to-risk relationship.¹⁰² Banks also became less interested in holding loans to their maturity in light of the growing ability to enhance returns by selling loan interests to others.¹⁰³ Thus, costs traditionally tied to the resale of loans were offset by the real benefits of managing credit risk. Greater competition among lenders also made long-term relationships with borrowers less

⁹⁷ Allen & Santomero, *supra* note 73, at 8-10.

⁹⁸ Robert DeYoung & William C. Hunter, *Deregulation, the Internet, and the Competitive Viability of Large Banks and Community Banks*, in *THE FUTURE OF BANKING* 173, 178-79 (Benton E. Gup ed., 2003); Wilmarth, *supra* note 6, at 239-42.

⁹⁹ See Allen & Gale, *supra* note 89, at 538-41; Berger, Kashyap & Scalise, *supra* note 91, at 68-69, 80-81; Allen & Santomero, *supra* note 73, at 17, 21.

¹⁰⁰ See CAOQUETTE, ALTMAN & NARAYANAN, *supra* note 94, at 31-32; Ronald J. Gilson & Reinier Kraakman, *Investment Companies as Guardian Shareholders: The Place of MSIC in the Corporate Governance Debate*, 45 *STAN. L. REV.* 985, 989-90 (1993) (describing traditional limitations on banks' influence over corporate governance).

¹⁰¹ See CAOQUETTE, ALTMAN & NARAYANAN, *supra* note 94, at 231-42, 267-72; Paul Bennett, *Applying Portfolio Theory to Global Bank Lending*, 8 *J. BANKING & FIN.* 153, 156-57 (1984) (noting that measurement of covariances across different borrowers is key for efficient portfolio construction).

¹⁰² By 2002, a credit portfolio model developed by KMV, LLC, a quantitative risk management firm founded in 1989, had become the most widely used in the banking industry. See *Derivatives Strategy.com, 2000 Hall of Fame*, at <http://www.derivativesstrategy.com/magazine/archive/2000/0300feal.asp>; Smithson *et al.*, *supra* note 93, at 6-7. The KMV model is described in Stephen Kealhofer & Jeffrey R. Bohn, *Portfolio Management of Default Risk* (May 2001), available at http://www.moodyskmv.com/research/whitepaper/Portfolio_Management_of_Default_Risk.pdf. Other methods have also been developed to measure a loan portfolio's risk and return characteristics. See CAOQUETTE, ALTMAN & NARAYANAN, *supra* note 94, at 285-99.

¹⁰³ See PIERCE, *supra* note 96, at 83; Llewellyn, *supra* note 95, at 164, 169; Wilmarth, *supra* note 6, at 317-27, 435-36; Allen & Santomero, *supra* note 73, at 7-10.

valuable.¹⁰⁴ The result was a shift in the lending business, as banks moved from their traditional role as intermediaries between depositors and borrowers to become brokers who originated and sold loans to others.¹⁰⁵ Banks also began to more actively buy and sell loans and other credit instruments in order to better manage their credit exposure.¹⁰⁶

The loan sales market – principally comprised of a syndicated loan market and a secondary trading market – developed in response, in terms of both aggregate size¹⁰⁷ and universe of investors.¹⁰⁸ The leveraged buyout wave of the mid-1980s prompted the growth of syndicated loans as a lower cost means to raise debt capital, as well as the creation of a secondary market for the trading of loan assets.¹⁰⁹ In a syndicated loan, one or more “lead banks” negotiate the terms of the loan with the borrower and sell portions to others at the time of origination.¹¹⁰ Interests in a loan, whether or not syndicated, can also be sold in the secondary market, which is dominated by riskier borrowers and non-bank investors.¹¹¹ Bank lenders, therefore, can transfer loans at the time of origination, as well as sell all or part of a loan at a later date. The new liquidity enabled banks to minimize credit cost by diversifying their exposure across a

¹⁰⁴ See Mitchell A. Petersen & Raghuram G. Rajan, *The Effect of Credit Market Competition on Lending Relationships*, 110 Q. J. ECON. 407, 407-08 (1995) (analyzing negative impact of competition on formation of creditor-borrower relationships).

¹⁰⁵ See CHARLES W. CALOMIRIS, U.S. BANK DEREGULATION IN HISTORICAL PERSPECTIVE 341 (2000); Llewellyn, *supra* note 95, at 169-70; Patrick Bolton & Xavier Freixas, *Equity, Bonds, and Bank Debt: Capital Structure and Financial Market Equilibrium Under Asymmetric Information*, 108 J. POL. ECON. 324, 326-27 (2000) (describing banks’ motivation to securitize loans); Harvey R. Miller, *Chapter 11 in Transition – From Boom to Bust and Into the Future*, 81 AM. BANKR. L.J. 375, 379 (2007) (describing shift in bank holdings, comprising over 70 percent of loans in 1995 to below 13 percent by 2007).

¹⁰⁶ See MORTAN GLANTZ, MANAGING BANK RISK: AN INTRODUCTION TO BROAD-BASE CREDIT ENGINEERING 423-49 (2003); CAOUPETTE, ALTMAN & NARAYANAN, *supra* note 94, at 4; Bennett, *supra* note 101, at 156-59.

¹⁰⁷ The market for syndicated loans grew from \$137 million in 1987 to over \$1 trillion today. Sufi, *supra* note 3, at 629. Loan trading also grew, from \$8 billion in 1991 to \$176.3 billion in 2005. Steven Drucker & Manju Puri, *On Loan Sales, Loan Contracting, and Lending Relationships* 1 (FDIC Center for Res. Working Paper No. WP 2007-04, Mar. 2007), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=920877.

¹⁰⁸ Investors now include pension funds, hedge funds, insurance companies, specialty finance companies, and foreign institutions. Joseph G. Haubrich & James B. Thomson, *The Evolving Loan Sales Market* 3 (Fed. Reserve Bank of Cleveland, July 15, 1993), available at <http://www.clevelandfed.org/research/commentary/1993/0715.pdf>; Lori B. Appelbaum, Brian Foran & Bradley C. Glick, *Global Investment Research: Rising LBO Bank Loan Risk, Banks Holding Little of It* 3-5 (Goldman, Sachs & Co., May 31, 2007).

¹⁰⁹ A description of the growth of the leveraged loan market appears in Robert P. Bartlett III, *Taking Finance Seriously: How Debt Financing Distorts Bidding Outcomes in Corporate Takeovers*, 76 FORDHAM L. REV. 1975, 2011-20 (2008).

¹¹⁰ Glenn Yago & Donald McCarthy, *The U.S. Leveraged Loan Market: A Primer* 14-22 (Milken Inst., Oct. 2004), available at http://www.milkeninstitute.org/pdf/loan_primer_1004.pdf.

¹¹¹ William H. Widen, *Lord of the Liens: Towards Greater Efficiency in Secured Syndicated Lending*, 25 CARDOZO L. REV. 1577, 1585-90 (2004); Yago & McCarthy, *supra* note 110, at 23-28, 35-37; Drucker & Puri, *supra* note 107, at 1. A description of the syndicated loan market, and how it differs from the secondary trading market, can be found at Sufi, *supra* note 3, at 632-34.

range of borrowers.¹¹² Likewise, banks that participated in the loan market could hold less capital against riskier loans and more profitable loan portfolios.¹¹³

The credit derivatives market also grew,¹¹⁴ partly in response to the increased demand for instruments to help lenders manage their credit exposure¹¹⁵ and minimize the cost of complying with regulatory capital requirements.¹¹⁶ Credit derivatives separate the funding obligation of a loan or bond from the credit risk of the borrower. Thus, using a credit default swap, a bank can buy or sell all or a portion of a borrower's credit risk without transferring the loan or bond itself, typically enabling it to more efficiently manage and diversify exposure.¹¹⁷ Since the credit derivatives market is largely private, and since some borrowers are reluctant to see interests in their loans sold to others, it is unclear how often lenders use derivatives to hedge their credit risk. However, total volumes of credit derivatives have continued to grow, and there are indications that their use to diversify credit risk is becoming more common.¹¹⁸

Of particular importance to the loan market was the creation of collateralized loan obligations (CLOs) – often structured by a sponsoring bank (typically, the originator

¹¹² Greater liquidity, for example, resulted in increased diversification among leveraged loan investors who, on average, committed only \$5 million to a single deal during the most recent private equity wave. Appelbaum, Foran & Glick, *supra* note 108, at 3-5; Serena Ng & Henry Sender, *Beyond Buyout Surge, A Debt Market Booms*, WALL ST. J., June 26, 2007, at A1.

¹¹³ A. Sinan Cebenoyan & Philip E. Strahan, *Risk Management, Capital Structure and Lending at Banks*, 28 J. BANKING & FIN. 19, 38 (2004).

¹¹⁴ The global credit derivatives market was estimated to be \$180 billion (notional amount) in 1996. Ross Barrett & John Ewan, *BBA Credit Derivatives Report 2006 5* (British Bankers' Assoc., 2006), available at http://www.bba.org.uk/content/1/c4/76/71/Credit_derivative_report_2006_exec_summary.pdf. A decade later, between 2004 and 2007, more than \$210 billion in collateralized loan obligations were issued (up from \$51 billion over the preceding four years); and by the end of 2007, an estimated \$62 trillion in notional amount of credit default swaps were traded (up from \$632 billion in 2001). David Mengle, *Credit Derivatives: An Overview* 11 (2007 Fin. Mkts. Conf., Fed. Reserve Bank of Atlanta, May 2007), available at http://www.frbatlanta.org/news/conferen/07fmc/07FMC_mengle_present.pdf; Gretchen Morgenson, *First Comes the Swap. Then It's the Knives.*, N.Y. TIMES, June 1, 2008, at BU1. A description of credit derivative instruments appears in GLANTZ, *supra* note 106, at 531-49; Blythe Masters & Kelly Bryson, *Credit Derivatives and Loan Portfolio Management*, in HANDBOOK OF CREDIT DERIVATIVES 43-85 (Jack Clark Francis *et al.* eds., 1999) [hereinafter HANDBOOK].

