

PERFORMANCE-SENSITIVE DEBT: FROM ASSET-BASED LOANS TO STARTUP FINANCING

Houman B. Shadab*

This Article develops a unique theory of performance-sensitive debt and argues that certain revenue-stage startups may be missing out on an important source of capital from asset-based loans. Debt contracts are performance sensitive to the extent any of the borrower's obligations adjust in response to the performance of the borrower. The three main types of performance sensitivity I identify are (1) a loan's interest rate adjusting based on the performance of the borrower; (2) the amount of available credit adjusting based on the value of collateral; and (3) renegotiation following breach of a loan covenant. Conceptualizing performance sensitivity as a separate governance mechanism allows me to flesh out, and in some cases challenge, several distinct bodies of research, including incomplete contracting theory and the literature on capital structure.

The focus of this Article is on the nature of one type of performance-sensitive debt in particular—asset-based loans. Asset-based loans are important because they are the only type of loan that adjusts the amount of credit available to a borrower based on the performance of its assets. Due to the protections asset-based loans provide to lenders, they are often the only type of loan lenders are willing to make to high-risk borrowers. Asset-based loans are often cheaper than other sources of capital, more borrower-friendly than other types of debt, and can be structured to meet the needs of a wide variety of borrowers. Because of these characteristics, I argue that certain revenue-stage startups, including those with intellectual property assets, may be better off raising capital with asset-based loans than other types of financing.

* Professor of Law, New York Law School. B.A. 1998, University of California at Berkeley; J.D. 2002, University of Southern California. I would like to thank New York Law School for its generous support, for their comments Darian Ibrahim, Tamara Belinfanti, William Wang, Gerald Korngold, Howard Meyers, and Jeffrey Haas, and for invaluable research assistance Alicia Kartorie. All errors are and opinions are my own. Copyright © Houman B. Shadab. All rights reserved.

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INTRODUCTION

Investments are often followed by regret. As a result, over time investors have developed contract mechanisms that make it possible for investment terms to change in their favor in response to bad news. An important aspect of financial contracting is the extent to which it allows for the terms of an investment relationship to change in response to the performance of the company that raised the funds (the issuer). The phrase *performance sensitivity* refers to this general characteristic. Performance sensitivity means that as an issuer's risk increases, the issuer-investor relationship adjusts to mitigate (or eliminate) the investor's corresponding increase in risk exposure.¹

This Article develops a unique theory of performance-sensitive debt and argues that certain revenue-stage startups with qualifying assets may be missing out on an important source of capital from one type of performance-sensitive debt in particular; namely, asset-based loans. A long-standing and pervasive economic problem is providing capital to young companies,² and maximizing the use of asset-based loans can help address that problem.³

Financial instruments exist along a spectrum of performance sensitivity. At one extreme is equity, a financial instrument that has no performance sensitivity: the *terms* of a shareholder's investment do not adjust in response to the issuer's performance.⁴ Debt, by contrast, has

1. As a corollary, performance sensitivity also means that if an issuer's performance increases after the investment, the investor's exposure to the company *increases* to reflect the newly improved investment.

2. See generally NAT'L SMALL BUS. ASS'N, SMALL BUSINESS ACCESS TO CAPITAL SURVEY 1, 6 (2012) (finding based on survey evidence that "nearly half (43 percent) of small-business respondents said that, in the last four years, they needed funds and were unable to find any willing sources, be it loans, credit cards or investors"); *Survey on the Access to Finance of SMEs in the Euro Area* (European Central Bank, Frankfurt, Ger.), Nov. 2013, at 1 (finding that "access to finance" is a primary concern of euro area small and medium sized businesses). But see ALICIA ROBB & JOSEPH FARHAT, KAUFFMAN FOUND., AN OVERVIEW OF THE KAUFFMAN FIRM SURVEY, RESULTS FROM 2011 BUSINESS ACTIVITIES 1, 5 tbl.1 (2013) (finding that in 2011 only 5.9% of new business reported concerns with access to or the cost of credit).

3. Other relatively new or developing credit technologies that may also assist new business in raising funds are microloans and peer-to-peer (crowdfunded) lending.

4. An indirect, second-order type of performance sensitivity exists when the investor has the option of changing the issuer-investor relationship based on the performance of the issuer. When equity does have performance-sensitive features, they are second-order and

borrower. Corporate and government bonds, by contrast, are not generally performance sensitive. No matter what happens to a bond issuer, the terms of the bond's underlying agreement do not change.⁶ Bondholders are also too numerous and dispersed to make a bond renegotiation a generally worthwhile undertaking.

In the past two decades, corporate loans have become more performance sensitive through performance pricing provisions that adjust their interest rates in response to the borrower's creditworthiness.⁷ The increasing use of performance-sensitive loans is not an isolated phenomenon, however. It is part of a broader, decades-long trend throughout credit markets giving lenders added protection against the risks they face from borrowers. The past two decades have seen an explosion in the development of transactions and markets that enable lenders to protect themselves by selling off their loans or transferring the loans' credit risk to others. These markets and risk transfer transactions include the secondary market for corporate loans,⁸ securitizations that bundle loans into shell entities that issue bonds,⁹ and over-the-counter derivatives that allow parties to transfer the risk of a wide variety of underlying credit instruments.¹⁰

In systematically analyzing performance sensitive debt, this Article adds to our understanding of creditor governance¹¹ and corporate finance. I argue that performance sensitivity is a type of fundamental creditor governance mechanism like monitoring, collateralization, and using covenants. By contrast, performance sensitivity is typically viewed as an ad hoc contract feature that protects creditors,¹² but not as something

6. A notable exception is "step-up" bonds that have interest rates that increase if the borrower is downgraded. Bonds' general lack of performance sensitivity largely explains why their investors are so dependent on bonds markets to be able to adjust their risk exposures.

7. See *infra* Section II.3.i.

8. See generally GLENN YAGO & DONALD MCCARTHY, THE MILIKEN INSTITUTE, THE U.S. LEVERAGED LOAN MARKET: A PRIMER (2004) (discussing "the origins and milestones of the quiet revolution that has been the growth of the [primary and secondary] syndicated loan market . . . one of the most rapidly growing and innovating sections of the U.S. capital market in the past 20 years"), http://milkeninstitute.org/pdf/loan_primer_1004.pdf.

9. Houman B. Shadab, *Credit Risk Transfer Governance: The Good, The Bad, and the Savvy*, 42 SETON HALL L. REV. 1009, 1046-64 (2012) [hereinafter Shadab].

10. *Id.* at 1033-46.

11. See generally Charles K. Whitehead, *Creditors and Debt Governance*, in RESEARCH HANDBOOK ON THE ECONOMICS OF CORPORATE LAW (Claire Hill & Brett McDonnell, eds. 2011); Greg Nini, David C. Smith & Amir Sufi, *Creditor Control Rights, Corporate Governance, and Firm Value*, 25 Rev. Fin. Stud. 1713 (2012) [hereinafter Nini et al.]; Frederick Tung, *Leverage in the Board Room: The Unsung Influence of Private Lenders in Corporate Governance*, 57 UCLA L. REV. 115 (2009) [hereinafter Tung].

12. See, e.g., Tung, *supra* note 11, at 147-150 (focusing on the influence of

fundamental. Conceptualizing performance sensitivity as a unique governance mechanism allows me to flesh out, and in some cases challenge, several distinct bodies of research.

First, this Article is the first to identify performance-sensitivity as a type of contractual completeness. Based on that insight, I argue that incomplete contracting theory suggests that performance-sensitive contracts are generally more efficient when agency or transaction costs are high. Second, literature on the economics of loan renegotiation implies that performance sensitivity in the form of renegotiation after breach of loan covenants is mutually beneficial characteristic or activity, and not one that generally benefits only borrowers or lenders. Finally, by focusing on performance sensitivity, this Article contributes to capital structure research. I argue that performance sensitivity is an important tradeoff between debt and equity that should be recognized by the tradeoff theory of capital structure. In addition, in contrast to what pecking order theory suggests, I argue that, due to the potential constraints that performance-sensitive debt places on borrowers, greater informational asymmetries do not always imply that a firm should prefer equity over debt.

This Article focuses on asset-based loans — a type of performance-sensitive debt. Although asset-based loans are relatively unknown to practitioners and have received little attention by academics,¹³ they are important because they are the only type of loan where the amount of credit available to the borrower adjusts based on the value of its assets. In this way, asset-based loans are performance sensitive.¹⁴ But unlike loans that only have a performance pricing feature that adjusts to the performance of the borrower at the *entity-level* (e.g., as measured by credit ratings), asset-based loans adjust to the performance of the borrower's *assets*—their ability to generate cash. Although asset-based loans are a type of secured (collateralized) loan,¹⁵ secured loans typically do not change in size based on asset performance. Unlike an asset-based lender, a typical secured lender looks primarily to the company's cash flows for repayment, not its

performance sensitive provisions on managerial incentives and decision-making).

13. To date, there is no legal scholarship on asset-based loans and few academic finance papers focused on them. See, e.g., Mark J. Flannery & Xiaohong (Sara) Wang, *Borrowing Base Revolvers: Liquidity for Risky Firms*, (Working Paper, 2011), available at <http://ssrn.com/abstract=1741306>; Yasin Alan & Vishal Gaur, *Operational Investment and Capital Structure Under Asset Based Lending*, (Johnson School Research Paper Series, Working Paper, 2012), available at <http://ssrn.com/abstract=1716925>.

14. To my knowledge this Article is the first publication to identify asset-based loans as a type of performance-sensitive debt in addition to loans with performance pricing provisions.

15. HOUMAN B. SHADAB, *Hedge Fund Asset-Based Lending*, in THE OXFORD HANDBOOK OF ENTREPRENEURIAL FINANCE 613 (2010).

assets.

Consistent with what creditor governance and corporate finance theory suggest, asset-based loans are also important because they are often the only type of loan lenders are willing to provide to risky borrowers.¹⁶ Lenders find asset-based loans attractive because the loans have strong governance in the form of intense monitoring, collateralization, and performance sensitivity. And due to the protection from these governance devices, asset-based lenders are also willing to accept lower interest rates and weaker covenants such that risky firms like startups are more likely to qualify for the loans. Given that the availability of startup financing promotes job creation,¹⁷ this Article's focus on asset-based loans also has important economy-wide implications because my analysis suggests that companies are not fully taking advantage of asset-based lending. Although borrowers run the risk of exposing themselves to unique forms of opportunism from asset-based lenders, on balance it seems that certain startups would be better off raising capital with an asset-based loan rather than by selling stock or using some other kind of loan. The types of startups most likely to benefit from asset-based loans are revenue-stage startups with qualifying assets that are seeking financing for growth or working capital.

For most of their history, asset-based loans belonged to an obscure corner of the loan market and were used mainly by companies viewed as being poorly run or in financial distress. But that all changed in the twenty-first century. Asset-based loans began to overcome the stigma of being used solely by desperate borrowers and aggressive lenders, and technology substantially decreased lenders' monitoring costs. In addition, the asset-based loan market grew due to the incorporation of second lien loans and other innovations in deal structures, the growing involvement of hedge

16. Allen N. Berger & Gregory F. Udell, *Small Business Debt Finance*, in HANDBOOK OF ENTREPRENEURSHIP RESEARCH: AN INTERDISCIPLINARY SURVEY AND INTRODUCTION 313 (Audretsch & Acs eds. 2003) [hereinafter Berger & Udell] (“[A]sset-based lending is particularly valuable as a lending technology for high-risk, informationally opaque firms where the probability of suboptimal closure is higher”); Slee, *infra* note 146, at 315 (“Thousands of companies that would otherwise not qualify for traditional bank lending receive asset-based loans each year.”); Tracy Eden, *Asset-Based Lenders Serve a True Need in Today's Marketplace*, Yahoo! Voices, Aug. 20, 2010, available at <http://voices.yahoo.com/asset-based-lenders-serve-true-todays-marketplace-6615468.html> [hereinafter Eden] (“Asset-based lending is often temporary, providing much-needed working capital during a start-up or transition phase until the company has enough financial history or a strong enough balance sheet to become ‘bankable.’”).

17. See generally TIM KANE, KAUFFMAN FOUND., THE IMPORTANCE OF STARTUPS IN JOB CREATION AND JOB DESTRUCTION (2010), http://www.kauffman.org/~media/Kauffman_org/research%20reports%20and%20covers/2010/07/firm_formation_importance_of_startups.pdf.

funds as lenders, and traditional banks' pullback on lending during and after the financial crisis of 2007-2008.¹⁸ Major asset-based lenders now include divisions of large banks such as Wells Fargo and Bank of America, commercial finance companies GE Capital and CIT Group, and hedge funds D.E. Shaw Group and Oaktree Capital Management.

By the end of 2012, the amount of asset-based loans outstanding was at an all-time high of \$620 billion—double that of a decade earlier.¹⁹ The growth of asset-based loans coincides with the growth of securitization and similar transactions that focus on financing assets isolated from enterprises.²⁰ Importantly, these other asset-centric transactions have expanded the supply of credit in the economy²¹ because creditors more efficiently focus on the narrower range of risk associated with specific assets, as opposed to the risk of the company as whole that owns the assets. Asset-based loans nonetheless remain a small portion of the broader commercial loan market,²² and therefore have plenty of room to expand. Asset-based loans are often cheaper than other sources of capital and more borrower-friendly than other types of debt because lenders spend more resources screening and analyzing borrowers before making the loan.²³ In addition, asset-based loans can be structured to meet the needs of a wide variety of borrowers. The loans are thus also able to meet the needs of startups, including those with intellectual property assets.²⁴ Startups are

18. See *infra* Section IV.B.

19. Ianthe J. Dugan, *As Banks Retreat, Hedge Funds Smell Profit*, WSJ.COM, July 22, 2013, [available at](http://online.wsj.com/news/articles/SB10001424127887324637504578567383459564510) <http://online.wsj.com/news/articles/SB10001424127887324637504578567383459564510> [hereinafter Dugan].

20. JOSEPH C. HU, *ASSET SECURITIZATION: THEORY AND PRACTICE* 11-16 (2011).

21. See FATEN SABRY & CHUDOZIE OKONGWU, NERA ECON. CONSULTING, *STUDY OF THE IMPACT OF SECURITIZATION ON CONSUMERS, INVESTORS, FINANCIAL INSTITUTIONS AND THE CAPITAL MARKETS* 8-11, (2009), http://www.americansecuritization.com/uploadedfiles/ASF_NERA_Report.PDF (discussing the impact of securitization on the availability of credit).

22. In 2011, U.S. asset-based loan issuance totaled \$101 billion compared to \$1.9 trillion for the broader commercial syndicated loan market of which it is a part. See Maria C. Dikeos, *Asset-Based Lending Hits Record High in 2011, Expectations of Normalized Issuance Levels in 2012*, ABF J. (March 2012), <http://www.abfjournal.com/articles/asset-based-lending-hits-record-high-in-2011-expectations-of-normalized-issuance-levels-in-2012>; Thompson Reuters, *Global Syndicated Loans Review*, (2011) at 1, http://dmi.thomsonreuters.com/Content/Files/4Q11_Global_Loans_Review.pdf.

23. Brendan Swift, *Assets a New Base for Mid-market Lending*, BUS. REV. WEEKLY, Nov. 14, 2013 (“Whereas [non-asset-based lender] banks . . . will do less work at the front end around the value of the assets but will have a more strict covenant regime because they haven’t done the work at the front end.”).

24. For a broader analysis of the relationship between corporate governance structures and innovation, see Houman B. Shadab, *Innovation and Corporate Governance: The Impact of Sarbanes-Oxley*, 10 U. PA. J. BUS. EMPLOYMENT L. 955, 970-981 (2008).

likely not taking full advantage of asset-based loans due to their lack of awareness of the loans and the stigma traditionally associated with them.²⁵

This Article proceeds as follows. Section I develops my theory of performance-sensitive debt. My theory explains how performance sensitivity is a type of creditor governance mechanism and what structures and practices make up, or are related to, performance sensitivity. It also distinguishes between ex post performance sensitivity that takes place after a loan is executed and ex ante performance sensitivity that is established upfront by contract. Ex post performance sensitivity results from renegotiating loans after covenant breaches. Ex ante performance sensitivity comes from performance pricing and borrowing base provisions. Section II considers the implications of performance sensitivity for the literatures on incomplete contracting, the efficiency of loan renegotiation, and capital structure. Section III examines a uniquely performance-sensitive instrument in the form of asset-based loans. The loans reflect the theoretical aspects of performance sensitivity because in practice they are often more efficient for high-risk borrowers. Section IV argues that asset-based loans are uniquely suited to provide financing to certain high-risk startups.

Overall, two basic themes in law and finance underlie this Article's investigation of asset-based loans. The first is that riskier borrowers are subject to more stringent creditor governance devices to compensate the lender for the heightened risk. The second is that creditor governance mechanisms are substitutes for one another with respect to protecting creditors — the more one mechanism is used the less another type needs to be.

I. A THEORY OF PERFORMANCE-SENSITIVE DEBT

This Section develops my theory of performance-sensitive debt. I first explain the nature of performance-sensitivity as a type of creditor governance mechanism. I then explain the different types of performance sensitivity, which include renegotiation, performance pricing, and

25. *Roundtable on SME Finance and Business Growth* GROWTH BUSINESS (Aug. 7, 2013), <http://www.growthbusiness.co.uk/growing-a-business/business-finance/2389203/roundtable-on-sme-finance-and-business-growth.html>. Asset-based loans have also more recently become used by large public companies. Randy Schwimmer, *The Rebirth of Asset-Based Lending*, CNN, June 1, 2011, <http://finance.fortune.cnn.com/2011/06/01/the-rebirth-of-asset-based-lending/> [hereinafter Schwimmer] (“While ABL is known as ‘lender of last resort’ for tougher credits, the current cycle has brought corporate heavyweights to the table like Georgia Gulf, Hertz, and Del Monte, as well as retailers like Sears, Neiman Marcus, Jo-Ann Stores, J Crew, and Liz Claiborne.”).

collateralization, as well as related mechanisms or structures such as monitoring and lines of credit.

A. *Creditor Governance and Performance Sensitivity*

Credit risk is the primary concern of creditors and explains much of the features of credit agreements and the interactions between borrowers and lenders.²⁶ Credit risk is a governance concern, in addition to an economic problem, because of the presence of asymmetric information and potentially misaligned incentives in a creditor-debtor relationship.²⁷ Asymmetric information and misaligned incentives give rise to agency costs between creditors (as principals) and debtors (as agents) in the form of adverse selection, moral hazard, and other types of debtor opportunism that impose losses and inefficiencies on creditors.²⁸ Particular agency costs include debtors increasing their overall risk after credit is extended (asset substitution) and taking on additional debt obligations that reduce their ability to repay existing creditors (claim dilution).²⁹ To reduce or eliminate

26. Creditors may also be concerned about the market value of their investment in secondary markets, which, in addition to credit risk, is primarily determined by market interest rates.

27. See generally Charles K. Whitehead, *Creditors and Debt Governance*, in RESEARCH HANDBOOK ON THE ECONOMICS OF CORPORATE LAW (Claire Hill & Brett McDonnell, eds. 2012) [Whitehead, *Debt Governance*] (examining debt's traditional role in lending and subsequent changes to this role).

28. Adverse selection takes place when informational asymmetries increase the propensity of low quality borrowers to obtain credit because lenders are unable to distinguish between low and high quality borrowers and thereby charge an interest rate that is too high. See generally George Akerlof, *The Market for Lemons: Quality Uncertainty and the Market Mechanism*, 84 Q. J. ECON. 488 (1970) (examining the relationship between quality of goods and uncertainty). Moral hazard occurs when a lender's lack of knowledge over a borrower's credit risk permits the borrower to engage in opportunistic behavior that benefits itself at the expense of the lender after the borrower obtains credit. See generally Masako N. Darrough & Neal M. Stoughton, *Moral Hazard and Adverse Selection: The Question of Financial Structure*, 41 J. FIN. 501 (1986) (examining moral hazard and adverse selection problems).

29. See Elazar Berkovitch & E. Han Kim, *Financial Contracting and Leverage Induced Over- and Under-Investment Incentives*, 45 J. FIN. 765, 766 (1990) (explaining potential problems related to seniority claims and discussing what an optimal seniority rule would look like); Clifford W. Smith, Jr. & Jerold B. Warner, *On Financial Contracting*, 7 J. FIN. ECON. 117, 118-19 (1979) [hereinafter Smith & Warner] (discussing potential sources of conflict between bondholders and stockholders). For a review of the agency costs of debt, see generally William W. Bratton, *Bond Covenants and Creditor Protection: Economics and Law, Theory and Practice, Substance and Process*, in THE LAW AND ECONOMICS OF CREDITOR PROTECTION: A TRANSATLANTIC PERSPECTIVE 43-47 (Horst Eidenmüller & Wolfgang Schön eds., 2008) (examining financial contracts in the United States and their benefits and drawbacks).

these agency costs of debt, creditors adopt creditor governance mechanisms.

The most basic type of creditor governance mechanism is demanding a specific rate of interest to discipline a debtor and compensate creditors for the risks associated with the agency costs of debt. Attempting to mitigate agency costs through interest rates is typically not sufficient, however, due to informational asymmetries and economic uncertainty that prevent interest payments alone to properly compensate the creditor for risk. Creditors accordingly adopt several other governance mechanisms to deal with credit risk.