¹¹⁵ See Mengle, *supra* note 114, at 13; Bernadette Minton, Rene M. Stulz & Rohan Williamson, *How Much do Banks Use Credit Derivatives to Reduce Risk?* 3-5 (Ohio State Univ., Fisher Coll. Bus., Working Paper No. 2006-03-001, June 2006), available at <http://ssrn.com/abstract=785364>.

¹¹⁶ See Robert F. Schwartz, *Risk Distribution in the Capital Markets: Credit Default Swaps, Insurance and a Theory of Demarcation*, 12 FORDHAM J. CORP. & FIN. L. 167, 175 (2007) (describing function and use of credit default swaps). The market also grew as a result of trading, unrelated to hedging, by banks and other institutions for their own accounts and for clients. See Duffie, *supra* note 16, at 4-5.

¹¹⁷ CAOQUETTE, ALTMAN & NARAYANAN, *supra* note 94, at 311-12; GLANTZ, *supra* note 106, at 532; Minton, Stulz & Williamson, *supra* note 115, at 7; Angus Duncan, *Loan-only Credit Default Swaps: The March to Liquidity*, COM. LENDING REV., Sept.-Oct. 2006, at 19, 19-20.

¹¹⁸ See Viral V. Acharya & Timothy C. Johnson, *Insider Trading in Credit Derivatives*, 84 J. FIN. ECON. 110, 137 (2007); Partnoy & Skeel, *supra* note 18, at 1034; Hu & Black, *supra* note 26, at 19-20; Duffie, *supra* note 16, at 4-5; Debtwire, *North American Distressed Debt Market Outlook 2008* 14 (Jan. 2008), available at <http://www.debtwire.com/library.marketview?DocID=1083>.

of a loan pool), which sold a loan portfolio to a special purpose vehicle that, in turn, issued multiple tranches of CLO securities to investors in order to fund the purchase.¹¹⁹ The ability to convert loan assets into securities, and then transfer an undivided interest in those assets through the capital market, enhanced their liquidity.¹²⁰ By 2005, almost one-half of all commercial loans were bought by CLOs.¹²¹

For banks, the benefits have been substantial¹²² – enabling them to manage and diversify credit risk at lower cost,¹²³ capitalize on their ability to originate loans for sale to investors who can finance them at lower cost,¹²⁴ and realize greater returns on the loans they retain.¹²⁵ Borrowers have benefited as well. A portion of the gains realized by banks can be passed on, for example, through increased lending limits or lower interest rates, resulting in an overall decline in a borrower's real cost of capital.¹²⁶

None of those benefits could be duplicated, at low cost, by a bank's or borrower's shareholders, providing value-maximizing managers with an incentive to continue to support and grow the credit market.¹²⁷ Further innovation resulted in new and less costly hedging instruments, with greater standardization in the loan and derivatives markets¹²⁸ reducing transaction costs and supporting growth of the credit market across a greater number of participants.¹²⁹

¹¹⁹ Paul M. Goldschmid, *More Phoenix than Vulture: The Case for Distressed Investor Presence in the Bankruptcy Reorganization Process*, 2005 COLUM. BUS. L. REV. 191, 233-34 (2005). See also *supra* note 121 and accompanying text.

¹²⁰ See Tamar Frankel, *Securitization: The Conflict Between Personal and Property Law (Contract and Property)*, 18 ANN. REV. BANKING L. 197, 197-98, 218-19 (1999) (describing transformation of personal contract (loans) into market-traded property (securities) through securitization).

¹²¹ Laurie S. Goodman, Douglas J. Lucas & Frank J. Fabozzi, *Financial Innovations and the Shaping of Capital Markets: The Case of CDOs*, J. ALTERNATIVE INVESTMENTS, Summer 2007, at 62, 63. See also *infra* notes 240-244 and accompanying text.

¹²² Those benefits are described in more detail in Allen N. Berger & Gregory F. Udell, *Securitization, Risk, and the Liquidity Problem*, in STRUCTURAL CHANGE IN BANKING 227, 238-46 (Michael Klausner & Lawrence J. White eds., 1993); Pennacchi, *supra* note 29, at 375-76.

¹²³ See Katerina Simons, *Why Do Banks Syndicate Loans?*, NEW ENGLAND ECON. REV., Jan.-Feb. 1993, at 45, 45-47; Rebecca S. Demsetz, *Bank Loan Sales: A New Look at the Motivations for Secondary Market Activity* 22-23 (Fed. Reserve Bank of New York, Mar. 1999), available at http://www.newyorkfed.org/research/staff_reports/sr69.pdf.

¹²⁴ See Bolton & Freixas, *supra* note 105, at 326-27; Christopher James, *The Use of Loan Sales and Standby Letters of Credit by Commercial Banks*, 22 J. MONETARY ECON. 395, 396 (1988); Jackson *et al.*, *supra* note 95, at 21-26; Pennacchi, *supra* note 29, at 375-76, 392-93; Demsetz, *supra* note 123, at 20-22.

¹²⁵ See Masters & Bryson, *supra* note 114, at 57-63; Mark Carey, *Credit Risk in Private Debt Portfolios*, 53 J. FIN. 1363, 1377 (1998); Cebenoyan & Strahan, *supra* note 113, at 20-21.

¹²⁶ See A. Burak Güner, *Loan Sales and the Cost of Corporate Borrowing*, 19 REV. FIN. STUD. 687, 713 (2006); Joseph P. Hughes & Loretta J. Mester, *Bank Capitalization and Cost: Evidence of Scale Economies in Risk Management and Signaling*, 80 REV. ECON. & STATS. 314, 325 (1998); Pennacchi, *supra* note 29, at 375-76.

¹²⁷ See Gilson & Whitehead, *supra* note 16, at 250-51.

¹²⁸ See Christopher L. Culp & Andrea M.P. Neves, *Financial Innovations in Leveraged Commercial Loan Markets*, 11 J. APPLIED CORP. FIN. 79, 83-91 (1998) (describing innovation and

Among those participants, bank lenders could be expected to transfer credit risk until the cost of doing so exceeded the offsetting benefit, suggesting the potential for growth in the credit market across a wide range of participants.¹³⁰ Yet, to date, the market has remained concentrated among a small group of large banks,¹³¹ which may reflect real barriers to entry – the need for reputation in order to syndicate loans or economies of scale in order to efficiently manage risk¹³² – or, in the case of the credit default swap market, the limited number of reference entities against which swaps are written, making that market less relevant to small lenders.¹³³ Fund managers and other institutional investors, however, expect to increase their use of credit and other derivatives to hedge risk, even as they move to less complicated instruments they are better able to price and manage.¹³⁴ In addition, some dealers have indicated that local and regional banks may be a primary source of new business, prompting the creation of a wider array of credit default swaps in order to hedge their portfolio concentrations.¹³⁵

A further hurdle to growth remains – namely, the informational asymmetry that has historically given banks a competitive edge over non-bank lenders. Like purchasers in the traditional loan market, investors may be reluctant to trade, or do so

standardization in leveraged loan instruments); Press Release, Chicago Board of Trade, *CBOT to Launch Credit Default Swap Index Contracts* (May 31, 2007) (announcing standardized credit default swap index for trading on Chicago Board of Trade), available at http://www.cbot.com/cbot/pub/cont_detail/0,3206,1562+48264,00.html.

¹²⁹ See Robert C. Merton, *Financial Innovation and Economic Performance*, 4 J. APPLIED CORP. FIN. 12, 12 (1992); Robert C. Merton & Zvi Bodie, *The Design of Financial Systems: Towards a Synthesis of Function and Structure*, 3 J. INVESTMENT MGMT. 1, 14 (2005) (referring to a “financial innovation spiral”).

¹³⁰ See Kenneth A. Froot, David S. Scharfstein & Jeremy C. Stein, *Risk Management: Coordinating Corporate Investment and Financing Policies*, 48 J. FIN. 1629, 1630 (1993); Kenneth A. Froot & Jeremy C. Stein, *Risk Management, Capital Budgeting, and Capital Structure Policy for Financial Institutions: An Integrated Approach*, 47 J. FIN. ECON. 55, 77 (1998).

¹³¹ See Wilmarth, *supra* note 6, at 380-81 (loan syndications); Minton, Stulz & Williamson, *supra* note 115, at 2-4, 7 (credit derivatives). Anecdotal evidence suggests, however, that many European banks use credit default swaps to hedge their credit exposure. Benedikt Goderis, Ian W. Marsh, Judit Vall Castello & Wolf Wagner, *Bank Behaviour with Access to Credit Risk Transfer Markets* 9 n.1 (Bank of Finland Res. Discussion Papers, Apr. 2007), available at <http://www.bof.fi/NR/rdonlyres/801B7C28-819B-4A72-877A-0926F00563D1/0/0704netti.pdf>.

¹³² See Hughes & Mester, *supra* note 126, at 314-15; Wilmarth, *supra* note 6, at 380; Beverly Hirtle, *Credit Derivatives and Bank Credit Supply* 2-3 (Fed. Reserve Bank of New York Staff Report No. 276, Mar. 2008) (finding that benefits of credit derivatives accrue mainly to large firms), available at http://www.newyorkfed.org/research/staff_reports/sr276.pdf.

¹³³ See Goderis, Marsh, Castello & Wagner, *supra* note 131, at 8-9. Notwithstanding a recent decline in overall credit default swap volumes, single-name contracts have continued to grow. Through the first half of 2008, the total notional amount rose to \$33.3 trillion. Bank for International Settlements, Monetary and Economic Department, *OTC Derivatives Market Activity in the First Half of 2008* 1 (Nov. 2008), available at http://www.bis.org/pub/otc_hy0811.pdf.