A ubiquitous and fundamental governance device is monitoring the financial condition of the borrower and its compliance with the terms of a credit agreement.³⁰ Monitoring also includes screening potential borrowers before credit is extended to them. Another governance mechanism is requiring the borrower to make certain promises to the lender in the form of contractual covenants.³¹ Debt covenants place significant constraints on debtors including on their ability to take on additional debt, use cash flows, and make investment decisions.³² Covenants also place performance requirements on borrowers.³³ Securing a loan with collateral is a governance mechanism because it can help to reduce the losses upon a default and also because the very ability to use (certain types of) collateral may signal quality or allow creditors to screen borrowers.³⁴ Credit risk transfer is a governance mechanism because selling a credit instrument or transferring its risk to another party by contract allows lenders to exert indirect control over debtors, who may be concerned about their debt being priced lower when it is sold. Credit risk transfer is also a governance device because the secondary market price discovery of credit risk may

30. See XAVIER FREIXAS & JEAN-CHARLES ROCHET, *THE MICROECONOMICS OF BANKING* 29 (2d. ed. 2008) (discussing studies pertaining to the creditor-borrower relationship); Tung, *supra* note 11, at 139 (2009) (discussing ways through which creditors monitor borrowers).

31. See generally Nini et al., *supra* note 11 (asserting that creditors have an active role in corporate governance).

32. See Tung, *supra* note 11, at 136-38 (discussing financial covenants and investment constraints).

33. See George G. Triantis & Ronald J. Daniels, *The Role of Debt in Interactive Corporate Governance*, 83 CAL. L. REV. 1073, 1093-94 (1995) (discussing trip wire protections in covenants).

34. See Tung, *supra* note 11, at 145 n132 (examining different protections in the creditor-borrower relationship); Gabriel Jiménez et al., *Determinants of Collateral* 2, 32 (Eur. Fin. Ass'n 2004 Maastricht Meetings Paper No. 1455, 2004), available at <http://ssrn.com/abstract=565343> (examining ways to evaluate how borrower quality and collateral used are related).

discipline borrowers and help lenders in their monitoring activities.³⁵

A final type of governance device, and the one which is the focus of this Article, is performance sensitivity. Performance sensitivity is any mechanism or activity that permits a creditor to adjust the credit risk of the instrument they hold *before* maturity (i.e., during the duration of the instrument). The three main types of performance sensitivity I have identified are adjusting the interest rate to the creditworthiness of the borrower, adjusting the amount of credit available on the value of collateral, and renegotiation after breach of a debt covenant. Performance sensitivity is a governance mechanism because it reduces credit risk and mitigates agency costs by altering the debtor-creditor relationship based on the creditworthiness of the debtor. Performance sensitivity allows the price or structure of the credit instrument to adjust to new information about the creditor as it becomes available, thereby mitigating the costs to creditors of informational asymmetries. Performance sensitivity also protects creditors against moral hazard by structuring the terms of the loans in its favor if the borrower begins to behave differently after the credit is extended.

Two underlying principles govern creditor governance devices. First, what creditor governance mechanisms are best used to reduce the agency costs of particular credit transactions depends on the characteristics of the transaction.³⁶ The important characteristics of credit transactions include the debtor's risk, the cost of obtaining information about the debtor (i.e., monitoring costs),³⁷ and the ease with which the credit risk of the transaction can be transferred through a sale or synthetic risk transfer. In general, higher risk debtors are subject to more (or more stringent) governance devices. For example, compared to their lower risk peers, high-risk borrowers are typically monitored more, required to post more collateral, and are subject to more stringent covenants.³⁸ Second, creditor

35. See generally Charles K. Whitehead, *The Evolution of Debt: Covenants, the Credit Market, and Corporate Governance*, 34 J. CORP. L., 641 (2009) (examining changes in and discussing the bank-borrower relationship). Secondary market pricing of credit risk not only includes the price of credit instruments in secondary market and the price of CDSs that reference such instruments.

36. See Oliver E. Williamson, *Transaction Cost Economics: The Natural Progression*, in *LES PRIX NOBEL: THE NOBEL PRIZES 2009* 465 (Karl Grandin ed. 2009), http://www.nobelprize.org/nobel_prizes/economic-sciences/laureates/2009/williamson_lecture.pdf (noting that "transactions, which differ in their attributes, are aligned with governance structures . . . so as to effect a (mainly) transaction cost economizing outcome").

37. Greater informational asymmetries imply higher monitoring costs.

38. Indeed, the very existence of debt and its requirement to make fixed, periodic interest payments may serve as a check on managerial opportunism. See Milton Harris & Artur Raviv, *Capital Structure and the Informational Role of Debt*, 45 J. FIN. 321, 321-24 (1990) (examining how debt can allow investors to discipline management); Tensie

governance mechanisms are also substitutes. For example, lenders may engage in less monitoring or have less stringent covenants the more collateral there is backing the loan.³⁹

A fundamental issue is whether debtors or creditors benefit from performance sensitive debt. Investors would prefer to have performance sensitive debt because it protects them from a sudden loss or collapse in value, or simply from an increase in risk without any corresponding benefit or protection. Performance sensitivity may be especially important because it does not require the creditor to have to resort to secondary markets to sell the instrument or to find another party willing to take on (or share) the risk. In addition, one aspect of an optimal investment contract is the risk remaining constant throughout the life of the agreement,⁴⁰ and performance sensitivity is precisely an attempt to achieve that type of optimality.⁴¹

Steijvers & Wim Voordeckers, *Collateral and Credit Rationing: A Review of Recent Empirical Studies as a Guide for Future Research*, 23 J. ECON. SURVEYS 924, 927 (2009) (showing that collateral is used more the higher is the debtor's risk or the higher are monitoring costs); Whitehead, *Debt Governance*, *supra* note 27, at 69 (discussing the traditional role of debt).

39. In addition, less governance may take place to the extent external factors reduce the benefits of governance. These external factors include reliance on third parties (such as ratings agencies) to assess credit risk, explicit or implicit governmental guarantees to creditors, an oversupply of credit, a creditor's privileged status under bankruptcy law, or a creditor's short-term orientation. See Robert L. Hetzel, *Too Big to Fail: Origins, Consequences, and Outlook*, ECON. REV. 1, 11 (1991) ("Too big to fail . . . limits incentives for creditors to monitor the riskiness of bank asset portfolios."). See also Tung, *supra* note 11, at 161 (looking at when lender governance is limited); Diana Hancock & Wayne Passmore, *An Analysis of Government Guarantees and the Functioning of Asset-Backed Securities Markets* (Board of Governors of the Federal Reserve Board, Finance and Economics Discussion Series, Working Paper No. 2010-46, 2010) (securitization "investors are more likely to rely on implicit government guarantees . . . rather than to conduct a painstaking quantitative analysis of the underlying collateral"). For example, the global credit glut from 2003 to 2007 led to competition among lenders that reduced reliance on stringent covenants in the form of covenant-lite loans (those with little or no covenants). See Viral V. Acharya et al., *Private Equity: Boom and Bust?*, 19 J. APPL. CORP. FIN. 44, 44-46 (2007) (examining the leveraged buyout market); Mark J. Roe, *The Derivatives Market's Payment Priorities as Financial Crisis Accelerator*, 63 STAN. L. REV. 539, 560-64 (2011) (examining how market-discipline mechanisms weakened); Richard Squire, *Shareholder Opportunism in a World of Risky Debt*, 123 HARV. L. REV. 1151, 1200-01 (2010) (discussing the potential impact of the Wall Street Reform and Consumer Protection Act's requirement that regulators impose requirements on margins).

40. See *Id.*

41. Indeed, giving control to creditors contingent on the performance of debtors seems to enhance firm value. See generally Philippe Aghion & Patrick Bolton, *An Incomplete Contracts Approach to Financial Contracting*, 59 REV. ECON. STUDIES 473 (1992) [hereinafter Aghion & Bolton] (examining how to create the most efficient system of control allocation); Mathias Dewatripont & Jean Tirole, *A Theory of Debt and Equity: Diversity of Securities and Manager-Shareholder Congruence*, 109 QRTLY. J. ECON. 1027

Debtors, on the other hand, may not want to issue a performance sensitive instrument because debtors benefit if the terms of their financing do not change in favor of the creditor if their performance deteriorates. However, firms that expect their performance to improve may benefit from financing with performance-sensitive debt because improved performance means their interest rate or other terms of the loan will become more attractive. In addition, debtors may benefit from performance sensitive loans because it allows their cost of capital to decrease (if their performance improves) without having to find a new source of capital.⁴² Of course, if the debtor is otherwise deemed too risky for any other type of loan, debtors may prefer a performance sensitive loan to no loan at all.

B. The Mechanisms of Performance Sensitive Debt

1. Prerequisites: Screening and Monitoring

Two basic functions of lenders are screening borrowers before extending credit and monitoring borrowers during the life of a loan.⁴³ Screening permits informationally disadvantaged lenders to sort borrowers by their risk and decide whether and under what terms to extend credit.⁴⁴ Low-cost screening takes place when lenders offer some combination of interest rates and collateral requirements and largely rely on borrowers to self-select themselves.⁴⁵ High-cost screening takes place when lenders investigate borrowers before extending credit to ensure they conform to the

(1994) [hereinafter Dewatripont & Tirole] (discussing the relationship between an optimal capital structure and incentives that discipline managers).

42. See generally Paul Asquith, Anne Beatty & Joseph Weber, *Performance Pricing in Bank Debt Contracts*, 40 J. ACCT. ECON. 101 (2005) [hereinafter Asquith et al.] (examining the effect of performance pricing in debt contracts).

43. HANS DEGRYSE, MOSHE KIM & STEVEN ONGENA, MICROECONOMETRICS OF BANKING: METHODS, APPLICATIONS, AND RESULTS 9 (2009) [hereinafter Degryse].

44. See generally Michael Rothschild & Joseph Stiglitz, *Equilibrium in Competitive Insurance Markets: An Essay on the Economics of Imperfect Information*, 90 QRTLY. J. ECON. 629 (1976) (examining the impact that information inequality can have on market equilibriums). See also C. Monica Capra, Irene Comeig & Matilde O. Fernandez, *Moral hazard and Credit Screening: An Experiment* (July 2009), 18th World IMACS / MODSIM Congress, Cairns, Australia 13-17, at 1426 (“When creditors offer a menu of contracts inducing the selection of firms, there is a separating equilibrium that reveals information and can resolve rationing.”), available at https://mssanz.org.au/modsim09/D8/capra_D8.pdf.

45. See generally Giovanni Dell’Ariccia & Robert Marquez, *Lending Booms and Lending Standards*, 61 J. FIN. 2511 (2006) (examining banks’ strategic behavior in relation with the information available to them); Joseph E. Stiglitz & Andrew Weiss, *Credit Rationing in Markets with Imperfect Information*, 71 AMERICAN ECON. REV. 393 (1981) (discussing how imperfect information can lead to banks using credit rationing).

lender's underwriting standards.⁴⁶

Performance sensitivity and screening are related in the following way: in addition to allowing lenders to filter and choose their borrowers, screening borrowers at the outset lowers ex post monitoring costs. By engaging in costly screening, lenders should be better able to adopt contract structures that would otherwise not be economically justified due to their high monitoring costs, *including* the performance sensitive structures that have high monitoring costs. Accordingly, costly screening is likely necessary in order for a performance sensitive contract to be economically feasible in the first place.

In addition to screening, a performance-sensitive loan also requires substantial monitoring for the terms of the loan to be adjusted prior to maturity. This is because the lender must ultimately observe information about the borrower's performance to adjust the loan's terms. Lenders typically monitor a borrower in at least some respect due to borrowers generally having more information about their investments and the ability of lenders to use the borrowed funds opportunistically or in ways that destroy value.⁴⁷

An important aspect of lender monitoring relating to performance sensitivity is the incentives to monitor. Performance-sensitive contracts require significant monitoring by lenders such that without sufficient incentives to monitor, performance sensitivity may not arise in the first place or otherwise not be effective.⁴⁸ According to Cheol Park, a senior lender has the strongest incentive to monitor because they have something at stake in a liquidation whereas junior lenders will typically receive nothing.⁴⁹ Accordingly, an equilibrium for high-risk firms is monitoring by a private lender with senior priority.⁵⁰ Similar to Park, Amir Sufi and Joshua Rauh argue that a lender's incentive to engage in costly monitoring will be strongest when the creditor is senior in the capital structure.

46. See generally Cheng Wang & Stephen D. Williamson, *Debt Contracts and Financial Intermediation with Costly Screening*, 31 CANADIAN J. ECON. 573 (1998) (examining optimal financial intermediary structures in a specific credit market model).

47. See generally Cheol Park, *Monitoring and Structure of Debt Contracts*, 55 J. FIN. 2157 (2000) [hereinafter Park] (discussing what optimal debt structure would look like when there is a severe moral hazard problem). The monitoring that takes place in credit relationships has long been the focus of finance research and scholarship. Indeed, the very existence of financial intermediaries such as banks is generally understood to be a result of the need for specialized monitors. Degryse, et al., *supra* note 43, at 9.

48. Park, *supra* note 47.

49. *Id.* A creditor will also have a stronger incentive to monitor (and seek liquidation) in the presence of junior creditors because their claims in liquidation reduce the size of a senior lender's claim. *Id.* at 2159 (2000).

50. Park, *supra* note 47; Joshua D. Rauh & Amir Sufi, *Capital Structure and Debt Structure*, 23 REV. FIN. STUD. 4242, 4273 (2010) [hereinafter Rauh & Sufi].

Otherwise, the lender must share the benefits of its own monitoring efforts with other lenders that have priority over its own claims.⁵¹

However, a lender's incentive to monitor may actually be the strongest if their claim is performance sensitive. While it is true that lenders do not want other lenders to free-ride off of their monitoring efforts, a lender may be willing to tolerate free riding if their own costly monitoring (that other lenders benefit from) is necessary for the lender to benefit from performance sensitivity (e.g., being able to charge a higher interest rate). The benefits of performance sensitivity may outweigh the costs of some lenders free riding on another's monitoring efforts. Accordingly, while performance-sensitive debt is most likely to be used by senior lenders, it is efficient for subordinate lenders to use as well.

Park also argues that the monitoring incentive should be assigned to the lender with the lowest monitoring costs.⁵² However, this seems incorrect. If a creditor is given the ability to reduce their risk commitment in response to a borrower's creditworthiness, they may be the most efficient monitor even though their monitoring costs are high. Indeed, performance sensitive contracts are an exception to the general proposition that low cost monitors are the best monitors. Focusing on the potentially large benefits of performance sensitivity allows one to appreciate that high monitoring costs may be worth bearing. Bearing high monitoring costs up front may also be efficient because the costs of monitoring likely substantially decrease over time as a lender learns more about a borrower. The fact that repeated borrowing from the same lender leads to lower interest rates⁵³ implies that the information lenders learn over the course of a long-term relationship substantially lowers the costs of monitoring.

2. Ex Post Sensitivity: Renegotiation and Covenants

A covenant is a contractual promise. Loans, bonds, and other debt instruments typically contain numerous covenants from the debtor to the creditor in addition to the fundamental promise to repay the principal and make the scheduled interest payments. There are three categories of

51. See Rauh & Sufi, *supra* note 50, at 4256-57 (discussing the incentives that lead to the senior bank monitoring).

52. Park, *supra* note 47.

53. Sreedhar T. Bharath, et al., *Lending Relationships and Loan Contract Terms*, 24 REV. FIN. STUD. 1141, 1141-44 (2011), <http://rfs.oxfordjournals.org/content/24/4/1141.full.pdf>. See also Arnoud W. A. Boot, *Relationship Banking: What Do We Know?*, 9 J. FIN. INTER. 7 (2000), http://www1.fee.uva.nl/fm/PAPeRS/Awaboot/english/Relationship_banking_know_JFI.pdf [hereinafter Boot] (bank acquisition of soft information reduces renegotiation costs).

covenants: affirmative promises to take certain actions, negative covenants to not take certain actions such as incurring additional debt, and financial covenants that promise to maintain a minimum level of performance.⁵⁴ The primary function of covenants is to reduce agency costs by placing ex ante constraints on debtors that prevent wealth transfers from lenders to shareholders.⁵⁵ For example, covenants reduce moral hazard.⁵⁶ Financial covenants in particular act like early warning systems or tripwires that alert lenders to a decrease in borrower performance.⁵⁷ By providing protection to lenders, covenants decrease credit risk and allow for loans with lower rates of interest.⁵⁸ Another important purpose of covenants is to give lenders a right of exit: covenants are typically structured so that their violation permits the creditor to immediately accelerate the full amount of the loan.

The use of covenants is indirectly related to performance sensitivity through the relationship between covenants and monitoring. Covenants increase the incentive to monitor⁵⁹ and help lenders monitor by requiring borrowers to produce information.⁶⁰ Since monitoring is required for performance sensitivity to be effective, the use of covenants facilitates monitoring such that we should expect performance sensitive contracts to

54. FRANK FABOZZI, HANDBOOK OF FINANCE, FINANCIAL MARKETS AND INSTRUMENTS 335-336 (2008).

55. See generally Sudheer Chava & Michael Roberts, *How Does Financing Impact Investment? The Role of Debt Covenants*, 63 J. FIN. 2085 (2008) [hereinafter Chava & Roberts] (examining that the presence of covenants in financial contracts is motivated by their ability to mitigate agency problems).

56. Smith & Warner, *supra* note 29.

57. Clifford Smith, *A Perspective on Accounting-based Debt Covenant Violations*, 68 ACCOUNTING REV. 289 (1993).

58. Greg Nini, David C. Smith & Amir Sufi, *Creditor Control Rights and Firm Investment Policy*, 92 J. FIN. ECON 400 (2009) [hereinafter Nini et al.]; Michael Roberts & Amir Sufi, *Control Rights and Capital Structure: An Empirical Investigation*, 64 J. FINANCE 1657 (2009) [hereinafter Roberts & Sufi]; Michael Bradley & Michael Roberts, *The Structure and Pricing of Corporate Debt Covenants*, (The Fuqua School of Business, Duke University, Working Paper, 2004); Natalia Reisel, *On the Value of Restrictive Covenants: Empirical Investigation of Public Bond Issues*, (September 2010)(unpublished Ph.D dissertation, Cox Business School at Southern Methodist University), available at <http://ssrn.com/abstract=644522>. The scope and nature of covenants is determined in part by tradeoffs between monitoring incentives, covenant-based hold up costs, and an increase in informational advantages to the lender. Robert Prilmeier, *The Structuring of Financial Covenants When Lenders Acquire Soft Information*, (May 14, 2011)(unpublished Ph.D dissertation, Ohio State University), available at <http://fisher.osu.edu/supplements/10/10869/Structuring-Financial.pdf>.

59. Raghuram Rajan & Andrew Winton, *Covenants and Collateral as Incentives to Monitor*, 50 J. FIN. 1113 (1995) [hereinafter Rajan & Winton].

60. Roberts & Sufi, *supra* note 58.

make use of information-producing covenants.⁶¹ Likewise, the use of covenants and performance sensitive provisions may to some extent be complementary because creditors already engaging in monitoring for one purpose will find it less costly to monitor for the other.

The use of covenants is also related to performance sensitivity through the relationship between covenants and renegotiation. Breach of a covenant typically qualifies as a technical default that gives the lender the right to immediately accelerate the full amount of the loan. In practice, however, the remedy of acceleration is rarely used. Most covenant breaches are technical and are typically waived by lender.⁶² Borrowers often breach a covenant,⁶³ including borrowers that are healthy.⁶⁴ To the extent there is any change after breach of a covenant, it results in the loan being renegotiated.⁶⁵ Empirical studies find that covenant breaches cause loans to be modified with higher interest rates, less available credit, and a decrease in the borrower's investment spending.⁶⁶ This way, the process of covenant breach and renegotiation in favor of the lender enables the lender to be compensated for an increase in risk.⁶⁷ Loan renegotiation is common, with one study finding that 76 percent of public companies' loans were renegotiated before maturity.⁶⁸ Covenant breach and renegotiation in favor of the lender is a form of performance sensitivity because it results in loan terms adjusting in response to the borrower's performance. The fact that covenant breaches are common indicates that renegotiation is an important form of performance sensitivity.

61. This turns out to be true in the case of asset-based loans. *See infra* Section III.A.

62. Roberts & Sufi, *supra* note 58.

63. Michael Roberts & Amir Sufi, *Renegotiation of Financial Contracts: Evidence from Private Credit Agreements*, 93 J. FIN. ECON. 159 (2009).

64. Robert Prilmeier, *The Structuring of Financial Covenants When Lenders Acquire Soft Information*, (May 14, 2011)(unpublished Ph.D dissertation, Ohio State University), available at <http://fisher.osu.edu/supplements/10/10869/Structuring-Financial.pdf> [hereinafter Prilmeier]

65. Nini et al., *supra* note 58.

66. Cem Demiroglu & Christopher. M. James, *The Information Content of Bank Loan Covenants*, 23 REV. FIN. STUD. 3700 (2010); Roberts & Sufi, *supra* note 63.