¹³⁴ KPMG, *Beyond the Credit Crisis: The Impact and Lessons Learnt for Investment Managers* 7-10, 17-18, 29-30 (July 2008) (global survey, following credit slowdown, of 333 fund managers and institutional investors), available at http://www.kpmg.com/SiteCollectionDocuments/Beyond_the_credit_crisis.pdf.

¹³⁵ Gregory R. Duffee & Chunsheng Zhou, *Credit Derivatives in Banking: Useful Tools for Managing Risk?*, 48 J. MONETARY ECON. 25, 30 (2001).

only at a discount, where they believe they are at an informational disadvantage.¹³⁶ Thus, with respect to credit derivatives, the underlying assets historically have tended to be limited to instruments like corporate bonds, large bank loans, and loan pools (such as credit card receivables) – with less transparent borrowers often not covered.¹³⁷ Some information may be conveyed to less well-informed investors through the price and non-price terms under which banks buy and sell loans and other credit instruments.¹³⁸ Yet, the extent to which an informed bank (or other investor) participates in the market, and the prices at which it buys and sells instruments, may not be apparent to others. And, as evidenced by the recent credit downturn, those instruments may be difficult to value, potentially increasing the noise around any useful information contained in market price.¹³⁹ Greater regulation, a centralized pricing service, and the requirement of enhanced transparency, proposed by some, may provide one solution.¹⁴⁰

The credit market, itself, may also respond. Trading among even a small group of informed investors (such as two banks) can result in the public release of a substantial amount of private information through competitive pricing. Others can then rely on that information to make their own investment decisions, resulting in an overall increase in market size.¹⁴¹ A further possibility is that greater and more diverse information will be reflected in market price as more participants, with sufficient resources to devote to researching credit instruments, enter the market¹⁴² – perhaps providing one reason for the recent expansion of credit derivatives to leveraged and other commercial loans¹⁴³ and to less transparent borrowers with below investment grade or no ratings.¹⁴⁴ In addition, investors can bypass the informational problem altogether by structuring credit instruments to transfer only that portion of a borrower's credit risk over which they do not have an informational advantage, while retaining the rest.

¹³⁶ See Acharya & Johnson, *supra* note 118, at 111-13.

¹³⁷ Duffee & Zhou, *supra* note 135, at 26.

¹³⁸ See Partnoy & Skeel, *supra* note 18, at 1026; Antonio Nicolò & Lorian Pelizzon, *Credit Derivatives, Capital Requirements and Opaque OTC Markets 2-3* (Mar. 2008), available at <http://ssrn.com/abstract=1108253>.

¹³⁹ See Sanjiv R. Das, *Pricing Credit Derivatives*, in HANDBOOK, *supra* note 114, at 101, 104-05.

¹⁴⁰ See *infra* notes 229-246 and accompanying text. See also Partnoy & Skeel, *supra* note 18, at 1046-47; Hu & Black, *supra* note 26, at 27, 30-31; Ashcraft & Santos, *supra* note 27, at 26; Bank for International Settlements, Committee on the Global Financial System, *Private Equity and Leveraged Finance Markets 36* (CGFS Paper No. 30, Jul. 2008) (recommending enhanced borrower disclosure in leveraged loan market) [hereinafter BIS, *Private Equity*], available at <http://www.bis.org/publ/cgfs30.pdf?noframes=1>.

¹⁴¹ See Craig W. Holden & Avanidhar Subrahmanyam, *Long-Lived Private Information and Imperfect Competition*, 47 J. FIN. 247, 247-48 (1992) (demonstrating that just two informed traders, acting aggressively, will cause nearly all common private information to be incorporated into pricing and increase market depth).

¹⁴² See Jeffrey N. Gordon, *The Rise of Independent Directors in the United States, 1950-2005: Of Shareholder Value and Stock Market Prices*, 59 STAN. L. REV. 1465, 1561-63 (2007) (describing how increase in market participants enhanced informational content of stock prices).

¹⁴³ See Duncan, *supra* note 117, at 19.

¹⁴⁴ See Bank for International Settlements, *Credit Default Swaps – Notional Amounts Outstanding, Single-name Instruments, by Counterparty, Maturity, Rating Category and Sector* (Dec. 2007), available at <http://www.bis.org/statistics/otcder/dt23.pdf>.

Doing so permits them to hedge their credit exposure more discretely than if they tried to transfer a loan in its entirety – potentially expanding the scope of the derivatives market beyond the current universe of tradable reference entities.¹⁴⁵ Consequently, even without regulation, access to information may continue to grow, or credit instruments may adjust to address the asymmetry, resulting in further expansion of the private credit market.

In the next Part, I consider the impact of change in the credit market – the introduction of portfolio risk management, greater liquidity, and new instruments – on the structure and function of debt. Greater liquidity in the credit market has introduced lower cost alternatives to manage credit risk – but, as we will see, it has also introduced new costs and new means to manage those costs, potentially reshaping the role that debt plays within corporate governance. To what extent will liquidity in the private credit market impact how loans are structured? And, like public equity, can the private credit market begin to provide a discipline that supplements the traditional protections provided by covenants and monitoring? We must, I suggest, begin to confront the possibility that, as private credit becomes more transparent, it may begin to overtake the traditional function of covenants and monitoring.

IV. CORPORATE GOVERNANCE AND THE EVOLUTION OF DEBT

The growth of credit derivatives, some have argued, raises the potential for a decline in debt governance as lenders rely on those instruments, in place of monitoring, to manage their credit risk.¹⁴⁶ Likewise, covenant levels may decline if loan purchasers are unable at low cost, or have little incentive, to monitor a borrower's compliance with its loan obligations or renegotiate a loan following its breach. As recent experience suggests, notwithstanding differences between subprime and corporate lending, the transfer of credit risk by loan originators may increase the risk of moral hazard.¹⁴⁷ Like public bonds, the outcome may reflect a trade-off – with the lower cost of managing credit risk through loan sales and hedging being balanced against the increased cost arising from weaker covenants and less creditor oversight.¹⁴⁸

That description, on its face, is consistent with the decline in commercial loan covenants that began in 1995. For over a decade, federal bank regulators cautioned banks against weakening covenants in syndicated loans to risky borrowers.¹⁴⁹ Covenants tightened as the U.S. markets entered a recessionary period in 2001-2002, but by 2006, lending standards had eased considerably to the earlier, lower levels.¹⁵⁰ Before the sub-prime loan meltdown in 2007, private equity sponsors saw a substantial rise in “covenant-lite” (or “cov-lite”) loans – which, as the name suggests, had substantially

¹⁴⁵ Duffee & Zhou, *supra* note 135, at 26-27.

¹⁴⁶ See *supra* notes 26-27 and accompanying text.

¹⁴⁷ See *supra* notes 36-64 and accompanying text.

¹⁴⁸ See *supra* notes 67-68 and accompanying text.

¹⁴⁹ Wilmarth, *supra* note 6, at 384.

¹⁵⁰ William May & Mariarosa Verde, *Loan Volumes Surge, Covenants Shrink in 2005* 1-2 (Fitch Ratings Credit Mkt. Res., Apr. 5, 2006) (tracking loan covenants for investment grade and non-investment grade syndicated loan borrowers over ten-year period through 2005).

fewer covenants than most commercial loans¹⁵¹ – jumping from four in 2005 to over 100 in 2007.¹⁵² Market participants attributed a portion of the decline in covenant levels to the increased ability to hedge risk in the credit market and the weakening incentives of banks to screen and monitor borrowers.¹⁵³

Thus, greater liquidity may have resulted in a new set of agency costs, reflected in the decline in covenants and monitoring across dispersed creditors. Those costs are similar to costs in the public credit market, but with a critical difference – unlike firms that typically access the public market, information regarding private borrowers is often less well known. No doubt, some portion of the increased agency cost was offset by the investors’ ability to manage credit risk at lower cost through loan sales, hedging, and diversification. Yet, even then, investors require information about borrowers in order to manage risk and return across a loan portfolio.¹⁵⁴

Not surprisingly, most loan buyers expect monitoring to decline after a loan has been sold,¹⁵⁵ and we may suppose, they will anticipate a similar decline in monitoring as hedging becomes more common.¹⁵⁶ Investors may respond by demanding higher returns in order to compensate them for the greater risk – a result that would be consistent with the decline in governance, but unlikely to be sustained if there are less costly means to mitigate the increase in agency cost associated with greater liquidity.¹⁵⁷ How that balance tips is a function, in part, of the amount of borrower information available to market participants. More transparent borrowers may require lower levels of monitoring at lower cost than opaque firms.¹⁵⁸ The outcome also reflects the relative cost of alternative means of raising capital. The ability to inexpensively raise funds can provide lenders and borrowers with a competitive advantage over others who must incur greater cost. Consequently, market participants have looked to minimize agency cost by changing how loans and loan syndicates are structured – and, by extension, shaping new forms of corporate governance.¹⁵⁹

I begin by describing those changes below, and then turn to a prospective change in the private credit market that may provide an even lower cost alternative. A key has

¹⁵¹ William D. Egler, *Leveraged Finance and the Bank Lawyer*, BANK LOAN REP., June 11, 2007, at 4; Chris Howard & Christopher Davis, *Seeing the Lite*, THE LAWYER, June 11, 2007, at 3.

¹⁵² Carol J. Clouse, *The Structure Du Jour, or is Covenant Lite Here to Stay?*, BANK LOAN REP., May 21, 2007, at 2; Appelbaum, Foran & Glick, *supra* note 108, at 3.

¹⁵³ See Viral V. Acharya, Julian Franks & Henri Servaes, *Private Equity: Boom and Bust?*, 19 J. APPLIED CORP. FIN. 44, 46 (2007); Tony Jackson, *The Wonders of Life in the Rear-View Mirror*, FIN. TIMES (London), Mar. 12, 2007, at 20; John Plender, *Markets Versus the Conventional Wisdom in 2007*, FIN. TIMES (London), Jan. 2, 2007, at 16.

¹⁵⁴ See Ashcraft & Santos, *supra* note 27, at 20.