67. Clifford W. Smith, *A Perspective on Violations of Accounting Based Debt Covenants*, 68 Accounting Rev. 289 (1993); Ivan T. Ivanov, *Contractual Contingencies and Renegotiation: Evidence from the Use of Pricing Grids*, 7 (May 16, 2012) [hereinafter Ivanov] (unpublished dissertation, Kogod School of Business, American University), ("This security mechanism allows banks to be fairly compensated for increases in borrower credit risk.") available at http://www.american.edu/kogod/research/upload/Ivanov-performance_pricing15.pdf.

68. Yiwei Dou, *The Debt-Contracting Value of Accounting Numbers, Renegotiation, and Investment Efficiency* (February 2013) (unpublished dissertation, Stern School of Business, New York University), available at <http://www.capanet.net/conference2013/DOUYiwei2013Feb.pdf>.

Although financial economists correctly note that a covenant breach allows a lender to reassess the borrower's creditworthiness and impose value-enhancing additional covenants,⁶⁹ the more important aspect from a performance sensitive view is that post-breach renegotiation results in the lender's risk being adjusted (i.e., reduced) while the loan is still outstanding. In addition, while economists are correct to view covenants as increasing firm value by allowing control to shift to creditors outside of bankruptcy,⁷⁰ it is important to note that this control consists of performance sensitivity — not management. Lenders do not begin to run the borrower's business once a covenant is breached; rather, they reduce the risks they are exposed to through renegotiation.

3. Ex Ante Performance Sensitivity

i. Performance Pricing

Commercial loans may contain performance pricing provisions that automatically adjust the loan's interest rate in response to the performance of the borrower. Performance pricing is a feature that causes the interest to fluctuate depending on the borrower's performance as measured by a borrower's credit rating or financial ratios such as debt-to-income, leverage, or interest coverage.⁷¹ Performance pricing provisions may be structured so that the interest rate increases if the borrower becomes less creditworthy or the interest rate decreases if performance improves (or both).⁷² Performance pricing came into widespread use in the 1990s and by one estimate is currently found in nearly three-quarters of all bank loans.⁷³ Figure 2a is an example of a performance pricing grid where the interest rate (as for Eurodollar Loans and Base Rate Loans) increases as the borrower's performance decreases (as measured by the Consolidated Leverage Ratio).⁷⁴ Figure 2b is an example of a performance pricing grid where the borrower's performance is measured by the borrower's credit ratings.⁷⁵

69. Chava & Roberts, *supra* note 55; Nini et al., *supra* note 58.

70. Aghion & Bolton, *supra* note 41; Dewatripont & Tirole, *supra* note 41; Ilia D. Dichev & Douglas J. Skinner, *Large-Sample Evidence on the Debt Covenant Hypothesis*, 40 J. ACCT. RES. 1091 (2002) [hereinafter Dichev & Skinner].

71. Asquith et al., *supra* note 42.

72. *Id.*

73. Roberts & Sufi, *supra* note 63.

74. Parexel Int'l Corp., Term Loan Facility, (January 22, 2013) <http://www.sec.gov/Archives/edgar/data/799729/000079972913000002/a103termloanfacilit yagreem.htm>.

75. Best Buy Co. Inc., 364-Day Credit Agreement, (April 11, 2013),

Figure 2a

Pricing Level	Consolidated Leverage Ratio	Eurodollar Loans	Base Rate Loans
I	< 1.00:1.00	0.75%	0.00%
II	≥ 1.00:1.00 but < 1.50:1.00	1.00%	0.00%
	≥ 1.50:1.00 but < 2.00:1.00		
III	≥ 2.00:1.00 but < 2.50:1.00	1.25%	0.25%
IV	≥ 2.50:1.00	1.50%	0.50%
V	≥ 2.50:1.00	1.75%	0.75%

Figure 2b

<u>S&P Rating/ Moody's Rating</u>	<u>ABR Spread</u>	<u>Eurocurrency Spread</u>
<u>Category 1</u> A-/A3 or higher	—%	0.925%
<u>Category 2</u> BBB+/Baa1	0.025%	1.025%
<u>Category 3</u> BBB/Baa2	0.25%	1.25%
<u>Category 4</u> BBB-/Baa3	0.325%	1.325%

Performance pricing accordingly is a type of automatic, ex ante performance sensitivity negotiated prior to the loan transaction is closed. In the case of interest-increasing arrangements, performance pricing decreases the risk of the loan to counteract a decrease in the performance of the borrower. A higher interest rate compensates the lender for the increase in borrower risk. In the case of interest-decreasing arrangements, reducing

the interest rate in response to improved performance tailors the loan to be more in line with what the borrower could receive at a market rate, and reduces incentives for the borrower to prepay, refinance, or attempt to renegotiate a lower interest rate.

ii. Collateralization

Securing a loan with collateral (collateralization), typically an asset owned by the borrower, is a basic creditor governance mechanism. Collateralization can help reduce potential losses to lenders because collateral can be sold and used to repay the loan if a borrower does not have enough cash.⁷⁶ A primary justification for the use of collateral is that collateralization is a mechanism to reduce agency costs. In particular, collateralization can reduce adverse selection costs by allowing higher quality borrowers to pledge collateral to signal their quality and thereby help lenders screen borrowers.⁷⁷ Other theories argue that collateral is used to mitigate the effects of moral hazard (including risk-shifting and reduced effort)⁷⁸ or the difficulty of enforcing contracts.⁷⁹ Empirical studies find that companies that pledge (more) collateral tend to be riskier.⁸⁰

The use of collateral by itself is a blunt instrument in terms of performance sensitivity. However, there are two ways in which collateral makes loans more performance sensitive. First, using collateral assists lenders in tailoring their risk exposure *ex ante* because lenders are willing to make larger or longer-duration loans to borrowers that pledge collateral with higher liquidation values.⁸¹ Collateral puts a lower bound of a

76. Tung, *supra* note 11, at 145 n.132.

77. Effi Benmelech & Nittai Bergman, *Collateral Pricing*, (AFA 2008 New Orleans Meetings Paper, January 2007), available at <http://ssrn.com/abstract=960787> [hereinafter Benmelech & Bergman]; Gabriel Jiménez et al., *Determinants of Collateral* 32 (EFA 2004 Maastricht Meetings, Working Paper No. 1455, 2004), available at <http://ssrn.com/abstract=565343>.

78. Aghion & Bolton, *supra* note 41; Bengt Holmstrom & Jean Tirole, *Financial Intermediation, Loanable Funds, and The Real Sector*, 112 QRTLY. J. ECON. 663 (1997) [hereinafter Holmstrom & Tirole].

79. John H. Boyd & Bruce D. Smith, *How Good are Standard Debt Contracts? Stochastic Versus Nonstochastic Monitoring in a Costly State Verification Environment*, 67 J. BUS. 539 (1994).

80. See generally Allen N. Berger & Gregory Udell, *Collateral, Loan Quality and Bank Risk*, 25 J. MONET. ECON. 21 (1990) (finding that “collateral is most often associated with riskier borrowers, riskier loans and riskier banks”).

81. Efraim Benmelech, *Asset Salability and Debt Maturity: Evidence from 19th Century American Railroads*, 22 REV. FIN. STUDIES 1545 (2009); Efraim Benmelech, Mark J. Garmaise & Tobias J. Moskowitz, *Do Liquidation Values Affect Financial Contracts? Evidence from Commercial Loan Contracts and Zoning Regulation*, 120 QUARTERLY J. ECON 1121 (2005); Oliver Hart & John Moore, *A Theory of Debt Based on the Inalienability*

creditor's possible loss (i.e., at the liquidation value of collateral).⁸² Collateral may also increase performance sensitivity indirectly to the extent it creates more incentives to monitor. For example, collateral agreements may give lenders the ability to demand additional collateral.⁸³ On the other hand, monitoring and collateral may be substitutes to the extent there is less of an incentive to monitor secured loans due to the very fact that the lender can resort to the collateral in case of borrower default.⁸⁴ There is conflicting evidence regarding whether using collateral or monitoring is a lower cost form of governance.⁸⁵

Second, collateralization is a performance-sensitive debt characteristic when the terms of the loan adjust to the value of the borrower's assets. For example, the size of the loan may increase if the value of the collateral increases, and vice versa. In addition, the size of the loan may be required to have a fixed ratio to the value of the collateral in an attempt to keep the lender's risk constant, despite changes in the value of the collateral. A loan may also contain covenants that are triggered if there is a significant drop in the value or credit ratings of the collateral. In such a case the borrower may be required to post additional collateral or repay the loan upon demand of the lender.

In practice, there are several types of performance sensitive collateralization arrangements. One type is "margin financing," which consists of financing the purchase of stocks or bonds with funds borrowed from a broker and having the purchased securities serve as collateral. Under such an arrangement, the broker will demand additional collateral (i.e., the securities) or cash if the value of the collateral falls below a pre-established level. A similar arrangement is also made in futures, swaps, and other derivatives transactions. For example, in a swaps transaction, one party will post collateral at the outset of the transaction. At least daily, the value of the position will be re-evaluated and obligate the party on the side of the trade with the lower value to post additional collateral.⁸⁶

of Human Capital, 109 QUARTERLY J. ECON. 841 (1994); Benmelech & Bergman, *supra* note 77.

82. However, the liquidation value of the collateral may decrease over the life of loan or be worth more to the borrower than the lender. Roberts & Sufi, *supra* note 63.

83. Rajan & Winton, *supra* note 59.

84. Michael Manove et al., *Collateral vs. Project Screening: A Model of Lazy Banks*, (Ctr. For Studies in Econ. and Fin., Working Paper No. 10, 2001), available at <http://www.csef.it/WP/wp10.pdf>.

85. See Aaron A. Goetsmann & Gordon S. Roberts, *Bank Relationships and Collateralization*, in CAPITAL STRUCTURE AND CORPORATE FINANCING DECISIONS: THEORY, EVIDENCE, AND PRACTICE 287-80 (Baker and Martin eds. 2011).

86. See Shadab, *supra* note 9, at 1041-42 (providing an overview of how collateral works as a governance mechanism).

In the commercial loan context, collateral financing takes the form of an asset-based loan in which the available amount of credit is limited to a specified percentage of eligible assets that make up the loan's "borrowing base." If the value of the borrowing base falls below that of outstanding loans, the borrower is typically required to repay or collateralize (with cash) the deficiency.⁸⁷ Asset-based loans as a type of performance-sensitive debt are analyzed in depth in Section III.

4. Lines of Credit

A line of credit is a specified amount of funds that a borrower may borrow in separate discrete amounts up until the maximum (the "line") for a specific amount of time (typically, a year). In a *committed* line of credit, the lender is obligated to lend up until the line and would be in default to the borrower for not doing so. The borrower only pays interest on the amount they have actually borrowed under the line, and not the total amount available.⁸⁸ In a *revolving* line of credit, a borrower can borrow and repay any amount borrowed, usually for a specific time period of two to three years. A line of credit can benefit borrowers because, with a credit line, a borrower does not have to pay interest on funds it has not drawn down. A credit line also benefits lenders because it may reduce the agency costs that arise from managers having access to a surplus of cash.

Theories of credit lines often focus on the choice of obtaining liquidity through cash or a line of credit. These theories argue that lines of credit can be more efficient in helping firms manage their short-term liquidity needs than holding cash, largely by providing a form of insurance against cash flow disruptions.⁸⁹ Agency theory also suggests that lines of credit are uniquely available from banks and other specialized lenders because they are able to bear the relatively higher monitoring costs and other costs associated with administering credit lines.⁹⁰

87. *Borrowing Base: Overview (2013)*, PRACTICAL LAW (Apr. 14, 2014 3:44 AM), <http://us.practicallaw.com/2-501-4029?source=relatedcontent> [hereinafter Practical Law]

88. FRANK J. FABOZZI, *THE COMPLETE CFO HANDBOOK: FROM ACCOUNTING TO ACCOUNTABILITY* 88 (2007). If the line of credit is committed, the borrower also pays a commitment fee (typically calculated as a percentage of the outstanding amount not borrowed) or is required to keep a cash balance in a separate account (known as a compensating balance). *Id.*

89. See generally Holmstrom & Tirole, *supra* note 78.

90. See generally Evan Gatev & Philip Strahan, *Banks' Advantage in Hedging Liquidity Risk: Theory and Evidence from the Commercial Paper Market*, 61 J. FIN. 867 (2006) (examining how banks are able to hedge against liquidity shocks affecting entire markets); Anil Kashyap et al., *Banks as Liquidity Providers: An Explanation for the Coexistence of Lending and Deposit-Taking*, 57 J. FIN. 33 (2002) (examining how banks

A line of credit by itself is generally not performance sensitive. A decrease in a borrower's creditworthiness will not necessarily decrease the amount already outstanding to the borrower or the size of the credit facility. There are, however, several ways in which a line of credit depends on the creditworthiness of the borrower.⁹¹ First, a line of credit may be contingent on a borrower's compliance with loan covenants. In addition to demanding immediate repayment of the entire loan facility, violations of covenants may allow the lender to decrease the size of the line of credit or negotiate other provisions of the loan to protect themselves. Lines of credit also typically have material adverse change clauses that allow a lender to withhold funds if the borrower undergoes a significant decrease in creditworthiness. The amount of funds available under a credit line may also be tied to the value of the assets that secure the facility. In an asset-based loan, a borrowing base provision ties the size of the credit line to value of certain assets, causing the size of the credit facility to fluctuate based on the assets' value.

II. IMPLICATIONS OF PERFORMANCE-SENSITIVE DEBT

This Section considers how my theory of performance-sensitive debt interacts with three bodies of academic finance literature: incomplete contracting, the economics of renegotiation, and capital structure research. These literatures support the proposition that performance-sensitivity is an efficiency enhancing governance mechanism for high-risk borrowers. This Section also considers how performance sensitivity, despite increasing efficiency, may increase the ability of lenders to be opportunistic and benefit themselves at the expense of borrowers. Subsequent Sections of this Article apply the ideas developed in this Section by analyzing performance-sensitive asset-based loans in general and when made to high-risk startups in particular.

A. *Theoretical Implications*

1. Incomplete Contracting

A central tenet of the theory of incomplete contracts is that all real-world contracts are incomplete to some extent due to factors including

provide liquidity on demand).

91. See generally Amir Sufi, *Bank Lines of Credit in Corporate Finance: An Empirical Analysis*, 22 REV. FIN. STUD. 1057 (2009) (explaining how banks are only viable liquidity substitutes for organizations with high cash flow).

imperfect knowledge (bounded rationality), the inability for third parties to verify future states of the world (and hence enforce contract terms), the upfront costs of negotiating, and the ex post costs of monitoring.⁹² A contract is complete to the extent it makes obligations contingent on circumstances, a property known as state-contingency.⁹³

Ex ante performance sensitivity is a form of contractual completeness because the terms of the agreement are contingent upon the borrower's performance. Contracts with performance pricing and borrowing base provisions are *more* complete than contracts that do not adjust the terms of the agreement in relation to the performance of the borrower.

Contract theorists argue that transaction costs and property rights determine the relative completeness of efficient contracts.⁹⁴ This research also finds that complete contracts are more efficient when (1) future states are third-party verifiable (and hence enforceable);⁹⁵ (2) renegotiation is costly; (3) or monitoring costs are low. In general, incomplete contracting research supports direct empirical findings that performance-sensitive contracts are more efficient when agency costs or transaction costs are high.⁹⁶

92. See Benjamin E. Hermalin et al., *Contract Law*, in 1 HANDBOOK OF LAW AND ECONOMICS, 63, 70-75 (A. Mitchell Polinsky & Steven Shavell eds., 2007) [hereinafter Hermalin] (discussing how the desirability of contract liability depends on the ex post bargaining situations of the parties). See generally George Hendrikse & Josef Windsperger, *Determinants of Contractual Completeness in Franchising*, in NEW DEVELOPMENTS IN THE THEORY OF NETWORKS: FRANCHISING, COOPERATIVES AND ALLIANCES 13 (Mika Tuunanen et al. eds., 2011) [hereinafter Hendrikse & Windsperger] (examining what determines whether a contract is complete).

93. See generally Gillian K. Hadfield, *Judicial Competence and the Interpretation of Incomplete Contracts*, 23 J. LEGAL STUD. 159 (1994) (examining whether the judicial system is competent in filling in contract ambiguities and how it does so); Alan Schwartz, *Relational Contracts in the Courts: An Analysis of Incomplete Agreements and Judicial Strategies*, 21 J. LEGAL STUD. 271 (1992) (examining how judges address relational and incomplete contracts).

94. See Hendrikse & Windsperger, *supra* note 92, at 13 (explaining how contract completeness is determined and some factors that are examined).

95. See Hermalin, *supra* note 92, at 63 (discussing the formal conditions of contractual completeness).

96. See generally Asquith et al., *supra* note 42 (examining the relationship between bank debt interest rate spreads and contracts with performance pricing). See Ilia D. Dichev et al., *The Role and Characteristics of Accounting-based Performance Pricing in Private Debt Contracts 2* (June 2002) (unpublished manuscript) (on file with Social Sciences Research Network), available at <http://ssrn.com/abstract=318399> (arguing that "performance pricing improves the efficiency of contracting by reducing renegotiation costs and renewal costs, alleviating agency costs, and allowing for longer life contracts"). See generally J.L. Souza, *Effectiveness of Commercial Debt Pricing Using Alternate Pricing Structures* (Working Paper, 2012), available at <http://ssrn.com/abstract=2135714> (stating that performance pricing is efficient and reduces agency costs); Karan Bhanot & Antonio S.

First, relatively complete performance-sensitive debt contracts are indeed third-party verifiable. Performance pricing and borrowing bases rely on verifiable outcomes; namely, the measurable performance of the borrower and the market value of the borrowing base assets.

Second, performance sensitivity lowers renegotiation costs because it automatically adjusts the exposure of the lender to the borrower—without having to renegotiate any contract terms. Doing so should increase contracting efficiency because contracts with less room for (Pareto-improving) renegotiation are more efficient. Indeed, a major force driving the widespread adoption of performance pricing provisions in the 1990s was to save on the transaction costs of renegotiating loan contracts.⁹⁷ Empirical studies also find that performance pricing is associated with less room for mutually beneficial renegotiation,⁹⁸ implying that such provisions are more efficient. In addition, Tim Adam and Daniel Streitz found that covenants are looser if performance pricing provisions are used. This finding implies that performance pricing is a substitute for covenant-related renegotiation,⁹⁹ an implication that is consistent with creditor governance devices being tradeoffs with one another.

Third, because performance sensitivity requires costly monitoring to implement, such contracts are far more likely to be efficient if monitoring costs are low—just as incomplete contracting research suggests. However, there may be an efficient equilibrium where contracts combine monitoring

Mello, *Should Corporate Debt Include a Rating Trigger?*, 79 J. FIN. ECON. 69 (2006) (examining the incentives for including a rating trigger); Gustavo Manso et al., *Performance-Sensitive Debt*, REV. FIN. STUDIES (2010), available at <http://faculty.haas.berkeley.edu/manso/psd.pdf> (examining performance-sensitive debt); Kamphol Panyagomet et al., *Performance Pricing Covenants and Corporate Loan Spreads* (Working Paper, 2013), available at <http://ssrn.com/abstract=2255061> [hereinafter Kamphol Panyagomet et al.] (finding that interest rates are lower for interest-increasing performance pricing loans).

97. See Ivan T. Ivanov, *Essays on Debt Financing and Financial Distress* 6 (2012) (unpublished Ph.D. dissertation, University of Rochester), available at <https://urresearch.rochester.edu/institutionalPublicationPublicView.action?institutionalItemId=24470> (“Discussions with practitioners revealed that saving on renegotiation costs was one of the primary reasons for the trend towards widespread adoption of performance pricing in the bank debt market in the early 1990s.”).

98. *Id.* See also Valeri V. Nikolaev, *Scope for Renegotiation in Private Debt Contracts* 22 (Working Paper, 2013), available at <http://ssrn.com/abstract=2012526> [hereinafter Nikolaev] (examining the relationship between conflicts in negotiating contracts and debt contract renegotiations).

99. See Tim R. Adam & Daniel Streitz, *Bank Lending Relationships and the Use of Performance Sensitive Debt* 3-4 (SFB 649 Discussion, Working Paper No. 2013-027, 2013), available at <https://www.econstor.eu/dspace/bitstream/10419/79608/1/746444923.pdf> [hereinafter Tim R. Adam & Daniel Streitz] (demonstrating that performance-sensitive debt decreases hold-up problems in relationships involving repeated interaction).

and contractual completeness. Performance pricing is a way to reveal information and overcome informational asymmetries.¹⁰⁰ That is, it may be efficient to undertake costly monitoring in the presence of a relatively complete contract because the benefits to the lender in the form of having performance-sensitive debt contract outweigh the additional monitoring costs. The foregoing is also supported by a model developed by Alexei Tchisty, who argues that performance pricing is an optimal contract in the presence of an opportunistic manager with more information than the lender.¹⁰¹

A final important aspect of the relationship between contract efficiency and performance-sensitive debt is that empirical studies suggest that performance sensitivity creates more efficient contracts in the context of high-risk borrowers. Adam and Streitz find that (accounting-based) performance pricing provisions are more likely to be found in a long-term, repeated lending relationship and with less established firms that have fewer outside financing options.¹⁰² Although the authors interpret these findings as borrowers attempting to protect themselves against being held up by lenders in renegotiation, the findings are also consistent with performance sensitivity being used by lenders for firms that are the riskiest or have the most informational asymmetries. Asquith et al. find that interest-increasing performance pricing is more likely to be used in loans if the borrower is more likely to experience a decline in credit quality, especially for loans where the borrower can increase their borrowings with lender approval.¹⁰³ With respect to borrowing base provisions, empirical evidence finds that the provisions are used by firms with higher risk and informational asymmetry¹⁰⁴ and that the use of borrowing base provisions increases as creditworthiness decreases.¹⁰⁵ Empirical evidence also finds that performance-sensitive borrowing base provisions are associated with a larger scope for mutually beneficial renegotiation, which provides additional support that borrowing bases are best for high-risk firms that

100. See Kamphol Panyagomet et al., *supra* note 96, at 26 (finding that “[p]erformance pricing covenants . . . are predicted to reduce loan spreads as they serve to control costs associated with asymmetric information . . .”).