¹⁵⁵ See Gorton & Haubrich, *supra* note 89, at 31.

¹⁵⁶ See Ashcraft & Santos, *supra* note 27, at 25.

¹⁵⁷ As Fischer Black has observed, “If there is a way to limit the risk to the lender without significant cost, a correctly priced high risk loan with few restrictions may be better for the company than a correctly priced low risk loan with many restrictions and a high administrative cost.” Black, *supra* note 74, at 331.

¹⁵⁸ See Ashcraft & Santos, *supra* note 27, at 5-6, 19-20.

¹⁵⁹ See Pennacchi, *supra* note 29, at 387-88.

been the response of the private credit market to change in the source of capital, as providers have shifted from bank lenders, within the traditional framing, to bank and non-bank investors in an increasingly liquid credit market. Features aimed at mitigating agency cost have evolved in line with growth in the credit market and the corresponding change in agency problems.

A. *Syndicate Structure and Lead Bank Incentives*

At the outset, syndicate structure can be modified to help minimize agency cost. The number of lenders in a syndicate can be capped and resales can be restricted in order to encourage direct monitoring and facilitate renegotiation if a loan covenant is breached.¹⁶⁰ Participants in the original syndicate are more likely than later purchasers to have relationships with the borrower and syndicate manager, enabling them to acquire borrower information at low cost and facilitate coordination.¹⁶¹ Thus, a lead bank's monitoring role may be replaced with direct oversight by syndicate members.

In addition, as a condition of sale, a purchaser can require the lead bank to continue to hold a portion of the loan until it matures.¹⁶² By retaining economic risk, the bank can credibly commit to continue monitoring and, as necessary, enforce a loan's covenants.¹⁶³ The risk that a lead bank will covertly hedge its risk, and so reduce its incentive to monitor a borrower, may be checked through the risk of loss of reputation¹⁶⁴ or new regulation that requires greater transparency.¹⁶⁵

Finally, even without retaining risk, a lender may be able to demonstrate its commitment to monitoring if, as is often the case, it has other credit relationships with the borrower that continue to motivate oversight.¹⁶⁶ Those relationships, however, may not be credible since they, themselves, may result in conflict between the economic interests of loan purchasers and the originating lender.¹⁶⁷

B. *Covenant Levels and Monitoring*

Covenants can also be structured to reflect change in the credit market. A recent study of the secondary loan sales market, prepared by Steven Drucker and Manju Puri (the "2007 Study"), offers interesting insight. The study, which analyzed a sample of loans from January 1999 through December 2004, found that non-syndicated loans

¹⁶⁰ See Sang Whi Lee & Donald J. Mullineaux, *Monitoring, Financial Distress, and the Structure of Commercial Lending Syndicates*, 33 FIN. MGMT. 107, 109 (2004); Demsetz, *supra* note 123, at 28-30.

¹⁶¹ See Sufi, *supra* note 3, at 630-32.

¹⁶² See Diamond, *Intermediation*, *supra* note 72, at 393-95; Simons, *supra* note 123, at 47-49 & tbls.1 & 3.

¹⁶³ See Pennacchi, *supra* note 29, at 387-88; Sufi, *supra* note 3, at 631; Gorton & Haubrich, *supra* note 89, at 20-21; Gorton & Pennacchi, *supra* note 86, at 23, 28-29.

¹⁶⁴ See *infra* notes 177-178 and accompanying text

¹⁶⁵ See Alan D. Morrison, *Credit Derivatives, Disintermediation, and Investment Decisions*, 78 J. BUS. 621, 642 (2005); Ashcraft & Santos, *supra* note 27, at 26. See also *supra* notes 136-140 and accompanying text.

¹⁶⁶ See Gorton & Haubrich, *supra* note 89, at 37.

¹⁶⁷ See Hu & Black, *supra* note 26, at 19.

structured for resale (typically leveraged, risky loans to nonbank, institutional investors) contained *higher* covenant levels than loans that were not.¹⁶⁸ Those covenants were often tied to observable public information, providing investors with the right to directly accelerate or renegotiate a loan upon breach.¹⁶⁹

Why did covenant levels increase with the growth in liquidity? After all, greater liquidity in the public market has typically been accompanied by a *decline* in covenants and monitoring. Part of the answer lies with the borrowers. Information about private borrowers tends to be less available than for public issuers, reinforcing the need to rely on covenants. Covenant levels increased in order to offset the greater monitoring costs tied to more opaque firms. For borrowers, the cost of tighter covenants was offset, in part, by a greater ability to access capital at lower cost.¹⁷⁰

Part of the answer also lies with change in the lenders. Non-bank investors typically do not have the close ties with a borrower traditionally maintained by banks. Consequently, by tightening covenant levels, more discrete changes in a borrower's financial position could become known more quickly to investors, in effect increasing their informational content. In addition, by tying covenants to more observable data, purchasers could mitigate the increased cost of direct monitoring.¹⁷¹ Investors, as a result, were better able to manage credit risk and provide greater funding for additional loans in the future.¹⁷²

Increasing liquidity, and the change in lenders, also prompted the rise of specialist fund and other (sometimes referred to as “vulture”) investors that look to influence a firm's management through its debt covenants.¹⁷³ Loans purchased by those investors are often distressed, with the discount in purchase price (and potential for substantial return) offsetting the greater cost of monitoring.¹⁷⁴ Investors use the borrower's breach of its covenants to force change in its policies or a change in control¹⁷⁵ – providing another pair of eyes over distressed borrowers, where the potential for management opportunism is the greatest.¹⁷⁶

¹⁶⁸ Drucker & Puri, *supra* note 107, at 1-2. Those loans were primarily to smaller borrowers that were less likely to be rated and arranged by lead lenders that were ranked below tenth based on market share. *Id.* at 8-12.

¹⁶⁹ *Id.* at 2, 5, 14, 28.

¹⁷⁰ *Id.* at 21-28.

¹⁷¹ Advances in information technology may lower that cost even further. See William J. Wilhelm, Jr., *Internet Investment Banking: The Impact of Information Technology on Investment Banking*, 12 J. APPLIED CORP. FIN. 21, 26-27 (1999).

¹⁷² Drucker & Puri, *supra* note 107, at 21-28.

¹⁷³ See Corinne Ball, *Credit Crisis Enables Bold Strikes by Investors*, N.Y. L.J., June 26, 2008, at 5.

¹⁷⁴ See Edith S. Hotchkiss & Robert M. Mooradian, *Vulture Investors and the Market for Control of Distressed Firms*, 43 J. FIN. ECON. 401, 403-04 (1997); Marcel Kahan & Edward B. Rock, *Hedge Funds in Corporate Governance and Corporate Control*, 155 U. PENN. L. REV. 1021, 1064-66 (2007).

¹⁷⁵ See Michelle M. Harner, *Trends in Distressed Debt Investing: An Empirical Study of Investors' Objectives*, 16 AM. BANKR. INST. L. REV. 69, 89-92, 95 (2008).

¹⁷⁶ See *supra* notes 8-10 and accompanying text.

C. Reputation

Reputation can also mitigate agency cost. For investors, how a bank structures a loan or monitors a borrower may not be apparent at the time a loan is sold. The purchaser, instead, must rely on the lender's reputation based on prior sales. Structuring a bad loan, or failing to monitor a borrower, may hurt that reputation – and so, as long as loan sales are a significant part of its business, concerns over reputation may induce an originating bank to continue to monitor a borrower, even after its credit risk has been transferred.¹⁷⁷ Transferring credit risk secretly, while possible, exposes the bank to a potential loss of reputation and the risk of a costly decline in its ability to sell loans in the future.¹⁷⁸

A borrower's reputation can also play an important role – in particular, for investors who have costly or limited access to information about the borrower – as it does in the traditional framing. A reputable borrower is typically able to obtain loans with fewer restrictions than a borrower with a less well-known credit history.¹⁷⁹ Investors may also be less concerned with the lead bank's transfer of credit risk and, on the basis of the borrower's reputation, not require enhanced covenant levels. A borrower, consequently, may be more inclined to act in a manner consistent with its lenders' interests to the extent it benefits from an improved reputation.¹⁸⁰

One note of caution: Although the traditional framing suggested a role for reputation in reducing agency cost, it acknowledged that even "sainthood" could not drive that cost to zero.¹⁸¹ Borrowers and lenders have short memories, and so the incentives that make reputation valuable can shift with change in the marketplace.¹⁸² Therefore, while greater reputation may cause a decline in loan covenants, we would anticipate some level of continued reliance on contract in order to protect lenders' and purchasers' interests.

¹⁷⁷ The potential impact of securitization on a bank's reputation, and the resulting effect of a negative reputation on its ability to transfer assets or raise capital, was highlighted by the Office of the Comptroller of the Currency in the OCC Bulletin on Securitization, OCC 96-52, Sept. 25, 1996. See also Lee & Mullineaux, *supra* note 160, at 129; Dianna Preece & Donald J. Mullineaux, *Monitoring, Loan Renegotiability, and Firm Value: The Role of Lending Syndicates*, 20 J. BANKING & FIN. 577, 580-81 (1996); Raghuram G. Rajan, *The Past and Future of Commercial Banking Viewed through an Incomplete Contract Lens*, 30 J. MONEY, CREDIT & BANKING 524, 540 (1998); Haig Simonian & Peter Thal Larsen, *UBS says Risky Loans Might Hit Banks*, FIN. TIMES, June 20, 2007, at 25 (UBS chief warns of potential damage to reputation of originating risky loans); Drucker & Puri, *supra* note 107, at 20-21; Gorton & Haubrich, *supra* note 89, at 35-38.

¹⁷⁸ See Drucker & Puri, *supra* note 107, at 20-21; Duffie, *supra* note 16, at 10. J.P. Morgan's concern that banking rivals would learn of its use of credit default swaps to limit exposure to WorldCom provides an example of the potential reputational impact of an originating bank's decision to secretly reduce credit exposure. See *In Re WorldCom, Inc. Securities Litigation*, 346 F. Supp. 2d 628, 651-52 (S.D.N.Y. 2004).