101. See generally Alexei Tchisty, *Security Design with Correlated Hidden Cash Flows: The Optimality of Performance Pricing* (Haas School of Business, University of California, Berkeley, Working Paper, 2013), available at <http://faculty.haas.berkeley.edu/Tchisty/MD.pdf> (examining optimal security design in instances where project managers can divert cash flows for personal use).

102. Tim R. Adam & Daniel Streitz, *supra* note 99, at 3-4.

103. Asquith et al., *supra* note 42.

104. Mark J. Flannery & Xiaohong (Sara) Wang, *Borrowing Base Revolvers: Liquidity for Risk Firms*, (Working Paper, 2011), available at <http://ssrn.com/abstract=1741306>.

105. Rauh & Sufi, *supra* note 50, at 4270-71

lenders should expect to learn about over time.¹⁰⁶

2. Loan Renegotiation and Efficiency

Renegotiating a loan contract before maturity is an ex post form of performance sensitivity that seems to generally increase contract efficiency. Renegotiation is efficient when it allows the parties to strike a better bargain based upon changed circumstances or new information. This is usually the case when renegotiation is cheap and incorporates new information about the borrower and hence presents an opportunity for the parties to adjust the agreement to better reflect the true risk of the loan.¹⁰⁷ There tends to be more room for efficient (Pareto-improving) renegotiation when there are high informational asymmetries and agency conflicts are likely.¹⁰⁸

Renegotiation may be inefficient when the costs of renegotiation are high, borrowers possess informational advantages over lenders,¹⁰⁹ or multiple creditors create collective action problems.¹¹⁰ Renegotiation may also be inefficient because, if renegotiation in favor of the lender is anticipated at the time of contracting, it may lead the borrower to underinvest and not expend as much effort as it otherwise would have to avoid having its profits appropriated by a lender with bargaining power (the hold-up problem).¹¹¹

More or tighter covenants create more potential for covenant breaches, and hence increase the likelihood of renegotiation.¹¹² Theory and evidence on the use of debt covenants suggests that renegotiation after breach of a covenant is an efficiency enhancing activity. Debt covenants are tighter the more borrowers know about projects than lenders and the more costly it is to become informed.¹¹³ Indeed, as lenders learn more about borrowers through repeated borrowings, lenders reduce covenants.¹¹⁴ These findings

106. Nikolaev, *supra* note 98, at 22-23.

107. *See id.* at 7-9.

108. Ivanov, *supra* note 67.

109. There is less scope for renegotiation the more there is informational asymmetry. Nikolaev, *supra* note 98, at 7-9.

110. Klaus M. Schmidt, *The Economics of Covenants as a Means of Efficient Creditor Protection*, 7 EURO. BUS. ORG. L. REV. 89, 90 (2006).

111. *Id.*

112. Renegotiable contracts also have tighter covenants because lenders know they can be relaxed later. Mitchel Berlin & Loretta J. Mester, *Debt Covenants and Renegotiation*, 2 J. FIN. INTER. 95 (1992) [hereinafter Berlin & Mester].

113. Nicolae Garleanu & Jeffrey Zwiebel, *Design and Renegotiation of Debt Covenants*, 22 REV. FIN. STUD. 749 (2009); Park, *supra* note 47; Prilmeier, *supra* note 64, at 5 (covenant tightness decreases the closer the relationship between debtors and creditors).

114. Prilmeier, *supra* note 64, at 4-5. Covenant tightness contains private information

indicate that there are more or tighter covenants when lenders know less about borrowers and want to reserve the right to renegotiate. Renegotiation accordingly seems to progressively reveal more information about borrowers to create more efficient contracts.¹¹⁵

The fact that borrowers' earnings and stock price improve after covenant violations¹¹⁶ also suggests that performance sensitivity through renegotiation is efficiency enhancing. Contracts with more or tighter covenants generally have more room for value-enhancing (efficient) renegotiation.¹¹⁷ In addition, negative covenants are more valuable when borrowers are more likely to impose moral hazard agency costs on lenders (such as risk-shifting, excessive dividends, and over or under-investment).¹¹⁸ Part of the value likely stems from lenders wanting to renegotiate the covenants in their favor if they are violated.

Performance sensitivity through renegotiation seems particularly valuable for higher risk borrowers. Sufi and Rauh, for example, find a sharp increase in covenant usage as a borrower's credit quality decreases.¹¹⁹ For high-risk borrowers, value-enhancing renegotiation that reduces information problems and agency costs takes place almost continuously.¹²⁰ Indeed, high-risk borrowers likely benefit the most from renegotiation because it generally results in more borrower-friendly terms.¹²¹ For example, a lender may initially set loan terms too strict to compensate for a potential decrease in a high-risk borrower's performance over the life of the loan.¹²² Nonetheless, any problems a lender has estimating the borrower's decrease in performance can be mitigated by setting covenants tightly so that they are likely to be renegotiated.¹²³

about the firm's prospects, but covenant intensity does not. *Id.* at 6; Demiroglu & James, *supra* note 66.

115. Boot, *supra* note 53.

116. Nini et al., *supra* note 58.

117. The particular covenants are those that constrain managers and certain financial covenants. Nikolaev, *supra* note 98.

118. Michael Jensen & William H. Meckling, *Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure*, 3 J. FIN. ECON. 305 (1976); Stewart C. Meyers, *The Determinants of Corporate Borrowing*, 5 J. FIN. ECON. 147 (1977); Smith & Warner, *supra* note 29.

119. Rauh & Sufi, *supra* note 50, at 4270.

120. Nikolaev, *supra* note 98, at 4-8.

121. See Berlin & Mester, *supra* note 112 (finding that "firms with high ex ante credit risk find the option to renegotiate most valuable").

122. See Asquith et al., *supra* note 42.

123. Dichev & Skinner, *supra* note 70.

3. Capital Structure

My theory of performance sensitivity draws upon, has implications for, and challenges existing theories of corporate finance and debt contracting. Capital structure refers to a fundamental characteristic of any firm; namely, the ratio of its debt to equity. Capital structure theory investigates why firms adopt a particular capital structure and the efficiency of doing so.¹²⁴ My theory casts a new light on capital structure theory, and posits that capital structure decisions take into account the performance sensitivity of the instruments available to firms. Borrowers with higher risk or agency costs will raise capital with the most performance sensitive instruments—debt with robust covenants, performance pricing provisions, or borrowing base clauses. To properly assess the role of performance sensitivity, we must compare not only the ratio of debt to equity but also the *types* of debt, which may be more or less performance sensitive.

The basis of much capital structure theory is the Modigliani–Miller irrelevance principle first developed in 1958. It posits that under certain assumptions a firm’s choice between debt and equity is irrelevant to its value.¹²⁵ These assumptions, including perfectly efficient markets and the lack of taxes, bankruptcy, or agency costs, are highly unrealistic. Moreover, the Modigliani–Miller irrelevance principle implicitly assumes that financial instruments do not vary in their degree of performance sensitivity. Due to the principle’s lack of realism, several other capital structure theories have developed in the years since the principle was first developed.

According to the trade-off theory, a firm’s choice of capital structure represents a tradeoff between the actual costs and benefits to the firm from financing with either debt or equity. The most important tradeoffs include the tax deduction and agency cost reduction of debt financing versus the increased bankruptcy cost of additional leverage.¹²⁶ According to the

124. Based on a sample of 1889 public non-financial companies, Rauh and Sufi found that the average debt to capital ratio was 50 percent and that bonds and bank debt make up 19 percent and 13 percent of the capital structure, respectively. Rauh & Sufi, *supra* note 50. In terms of priority, they found that on average 25 percent of a firm’s capital structure consists of unsecured debt, 15 percent is made up of secured debt, and subordinated debt (mostly bonds and convertible debt) makes up 11 percent. *Id.* Most firms use more than one type of debt financing and about a quarter make a significant change in their debt structure over time. *Id.*

125. Franco Modigliani & Merton H. Miller, *The Cost of Capital, Corporation Finance and the Theory of Investment*, 48 AM. ECON. REV. 261 (1958).

126. Stewart C. Myers & Nicholas S. Majluf, *Corporate Financing and Investment Decisions When Firms Have Information That Investors Do Not Have*, 13 J. FIN. ECON. 187

pecking-order theory, a firm's capital structure reflects the general preference of firms for funding themselves first with their own profits, then debt, and then equity—in that order.¹²⁷ This “pecking order” is driven by manager-investor informational asymmetries, and also by agency conflicts, and taxes.¹²⁸ For example, when investors perceive that managers have more information than they do, they will create an adverse selection problem and underprice the firm's equity securities, which gives the firm a preference for debt over equity.¹²⁹ According to the signaling theory of capital structure, firms use their capital structure to signal quality about themselves and thereby overcome asymmetric information.¹³⁰ For example, debt is issued by firms to signal high quality as reflected in their ability to pay it back.¹³¹

Focusing on performance sensitivity has implications for all of these theories. First, it suggests that an additional important tradeoff between debt and equity are the costs and benefits of using performance-sensitive financing. As noted earlier,¹³² firms that expect their performance to improve may benefit from financing with performance-sensitive debt because improved performance means their interest rate or other terms of the loan will become more attractive. Second, my theory also challenges the pecking order theory because it suggests that in some cases informational asymmetries may make a firm prefer equity over debt. For example, an informationally opaque borrower may prefer to issue relatively costly equity than agree to a performance-sensitive loan that may trap it with higher interest rates if its performance declines. Third, my theory bolsters signaling theory because it suggests that firms attempt to signal quality through performance sensitive debt not only because they have to pay it back, but also because issuers are willing to commit to having their capital taken away or become more costly due to their increased risk over the life of the loan. Consistent with this explanation is a study of performance-sensitive debt finding that borrowers agree to performance pricing to signal their quality to lenders and are rewarded with larger and

(1984) [hereinafter Myers & Majluf].