¹⁷⁹ See Sufi, *supra* note 3, at 630-31.

¹⁸⁰ See *supra* note 80 and accompanying text.

¹⁸¹ See Jensen & Meckling, *supra* note 2, at 351.

¹⁸² See William W. Bratton, Jr., *Corporate Debt Relationships: Legal Theory in a Time of Restructuring*, 1989 DUKE L.J. 92, 139-42 (1989) (noting "the limited force of reputation").

Here, again, the 2007 Study provides helpful guidance. In it, borrowers with credit ratings evidencing a strong reputation¹⁸³ were found to be more likely to have their loans sold than those without, reflecting a greater reliance on reputation by non-bank purchasers who did not have direct access to private borrower information.¹⁸⁴ Likewise, covenants were tighter in loans to borrowers with mixed reputations, reinforcing the lenders' reliance on traditional protections.¹⁸⁵ The lead bank's reputation also affected covenant levels. Covenants tightened in loans that were originated by less reputable lenders, in effect, permitting purchasers to discount the lead bank's role by increasing the informational content of covenants and providing them with the opportunity to directly monitor and control the borrower.¹⁸⁶

What about the decline in covenant levels in cov-lite loans to private equity borrowers? Some portion of the decline can be explained, in part, by the excessive lending of banks that looked to pass on the resulting credit risk to other investors.¹⁸⁷ Frenzied competition among bankers for new business and among investors for new loan assets is also likely to have contributed.¹⁸⁸ Reputation, I suggest, may have also played a role. The private equity market is comprised of a limited group of participants that interact frequently, suggesting that a reputation as a "good" borrower can have substantial and positive economic consequences.¹⁸⁹ When soliciting capital, private equity sponsors must bank on their reputation as they repeatedly look to raise new funds through successive investment partnerships.¹⁹⁰ Private equity firms also look to develop manager-friendly reputations in order to attract new investment opportunities,¹⁹¹ paying particular attention to the impact on reputation of terminating unattractive deals, even during the recent economic downturn.¹⁹²

¹⁸³ Historically, credit ratings have provided an important assessment of market reputation. See Frank Partnoy, *The Siskel and Ebert of Financial Markets?: Two Thumbs Down for the Credit Rating Agencies*, 77 WASH. U. L. Q. 619, 629-30 (1999) (critically assessing role of credit rating agencies). However, recent findings regarding conflicts of interest, inadequate staffing, lack of transparency, and a failure to follow their own guidelines in connection with subprime residential mortgage-backed securities has drawn the credibility of credit rating agencies into question. See Michael M. Grynbaum, *Study Finds Flawed Practices at Ratings Firms*, N.Y. TIMES, Jul. 9, 2008, at C1; Securities & Exchange Commission, *Summary Report of Issues Identified in the Commission Staff's Examinations of Select Credit Rating Agencies 1-2* (Jul. 2008), available at <http://www.sec.gov/news/studies/2008/craexamination070808.pdf>.

¹⁸⁴ Drucker & Puri, *supra* note 107, at 11.

¹⁸⁵ *Id.* at 18-20.

¹⁸⁶ *Id.* at 20-21.

¹⁸⁷ See *supra* notes 146-153 and accompanying text.

¹⁸⁸ See BIS, *Private Equity*, *supra* note 140, at 30; Henny Sender, *Din of Roaring Corporate-Debt Market*, WALL ST. J., Mar. 3, 2006, at C1 (noting private equity firms' "clout" in getting better loan terms); Paul J. Davies & Gillian Tett, *Shiny New 'Cov-Lites' Show Signs of Tarnish*, FIN. TIMES, May 17, 2007, at 29.

¹⁸⁹ See Diamond, *Monitoring*, *supra* note 80, at 690, 716; Jensen & Meckling, *supra* note 2, at 351.

¹⁹⁰ George W. Fenn, Nellie Liang & Stephen Prowse, *The Private Equity Market: An Overview*, 6 FIN. MKTS., INSTS. & INSTRUMENTS 1, 45 (1997).

¹⁹¹ Michael Klausner, *Investors' Choices: Institutional Shareholders, Private Equity, and Anti-takeover Protection at the IPO Stage*, 152 U. PA. L. REV. 755, 770-75 (2003) (describing interest of private equity funds to maintain reputation for treating successful managers well).

¹⁹² See Andrew Ross Sorkin, *Sorting Through the Buyout Freezeout*, N.Y. TIMES, Aug. 12, 2007, at BU6; Andrew Ross Sorkin, *After the Party*, N.Y. TIMES, Oct. 3, 2007, at SPG1.

Likewise, for debt, reputation may have provided a credible discipline in light of a private equity sponsors' ongoing need for successive loans.¹⁹³ A failure to act in the lenders' interest, even if not restricted by contract, could hurt a sponsor's ability to borrow in the future or increase its cost of raising new debt capital. To that end, Moody's recently announced it would assess how each sponsor used the proceeds from *prior* borrowings – in particular, the extent to which proceeds were used to pay dividends to the sponsor – when deciding what rating to assign to future loans.¹⁹⁴ Thus, while reputation alone fails to explain cov-lite loans, it may have provided one basis for why banks and other lenders agreed to dilute covenants before the recent credit slowdown.¹⁹⁵

D. Private Credit Liquidity

My analysis, so far, has considered existing responses to change in the private credit market. Syndicate structure, bank incentives, increased covenants and monitoring, and reputation are all means to reduce the resulting agency cost and balance the potential decline in debt governance.

A more intriguing response is prompted by greater liquidity in the credit market itself. For equity, the informational content of public share price provides managers with a means to gauge how well their firm is performing.¹⁹⁶ A change in price may cause managers to respond quickly to change in the business environment or discourage them from selecting sub-optimal projects that erode firm value.¹⁹⁷ Likewise, for public debt, secondary trading prices may inform the issuer's managers of how market professionals assess their policies.¹⁹⁸ Can private credit provide a similar discipline?

Modern financial theory suggests that equity and debt prices should move in tandem when new information regarding a firm's credit risk is discovered. A lender, within that analysis, is characterized as the owner of a riskless claim against the borrower who has also issued a put option on the borrower to its shareholders. If the

¹⁹³ See Ha-Chin Yi & Donald J. Mullineaux, *The Informational Role of Bank Loan Ratings*, 29 J. FIN. RES. 481, 482-83 (2006); Amir Sufi, *The Real Effects of Debt Certification: Evidence from the Introduction of Bank Loan Ratings* 2-4, 8-9 (Apr. 2006) (examining role of third-party ratings in syndicated loan market), available at <http://fic.wharton.upenn.edu/fic/corporate%20finance%202006/Sufi.pdf>.

¹⁹⁴ John Rogers, *Private Equity: Tracking the Largest Sponsors* 2-4 (Moody's Investors Service, Feb. 2008), available at http://www.moody.com/moodys/cust/research/MDCdocs/11/2007000000468164.pdf?doc_id=2007000000468164&frameOfRef=corporatet.

¹⁹⁵ See *infra* note 248 and accompanying text for a discussion of cov-lite loans following the credit crisis.

¹⁹⁶ Gordon, *supra* note 142, at 1541-63.

¹⁹⁷ Peter Tufano, *Agency Costs of Corporate Risk Management*, 27 FIN. MGMT. 67, 73-74 (1998); Michael C. Jensen, *Eclipse of the Public Corporation* 9 (1997) (unpublished revision, originally published as Michael C. Jensen, *Eclipse of the Public Corporation*, HARV. BUS. REV., Sept.-Oct. 1989, at 61), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=146149.

¹⁹⁸ Amihud, Garbade & Kahan, *supra* note 2, at 461-62.

value of the firm's assets falls below the face value of its debt, then the firm defaults – with the shareholders, in effect, exercising their right to “put” the firm to the lender in satisfaction of its claims.¹⁹⁹ The implication is that there is a correlation between the value of a firm's debt (including credit derivatives) and equity, and so their market prices should adjust at the same time and to the same information.

In practice, credit derivatives typically react first to new credit information – with prices in the credit derivatives market moving ahead of both equity and debt,²⁰⁰ as well as in advance of the public announcement of a negative change in a firm's credit rating.²⁰¹ Thus, for a public firm, a change in derivatives pricing may mirror an increase or decrease in its credit quality *before* any change in its debt or equity pricing – providing more accurate feedback on the perceived riskiness of the firm's policies and projects.²⁰² Part of the difference in response reflects the close relationship between the value of a credit derivative and changes in a firm's default risk.²⁰³ Part of it also reflects the special access of market participants, like banks, to private information about borrowers.²⁰⁴ To the extent that information remains private, the market may not provide an accurate indication of a borrower's credit quality. However, as information becomes more available to others, we may expect those prices to reflect “real time” changes in the market's perception of credit risk.²⁰⁵

The growth in private credit may, in turn, affect the terms on which subsequent loans are made.²⁰⁶ Lenders increasingly rely on the pricing of credit instruments to assess a firm's credit quality and, if necessary, determine the cost of hedging their credit exposure. Thus, a borrower's actions that change the price at which its existing loans or other credit instruments trade will influence the price and non-price terms on which lenders make subsequent loans. In addition, lenders may tie the interest rates on

¹⁹⁹ See Robert C. Merton, *On the Pricing of Corporate Debt: The Risk Structure of Interest Rates*, 29 J. FIN. 449, 455-60 (1974).

²⁰⁰ Roberto Blanco, Simon Brennan & Ian W. March, *An Empirical Analysis of the Dynamic Relationship between Investment-Grade Bonds and Credit Default Swaps*, 60 J. FIN. 2255, 2277-79 (2005); Lars Norden & Martin Weber, *Informational Efficiency of Credit Default Swap and Stock Markets: The Impact of Credit Rating Announcements*, 28 J. BANKING & FIN. 2813, 2838 (2004); Jorge A. Chan-Lau & Yoon Sook Kim, *Equity Prices, Credit Default Swaps, and Bond Spreads in Emerging Markets* 4 (IMF Working Paper WP/0427, Feb. 2004), available at <http://www.imf.org/external/pubs/ft/wp/2004/wp0427.pdf>; Lars Norden & Wolf Wagner, *Credit Derivatives and Loan Pricing* 21 (Nov. 2007) (finding that credit default swap prices are dominant determinant of syndicated loan spreads), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=965812.

²⁰¹ John Hull, Mirela Predescu & Alan White, *The Relationship between Credit Default Swap Spreads, Bond Yields, and Credit Rating Announcements* 26 (Jan. 2004) (analyzing over 200,000 credit default swap bids and offers collected over five-year period), available at <http://www.rotman.utoronto.ca/~hull/downloadablepublications/HPWPaperonCDSSpreads.pdf>.

²⁰² See GLANTZ, *supra* note 106, at 518.

²⁰³ See Jochen Andritzky & Manmohan Singh, *The Pricing of Credit Default Swaps During Distress* 3-4 (IMF Working Paper WP/06/254, Nov. 2006) (addressing implication of differences between bond and credit default swap spreads), available at <http://www.imf.org/external/pubs/ft/wp/2006/wp06254.pdf>.

²⁰⁴ See *supra* notes 74-76 and accompanying text.

²⁰⁵ See *supra* notes 136-145 and accompanying text.

²⁰⁶ See Norden & Wagner, *supra* note 200, at 1-4.

outstanding loans to changes in the price of a borrower's credit instruments.²⁰⁷ Actions that increase credit risk, consequently, will result in a corresponding increase in a borrower's cost of capital.²⁰⁸

One outcome – as changes in credit risk are reflected in a borrower's loan terms – is that private credit may begin to overtake covenants and monitoring as an efficient form of governance.²⁰⁹ Covenants, in general, are over- or under-inclusive of those circumstances that affect credit quality, reflecting the difficulty of anticipating (and drafting covenants that adequately reflect) unknown, future events.²¹⁰ In contrast, by directly affecting a firm's cost of capital, private credit may provide a more efficient alternative that penalizes actions that increase credit risk as or shortly after they occur.²¹¹ To be clear, covenants will continue to play an important role in corporate governance – by providing creditors with direct control rights over borrowers – but some portion of the traditional reliance may be offset by the feedback provided by an increasingly liquid credit market. Thus, the impact of more costly debt on a firm's profitability – reflected shortly after a change in credit quality, either in an outstanding loan's interest rate or in the cost of a new loan, since firms must return frequently to the capital market to refinance their debt capital²¹² – may lower its share price and, like public equity, discipline managers by affecting compensation, retention decisions based on price performance, and the likelihood of hostile takeover.²¹³ The trick will be in balancing that discipline against the traditional role of covenants and monitoring – a balance that appears to have been missed during the market's recent experience with cov-lite loans.²¹⁴ We can, nevertheless, begin to see the outline of a new governance mechanism that reflects the increasing liquidity of an evolving private credit market.

²⁰⁷ See *supra* notes 31-32 and accompanying text.

²⁰⁸ Most of the pricing spread over the riskless rate is tied to default risk. Francis A. Longstaff, Sanjay Mithal & Eric Neis, *Corporate Yield Spreads: Default Risk or Liquidity? New Evidence from the Credit-Default Swap Market*, 60 J. FIN. 2213, 2214-15 (2005).

²⁰⁹ See Frank H. Easterbrook, *High-Yield Debt as an Incentive Device*, 11 INT'L REV. L. & ECON. 183, 183-84 (1991) (describing capital market discipline provided by high-yield debt); Triantis & Daniels, *supra* note 9, at 1083-84 (noting reliance by even large corporations on short- and medium-term credit).

²¹⁰ See *supra* notes 70-71 and accompanying text.

²¹¹ As Judge Easterbrook has noted, "Additional ways to price or trade financial instruments ought to strengthen the capital market as a disciplinary force. What makes the capital market more efficient not only makes governance less important – in what field does it retain a comparative advantage? – but also makes governance better." Frank H. Easterbrook, *Derivative Securities and Corporate Governance*, 69 U. CHI. L. REV. 733, 737 (2002).

²¹² See Michael C. Jensen, *Agency Cost of Free Cash Flow, Corporate Finance and Takeovers*, 76 AM. ECON. REV. 323, 324 (1986) (describing disciplining effect of capital market on organizations regularly needing capital).

²¹³ See Gordon, *supra* note 142, at 1470.

²¹⁴ Problems with cov-lite loans following the credit crisis are described *infra* at note 248 and accompanying text.

Ron Gilson and I recently raised the possibility that public shareholders may no longer be a firm's cheapest residual risk bearers.²¹⁵ We considered the effect on equity of changes in risk management and the increasing ability of firms to transfer discrete slices of risk at lower cost through the capital market.²¹⁶ Risks that were traditionally borne by the catch-all of public equity – tied, for example, to changes in weather, foreign exchange, and interest rates – can now be identified and managed separately. Like private credit, we suggested that the emergence of new financial instruments enabled firms to transfer risk more efficiently, providing them with a lower cost alternative to the traditional reliance on public equity.²¹⁷

For equity, the result has been the increasing ability of large companies to go or remain private, making the governance function of private equity available to a wider range of firms.²¹⁸ Risks that would have been too concentrated among a small group of shareholders can now be transferred to others who are better able to manage those risks at lower cost. The result, we predicted, was a greater reliance, at the margin, on more efficient means of corporate governance (provided by private equity managers) in light of the shift toward new sources of risk capital.²¹⁹

For debt, as I have argued in this Article, growth in the private credit market has increased the ability of lenders to inexpensively manage and transfer credit risk, resulting in a shift in the structure and function of debt. Greater liquidity has enabled lenders and other investors to diversify their portfolios at lower cost than presumed within the traditional framing. Going forward, we may begin to anticipate a new form of debt governance, as covenants and monitoring give way to more liquid credit instruments in response to increasing completeness in the private credit market.

²¹⁵ Gilson & Whitehead, *supra* note 16, at 231-36.

²¹⁶ *Id.* at 243-51.

²¹⁷ *Id.* at 251-53.

²¹⁸ Following the onset of the credit crisis in 2007, there were many who predicted that private equity would die away. See, e.g., Andrew Ross Sorkin, *The Ranks of the Comfortable Are Still Thinning*, N.Y. Times, Sept. 9, 2007, at 8 (“By now, all of Wall Street understands that the private-equity gravy train has jumped the tracks.”). The decline in inexpensive debt financing will, no doubt, limit the aggregate size and returns of private equity transactions in the short term, perhaps requiring fund managers to diversify into less lucrative investments. Brian Cheffins & John Armour, *The Eclipse of Private Equity*, 33 DEL. J. CORP. L. 1, 46 (2008); Bank for International Settlements, *78th Annual Report, 1 April 2007-31 March 2008* 123-24 (Jun. 2008) [hereinafter BIS, *Annual Report*], available at <http://www.bis.org/publ/arpdf/ar2008e.pdf?noframes=1>. Yet, private equity continues to raise substantial new funds, with one estimate that the private equity sector will grow by fifteen to twenty percent per year until 2011. The Boston Consulting Group, *The Advantage of Persistence: How the Best Private-Equity Firms “Beat the Fade”* 7-8 (Feb. 2008), available at http://www.researchrecap.com/wp-content/uploads/2008/03/private_equity_feb_2008.pdf. In addition, the prices at which portfolio companies have been sold have continued to outperform public companies, with expectations that private equity investments will pick up further when the economy returns. See Ernst & Young, *How do Private Equity Investors Create Value? A Global Study of 2007 Exits – Beyond the Credit Crunch* 4-5, 14 (Jul. 2008), available at [http://www.ey.com/Global/assets.nsf/International/Private_Equity_Beyond_the_credit_crunch_global_study_of_2007_exits/\\$file/Private_Equity_Credit_Crunch.pdf](http://www.ey.com/Global/assets.nsf/International/Private_Equity_Beyond_the_credit_crunch_global_study_of_2007_exits/$file/Private_Equity_Credit_Crunch.pdf).

²¹⁹ Gilson & Whitehead, *supra* note 16, at 251-57.

Both stories illustrate a characteristic of the financial system: Although its core function – namely, the inexpensive allocation of capital – is likely to remain unchanged over time, changes in the capital market, and the emergence of more efficient means of raising capital, may impact the institutions that support it.²²⁰ Thus, for equity, discrete slices of risk capital can increasingly be provided by sophisticated counterparties who are better able than public shareholders to manage and diversify their exposure. Likewise, for debt, greater liquidity in the private credit market has enabled new lenders and investors to provide working capital to a wider range of borrowers. The upshot is that institutions that provide capital are likely to evolve in line with growing completeness in the capital market.

Of course, new institutions and new instruments may raise their own set of agency costs. Thus, as illustrated by the evolution of debt, we may anticipate a change in how agency cost is controlled – resulting in a more efficient governance structure consistent with growth in the capital market.

Here, we begin to see a divergence between the equity and debt stories. For equity, new sources of risk capital have reinforced the staying power of private equity, but (so far) have not become a meaningful source of governance themselves. Accordingly, while new means of transferring risk may reinforce a new governance structure, we would expect the actual oversight to be provided by private equity managers (who, as shareholders, bear the residual risk remaining in the firm). The resulting difference between who controls and who bears risk may create a mismatch between risks transferred and risks retained, commonly referred to as “basis risk.”²²¹ Nevertheless, on balance, the benefits of managing and transferring risk may be expected to outweigh the resulting cost.

For debt, the discipline imposed by an increasingly transparent market may begin to overtake the traditional reliance on covenants and monitoring. Greater liquidity and the ability to transfer credit risk at lower cost have resulted in the growth of the private credit market. Unlike equity, however, the credit market has evolved in response to changes in risk bearing – resulting in the modification of how loans and syndicates are structured in response to changing agency problems. Over time, new bearers of credit risk may begin to provide a more efficient governance function than presumed within the standard framing. The decline in covenants and monitoring, we may expect, will be offset by a governance function that directly reflects change in credit quality in a firm’s cost of capital.

Equity and debt have also diverged in what capital sources – public vs. private – they have accessed as the capital market has grown more complete. Risk transfer instruments have begun to overtake public equity as lowest-cost risk bearer. The public trading of those instruments may lower transaction costs, although for the time being, a large volume remains in the private market. Private equity, as well, is charac-

²²⁰ See Robert C. Merton, *The Financial System and Economic Performance*, 4 J. FIN. SERVICES RES. 263, 270 (1990) (differentiating product and institutional change).

²²¹ Gilson & Whitehead, *supra* note 16, at 238.

terized by limited liquidity among a small group of manager-shareholders. Private credit instruments, by contrast, have developed in line with growing liquidity in the credit market. Those instruments have been fueled, in part, by the increasing ability to buy and sell credit risk – with an expanded universe of lenders and investors who are better able to provide debt capital at lower cost. The outcome has been a shift, on the equity side, from a traditional reliance on public equity to the increasing ability to rely on private market instruments. On the debt side, greater efficiency in the debt market has resulted in a move away from covenants and monitoring in private loans toward a greater reliance on liquid credit instruments. Covenants may still play an important role, but supplemented by the disciplining effect of the private credit market. The result raises an interesting (and provocative) speculation: Rather than the traditional construct – premised on *public equity* and *private loans* – can we begin to see a new capital structure grounded in *private equity* and a *liquid credit market*?²²²

Anecdotal evidence suggests that this shift in capital structure helped fuel the most recent private equity wave – with equity moving from a reliance on public shareholders to private share ownership, and debt moving from illiquid to increasingly liquid credit instruments, resulting in a corresponding change in corporate governance.²²³ Rather than the absence of external oversight, as is often claimed when firms go private, the increasing liquidity of the private credit market – and, over time, the ability of market participants to raise or lower a firm’s cost of capital – may begin to provide an effective substitute (in addition to emerging guidelines on voluntary public disclosure²²⁴), with the resulting decline in agency cost making this new capital structure a competitive alternative to the traditional construct. The outcome, like the standard construct, reflects the capital market of the period – but, with increasing completeness, it may now also reflect costs and benefits beyond those arising from the sibling rivalry of debt and equity.

²²² This question comes at an interesting time, as the distinction between the private and public markets has become increasingly blurred. Most recently, a liquid secondary market for the purchase and sale of private equity shares has developed among large institutional investors through the creation of trading platforms by Wall Street’s largest firms, resulting in the introduction of a consolidated platform operated by NASDAQ. Anuj Gangahar, *Wall Street Banks Create Private Placements Market*, FIN. TIMES, Aug. 15, 2007, at 17; Reuters, *12 Firms Unite for Trading In Unregistered Securities*, N.Y. TIMES, Nov. 13, 2007, at C6. The effect is potentially to permit private equity to combine the traditional agency cost benefits of control and monitoring by a single large shareholder with the liquidity of an active trading market. Larry Ribstein describes the declining benefits of being public, and the shift toward new business forms, in Larry E. Ribstein, *The Rise of the Uncorporation* 3-21 (U. Ill. L. & Econ. Res. Paper No. LE07-026, Jul. 2007), available at <http://ssrn.com/abstract=1003790>.

²²³ See Ulf Axelson, Tim Jenkinson, Per Strömberg & Michael S. Weisbach, *Leverage and Pricing in Buyouts: An Empirical Analysis* 9-10 (Feb. 2008) (describing typical private equity structure), available at <http://finance.wharton.upenn.edu/weiss/wpapers/08-1.pdf>; Jackson, *supra* note 153, at 20 (noting that private equity funds “take out highly leveraged loans [to fund their purchases]. The issuing banks then hand those to the investment banks, which package them up into derivatives and add vastly more leverage in the process.”); Plender, *supra* note 153, at 16 (noting relationship between growth in credit derivatives market and private equity investment).

²²⁴ See *Guidelines for Disclosure and Transparency in Private Equity* 24-28 (Nov. 2007) (setting out voluntary guidelines for U.K. private equity portfolio companies), available at http://walker-gmg.co.uk/sites/10051/files/wwg_report_final.pdf.

V. SOME LESSONS FROM THE CREDIT CRISIS

Current turmoil in the financial markets has called into question the nature and extent of change in the private credit market. The subprime loan crisis triggered a more general scrutiny of credit instruments,²²⁵ resulting in a slowdown in commercial lending, an uptick in loan defaults, and in the short term, a contraction in the private credit market.²²⁶ I suggest some preliminary lessons from the credit crisis – specifically, from the perspective of debt governance – although the global financial markets remain fragile and further change is likely.²²⁷ Predicting how, and whether, those lessons are reflected in the credit market is beyond the scope of this Article. Yet, increased regulatory and market focus on problems stemming from the credit slowdown suggest that, rather than halting growth, the current downturn may lead to a healthier financial system and further expansion of private credit.²²⁸

Perhaps most significantly, the breadth and impact of the credit crisis – extending beyond risky mortgage loans to multiple asset classes, including commercial loans – suggests a shift in how the financial markets should be regulated. The current crisis has differed in scope from financial crises in the past – reflecting transactions between bank and non-bank investors, from around the world, that arose out of innovative financial instruments, complex investment strategies, and a less-than-transparent credit market. Rather than a focus only on banks, greater private credit liquidity argues for measures that broadly address the capital market as a whole and the enhanced corporate governance function provided by new lenders and investors.²²⁹ Thus, regulators have begun to reassess financial regulation, suggesting that the traditional focus, for banks, on capital regulation to cushion against financial shocks may need to be supplemented by a new system of supervision that increasingly takes into account growth and innovation in private credit.²³⁰

²²⁵ See BIS, *Annual Report*, *supra* note 218, at 93-103; Ben S. Bernanke, The Recent Financial Turmoil and its Economic and Policy Consequences, Speech Before the Economic Club of New York (Oct. 15, 2007), available at <http://www.federalreserve.gov/newsevents/speech/Bernanke20071015a.htm>.

²²⁶ See Robert Cookson, Sarah O'Connor & Paul J. Davies, *Painful Lessons to be Learnt for CDSs*, FIN. TIMES, Jan. 11, 2008, at 23 (describing spread of credit problems beyond subprime mortgage market); James Saft, *Sharp Drop in Services Bodes Ill*, INT'L HERALD TRIB., Feb. 8, 2008, at 14 (describing credit contraction and potential downgrade in corporate bond issues).

²²⁷ See International Monetary Fund, *Global Financial Stability Report – Market Update 1* (July 28, 2008) (noting continued deterioration of credit quality across loan classes), available at <http://www.imf.org/external/pubs/ft/fmu/eng/2008/02/pdf/0708.pdf>

²²⁸ See Bernanke, *supra* note 225; Jenny Anderson & Heather Timmons, *Along with Backlash from Tightening Credit, a Better Understanding of Risk*, INT'L HERALD TRIB., Aug. 31, 2007, at 9; Carter Dougherty, *Can Banks Self-Regulate? In Wake of Turmoil, Calls Grow for New Sorts of Supervision*, INT'L HERALD TRIB., Jan. 26, 2008, at 11.

²²⁹ See Steven L. Schwarcz, *Protecting Financial Markets: Lessons from the Subprime Mortgage Meltdown 2-3* (Mar. 1, 2008) (forthcoming 93 MINN. L. REV. (2008)), available at <http://lsr.nellco.org/cgi/viewcontent.cgi?article=1131&context=duke/fs>.

²³⁰ See Timothy F. Geithner, *Reducing Systemic Risk in a Dynamic Financial System*, Remarks at The Economic Club of New York (June 9, 2008) (outlining proposals for regulatory reform to reduce systemic risk), available at http://www.newyorkfed.org/newsevents/speeches/2008/tfg_080609.html.

In addition, traditional means of monitoring borrowers may no longer be able to keep up with innovation in the capital market. In the past, investors who lacked direct access to borrower information could, in part, make up the difference by relying on credit rating agencies to monitor borrowers in their place; changes in credit quality were reflected in a borrower's credit rating.²³¹ The credit crisis revealed problems with the rating process itself, raising questions regarding the integrity of the rating agencies' review.²³² More troubling, however, was the apparent difficulty that rating agencies faced when assessing increasingly complex credit instruments, drawing into question the ability of investors to rely on future ratings pronouncements.²³³ Stated differently, while increased liquidity may have enabled a growing dispersion of credit risk, the transfer of risk to investors who were unable – or unwilling – to assess their exposure may have resulted in a decline in oversight.²³⁴

One solution is increased regulation of the rating agencies, supporting a more rigorous credit rating process and reinforcing the agencies' role as low cost providers of monitoring services.²³⁵ Another is enhanced risk management – imposed by regulators²³⁶ or the result of self-imposed market discipline²³⁷ – as investors become more sophisticated in analyzing the credit instruments they buy and sell and, more importantly, realizing the competitive benefits of an enhanced risk management system.²³⁸ A third response, also market-imposed, may be a decline in the complexity

²³¹ The due diligence process was normally extensive, with rating agency representatives typically meeting with the borrower's management and developing the same sort of information that was traditionally provided to a bank lender. Yi & Mullineaux, *supra* note 193, at 482-83.

²³² See *supra* note 183.

²³³ See Richard Beales, Saskia Scholtes & Gillian Tett, *Failing Grades?*, FIN. TIMES, May 17, 2007, at 8; Richard Tomlinson & David Evans, *CDO Boom Masks Subprime Losses, Abetted by S&P, Moody's, Fitch*, BLOOMBERG.COM, May 31, 2007, available at http://www.bloomberg.com/apps/news?pid=20601010&sid=ajs7BqG4_X8I&refer=news.

²³⁴ See Nelson D. Schwartz & Julie Creswell, *What Created This Monster?*, N.Y. TIMES, Mar. 23, 2008, at BU1 (noting that senior Wall Street bankers did not completely understand new products).

²³⁵ See *Testimony Concerning Recent Developments in U.S. Financial Markets and Regulatory Responses Before the U.S. Senate Comm. on Banking, Housing and Urban Affairs*, 110th Cong. (July 15, 2008) (testimony of Christopher Cox, Chairman, Securities & Exchange Commission), available in LEXIS, News Library. For a different take on the rating agencies' role in the subprime crisis, see Schwarcz, *supra* note 229, at 27-31.

²³⁶ See Senior Supervisors Group, *Observations on Risk Management Practices during the Recent Market Turbulence* 6 (Mar. 6, 2008) (describing supervisory response to shortcomings in risk management), available at http://www.newyorkfed.org/newsevents/news/banking/2008/SSG_Risk_Mgt_doc_final.pdf.

²³⁷ See Gordon Platt, *Looking Across the Abyss, CDOs will Come Back in Simpler Form, Some Market Participants Say*, GLOBAL FIN. MAG., Mar. 2008, at 60 (noting need for, and likely reassessment by financial institutions of, organizational approach toward risk management); Eric S. Rosengren, *Risk-Management Lessons From Recent Financial Turmoil*, Speech Before Conference on New Challenges for Operational Risk Measurement and Management 14 (May 14, 2008) (noting that bank underestimation of risk will result in need for additional capital, being acquired, or failing), available at <http://www.bos.frb.org/news/speeches/rosengren/2008/051408.htm>.

²³⁸ See Senior Supervisors Group, *supra* note 236, at 1-6 (finding that differences in risk management practices affected losses incurred during credit crisis); James Maxwell, *Ratings Agencies Eye ERM for All Industries*, FIN. EXECUTIVE, Mar. 2008, at 44, 46.

of instruments that are used to hedge credit risk. In the face of greater uncertainty, firms may choose to hedge risk with less complicated, and more transparent, instruments that they are better able to price and manage.²³⁹ The result, in all three cases, would be a greater ability of investors to assess their credit exposure – and, in turn, manage that exposure directly or reflect it in the price at which they buy or sell instruments in the private credit market.

The credit crisis also reinforced the need for enhanced transparency regarding the products being sold. Before the credit downturn, a substantial portion of commercial loans was bought by CLOs, which sold interests in loan pools to investors in order to fund their purchases.²⁴⁰ The transfer of risk, from banks to the holders of CLO securities, potentially resulted in a decline in the sponsor's incentive to monitor portfolio borrowers – perhaps offset by the sponsor's continued retention of some portion of the risk or its concern over reputation in the event of default.²⁴¹ Going forward, investors may insist that a CLO sponsor increase its credit exposure to the underlying loan portfolio, perhaps through changes in the off-balance-sheet treatment of securitized assets in CLO or other vehicles²⁴² or by requiring the sponsor to retain some portion of the most junior CLO tranche rather than repackaging it for sale to other investors.²⁴³ Investors may also require greater information on the underlying loan portfolio, as well as the sponsor's determination of asset value and credit quality, in order to conduct their own credit analysis of the borrowers.²⁴⁴

Market transparency may also improve. Although regulators may be able to assess firms under their authority, the private credit market is comprised of investors, such as hedge funds, who fall outside of regular review. Regulations or industry initiatives that enhance transparency – in pricing, secondary trading, and ownership – may help address systemic concerns arising from the possibility of accumulations of risk over which neither regulators nor market participants today are aware.²⁴⁵ Doing so may also enhance the availability of information in the private credit market and the

²³⁹ See *supra* note 134 and accompanying text. See also Schwarcz, *supra* note 229, at 35 (noting that “[s]olving problems of financial complexity may well be the ultimate 21st century market goal”).

²⁴⁰ See *supra* notes 119-121 and accompanying text.

²⁴¹ See Duffie, *supra* note 16, at 10-12; Goldschmid, *supra* note 119, at 256 n.229. See also *supra* notes 162-165, 177-178 and accompanying text.

²⁴² See Joseph Rosta, *FASB Lobs a Balance-Sheet Bombshell*, U.S. BANKER, June 2008, at 60 (describing proposed accounting change to move securitized assets on to CLO sponsor's balance sheet); John W. White & James L. Kroeker, Testimony Before the Subcommittee on Securities, Insurance, and Investment Committee on Banking, Housing, and Urban Affairs, U.S. Senate, 110th Congress, Regarding Transparency in Accounting, Proposed Changes to Accounting for Off-Balance Sheet Entities (Sept. 18, 2008), available at <http://www.sec.gov/news/testimony/2008/ts091808jww-jlk.htm>.

²⁴³ See Paul J. Davies, *Getting Rid of Unwanted Leftovers*, FT.COM, Dec. 15, 2005, available at <http://www.ft.com/cms/s/0/93499456-6d8a-11da-a4df-0000779e2340.html>; Dr. Alan Greenspan, Testimony Before the Committee on Oversight and Government Reform, U.S. House of Representatives, 110th Congress, Regarding the Financial Crisis and the Role of Federal Regulators (Oct. 23, 2008), available at <http://oversight.house.gov/documents/20081023100438.pdf>.

²⁴⁴ Platt, *supra* note 237, at 62. That greater transparency, in order to be effective, may also require a decline in the complexity of the instruments that are purchased. See Schwarcz, *supra* note 64, at 11-15.

²⁴⁵ See Acharya, Franks & Servaes, *supra* note 153, at 53.

informational content of trading prices.²⁴⁶ Likewise, a centralized derivatives counterparty or clearinghouse may improve market transparency and enhance liquidity in the credit default swaps market.²⁴⁷

Finally, the credit crisis has reinforced the importance of covenants to lenders, notwithstanding the increased ability to manage and transfer credit risk. Cov-lite loans, in hindsight, failed to strike a proper balance between liquidity and a lender's traditional reliance on covenants and monitoring. Thus, even though the default rate on leveraged loans has been low, it more likely reflects a decline in covenant levels rather than the borrowers' credit quality. Absent those trip wires, lenders have been handicapped in exercising control rights, reducing their ability to minimize any resulting loss.²⁴⁸ However, in the face of the credit downturn, prospective lenders are likely to return to more prudent practices.

VI. CONCLUSION

In this Article, I have argued that a presumption underlying the traditional framing of the firm – namely, the reliance of debt on covenants and monitoring – may no longer be settled. Changes in the credit market have provided lower cost alternatives, resulting in an evolution in the role of debt in corporate governance.

The traditional framing was premised on the relative illiquidity of debt. Banks with access to private information were able to extend loans at lower cost than other lenders, but looked to covenants and monitoring as a principal means to manage credit risk. Alternatives, such as portfolio risk management, were limited to equity.

The last two decades, however, have witnessed a transformation in the traditional bank-borrower relationship. Prompted by regulatory and competitive change, banks began to reconsider the lending business – looking to minimize portfolio-level credit risk by actively buying and selling loans and other credit instruments. The result was growth in the private credit market, with greater liquidity generating higher returns on a bank's loan portfolio, a portion of which could be passed on to borrowers through increased lending limits and lower interest rates. Market participants have relied on syndicate structure, lead bank incentives, increased covenants and monitoring, and reputation to minimize the resulting agency cost and, in turn, introduce new forms of corporate governance.

Over time, with greater liquidity, changes in a firm's credit quality may increasingly be reflected in the pricing of its credit instruments. And, to the extent that pricing is reflected in subsequent loans, changes that increase a firm's credit risk may

²⁴⁶ See *supra* notes 136-145 and accompanying text.

²⁴⁷ See Heather Landy, *Credit Default Swaps Oversight Nears; SEC, Federal Reserve, CFTC Pledge to Work Together on Regulating Derivatives*, WASH. POST, Nov. 15, 2008, at D03.

²⁴⁸ See Davies & Tett, *supra* note 188; Jonathan Keehner & Megan Davies, *LBO Companies' Health Could be Worse Than it Looks*, REUTERS, Jan. 30, 2008, <http://www.reuters.com/articlePrint?articleId=USN3064216020080130>.

be contemporaneously reflected in a higher cost of capital. Private credit may, as a result, begin to provide a more efficient “real time” alternative that supplements a lender’s traditional reliance on covenants and monitoring.

A central theme of this Article has been that change in the capital market may increasingly affect capital structure and corporate governance. My principal focus has been on the implication of that change for how firms are governed. It may be useful to end this Article by considering the other side of the coin – namely, the implication for capital market regulation of the evolution of debt. To the extent change in the capital market affects corporate governance, should we begin to consider the impact of that regulation – beyond its traditional focus on market integrity and systemic risk – on how firms are governed?

Consider, for example, a bank’s regulatory capital requirements. Changes in minimum capital levels may lower systemic risk, but will also affect how private credit instruments are structured and traded.²⁴⁹ Should their impact on corporate governance become a part of the calculus in deciding which regulations to adopt? Likewise, regulating the credit derivatives market may level the playing field among participants, but potentially lower the market’s ability to reflect information about a firm’s credit quality.²⁵⁰ Again, should the impact on corporate governance be weighed against concerns over market integrity?

Those questions mirror the evolving nature of debt and its transition away from the sibling rivalry that previously fixed a firm’s capital structure and corporate governance. They suggest, as well, that corporate governance may increasingly become an important consideration in our regulation of the capital market. I have offered some initial lessons from the credit crisis, reflecting its impact on debt governance. However, a more comprehensive analysis of the new construct – and how it plays into regulating change in the capital market – must be left for another day.

²⁴⁹ See Nicolò & Pelizzon, *supra* note 138, at 2-3.

²⁵⁰ See Acharya & Johnson, *supra* note 118, at 113.