127. *Id.*

128. Stewart C. Myers, *Financing of Corporations*, in 1A HANDBOOK OF THE ECONOMICS OF FINANCE: CORPORATE FINANCE (Constantinides & Stulz eds. 2003); J.B. Heaton, *Managerial Optimism and Corporate Finance*, 31 FINANCIAL MANAGEMENT 33 (2002).

129. Myers & Majluf, *supra* note 126.

130. See Stephen A. Ross, *The Determination of Financial Structure: The Incentive-Signaling Approach*, 8 BEL. J. ECON. 23 (1977).

131. *Id.*

132. See *infra*, Section I.A.

cheaper loans.¹³³

Other theories and findings in corporate finance are consistent with my claim that firms with lower creditworthiness tend to issue more performance sensitive debt. One theory is that firms switch to using non-performance sensitive debt (i.e., bonds) from performance sensitive bank debt as their credit quality improves.¹³⁴ One explanation for this is that high quality borrowers can borrow at arm's length in capital markets and not bear costs associated with bank monitoring.¹³⁵ But another explanation is based on performance sensitivity: lenders are not willing to extend credit to low-quality firms unless their outstanding risk adjusts to the performance of borrowers. The need for performance sensitivity also explains why the greater monitoring intensity found in private debt compared to bonds is higher with lower quality firms.¹³⁶ Sufi and Ruah find that while lower quality firms rely on a mix of different types of debt instruments, higher quality investment grade firms rely on senior unsecured debt and equity. In other words, lower quality firms have much less access to unsecured debt that lacks performance sensitivity.¹³⁷ Lower quality firms rely on bank debt, which is performance sensitive because it has tight covenants and (most likely) performance pricing provisions.¹³⁸ Likewise, when firms' credit ratings are downgraded, they increasingly rely on bank debt.¹³⁹ Accordingly, borrowers' use of more or less performance sensitive debt is consistent with such debt being used by higher risk borrowers.

B. Creditor Opportunism

Performance sensitive contracts may either increase or decrease the

133. Taylor A. Begley, *Signaling, Financial Constraints, and Performance Sensitive Debt*, (Working Paper, 2013), available at <http://ssrn.com/abstract=2140217> (find[ing] that constrained firms that use convex pricing grids receive loans that are 21-28% larger with a spread that is 31-37 basis points lower than observationally similar borrowers that use fixed spread loans"). Bannier and Wiemann argue that only credit ratings-based performance pricing, and not accounting-based performance pricing, are used to signal a borrower's quality because the former provide for larger spread reductions. Christina E. Bannier & M. Wiemann, *Performance Pricing in Bank Loan Contracts—Accounting-Based Versus Rating-Based Pricing Designs*, (Working Paper, 2013), available at <http://ssrn.com/abstract=2141797>.

134. Arnold W. A. Boot & Anjan V. Thakor, *Financial System Architecture*, 10 REV. FIN. STUDIES 693 (1997).

135. Douglas W. Diamond, *Monitoring and Reputation: The Choice Between Bank Loans and Directly Placed Debt*, 99 J. POL. ECON. 689 (1991).

136. Rauh & Sufi, *supra* note 50, at 4273.

137. *Id.*

138. *Id.*

139. *Id.*

ability of creditors to engage in opportunistic behavior against borrowers. Creditor opportunism is conduct taken by a creditor to obtain a benefit, such as higher interest rates or tighter covenants, not explicitly or implicitly agreed upon by the initial agreement.¹⁴⁰ Creditor opportunism typically consists of creditors taking advantage of a distressed borrower in a way that benefits themselves at the expense of the debtor.¹⁴¹ Creditor opportunism may arise more generally because the informational advantages a lender obtains after having a long-term relationship with a borrower allow the lender to take advantage of the fact that the borrower will incur additional costs if it tries to obtain a new lender.¹⁴²

The greater the likelihood or scope for renegotiation, the more likely it is that lenders will be able to behave opportunistically. This is because lenders with a credible threat of liquidation may be able to renegotiate the loan in their favor. However, such renegotiation may be inefficient due to causing the borrower to increase its risk taking activities subsequent to the renegotiation to compensate for having to share more of its profits with then lender.¹⁴³ It may also cause inefficiencies because the mere prospect of having to share more profits with a lender than originally anticipated can reduce the incentives of borrowers to engage in profitable projects.¹⁴⁴

However, ex ante performance sensitive contracts in the form of performance pricing and collateralization may reduce the ability for creditors to act opportunistically. Ex ante performance sensitivity reduces the scope of renegotiation by setting at the outset of the contract what debtor or asset distress may do to the interest rate or loan amount. The impact of borrower distress on certain aspects of the loan is already determined such that creditors cannot take advantage of the distress. In addition, to the extent that ex ante performance sensitivity is generally a tradeoff with tighter or more extensive covenants, performance sensitive loans will be less likely to be renegotiated in favor of the creditor in the first place. On the other hand, because collateral-financed performance sensitive loans require giving the lender a security interest in assets that determine the size of the loan obligation, the loans may increase creditor

140. Daniel R. Fischel, *The Economics of Lender Liability*, 99 YALE L.J. 131, 138 (1989).

141. Jonathan C. Lipson, *Controlling Creditor Opportunism*, 9 (Univ. of Wisconsin Legal Studies Research Paper No. 1129, 2010), available at <http://ssrn.com/abstract=1662127>.

142. Jan Mahrt-Smith, *Should Banks Own Equity Stakes in Their Borrowers? A Contractual Solution to Hold-up Problems*, 30 J. BANK. FIN. 2911 (2006).

143. Gary Gorton & James Kahn, *The Design of Bank Loan Contracts*, 13 REV. FIN. STUD. 331, 340 (2000).

144. Raghuram G. Rajan, *Insiders and Outsiders: The Choice between Informed and Arm's-length Debt*, 47 J. FIN. 1367 (1992).

opportunism because the use of collateral exacerbates the hold-up problem.¹⁴⁵ Specific aspects of asset-based lender opportunism are discussed in Section IV.C.

III. ASSET-BASED LENDING

This Section focuses on a unique type of performance-sensitive debt in the form of asset-based loans. It builds upon the previous Sections by analyzing the real-world application of a loan that utilizes several of the creditor governance mechanisms of performance-sensitive debt analyzed in Section I; namely, monitoring and screening, performance pricing, lines of credit, and collateral-based finance in the form of a borrowing base. Asset-based loans embody many of the principles identified in Section II regarding the efficiency of performance-sensitive loans: asset-based loan structures reduce agency costs by disciplining borrowers and providing a constant flow of information to lenders. The use of asset-based loans is also consistent with the general principle of financial law that loans with strong protections for creditors are uniquely available to high-risk borrowers.

A. *Basic Structure*

Asset-based lending is a type of debt finance that involves making a revolving line of credit available to a borrower based on the value of its assets.¹⁴⁶ It is performance sensitive because any particular time the amount of funds made available to a borrower (i.e., the size of the credit facility) may change depending on the performance of the collateral in the borrower's borrowing base. If the value of the collateral increases, additional funds will be made available to the borrower, and vice versa. Consistent with what is predicted by theories of creditor monitoring,¹⁴⁷ asset-based lending takes the form of a senior, secured loan. An asset-based lender has first priority recourse to collateral if the borrower cannot satisfy its debt obligation.¹⁴⁸ However, in a typical secured loan, which is

145. *See infra*, Section I.E.

146. A line of credit is revolving, meaning the amount of outstanding funds actually used by the borrower (the borrower's balance) increases or decreases over time depending on whether an advance is made to the borrower or the borrower pays down a portion of the loan balance. GE CAPITAL, GUIDE TO ASSET BASED LENDING 9 (1999), http://www.gelending.com/Clg/Resources/PDF/guide/asset_guide.pdf; ROBERT T. SLEE, PRIVATE CAPITAL MARKETS: VALUATION, CAPITALIZATION, AND TRANSFER OF PRIVATE BUSINESS INTERESTS 315 (2011) [hereinafter *Slee*].

147. *See supra* notes 48-50 and accompanying text.

148. *Slee, supra* note 146.

non-asset-based, the primary determinant of the size and terms of a loan are the cash flows and overall financial strength of the borrower at the entity-level, and collateral is only resorted to for repayment as a last resort. By contrast, asset-based lending is different than typical secured loans due to the additional prominence played by collateral. In an asset-based loan, the value of the collateral determines the size of the loan and the collateral is the primary source of repayment.¹⁴⁹

The asset-based loan industry consists of a three-tier structure differentiated by the level of risk the lenders are willing take on and the size of the loans they make. Lenders in the first tier consist of asset-based lending divisions of major commercial banks.¹⁵⁰ They generally make loans of \$15 million and larger to the most stable borrowers and charge an interest rate at two percent above the prime rate.¹⁵¹ Second or mid-tier asset-based lenders generally make loans of \$3 to \$15 million at an interest rate of the prime rate plus four percent.¹⁵² Finally, third tier asset-based lenders generally make loans smaller than \$3 million and charge the prime rate plus 9 percent.¹⁵³ Third tier asset-based lenders are comprised of independent commercial finance companies and are the most concerned with the liquidation value of the collateral and the least with the earnings of the borrower; they are even willing to lend to borrowers with a negative earning capacity. Third tier asset-based lenders have the loosest financial covenants, engage in the most intense monitoring, and may reserve the right to call the loan at any time with adequate notice.¹⁵⁴

B. Monitoring in Asset-Based Loans

As discussed in Section I,¹⁵⁵ screening and monitoring are prerequisites for undertaking performance sensitive lending. For asset-based loans, screening assets and monitoring their value are two defining aspects of the loan. By contrast, in typical secured (i.e., non-asset-based) loans, lenders do not engage in the type of intense collateral monitoring as they do in asset-based lending. In an asset-based loan, the collateral is screened by lenders before becoming part of the borrowing base and it is actively monitored after the loan is made. Active monitoring of loan collateral is consistent with my observation above that performance

149. GREGORY F. UDELL, *ASSET-BASED FINANCE* 9-10 (2004) [hereinafter Udell].

150. Slee, *supra* note 146, at 322-23.

151. *Id.* at 321.

152. *Id.* at 327.

153. *Id.* at 330.

154. *Id.* at 329-30.

155. *See supra* Section I.B.1.

sensitive contracts are likely to include unique mechanisms for information production.¹⁵⁶ The two primary monitoring-related aspects of asset-based lending are *ex ante* availability analysis of collateral and *ex post* monitoring and investigation.

1. Collateral Screening

Availability analysis is the process by which the asset-based lender determines the amount of credit to make available to the borrower after analyzing the collateral being offered to secure the loan.¹⁵⁷ In valuing the collateral, an asset-based lender is concerned with the collectability or liquidation value of the collateral as opposed to its market value.¹⁵⁸ Collateral whose value is uncorrelated with the value of the company as a whole, and retains its value if the company becomes insolvent, is particularly attractive to asset-based lenders.

In determining the eligibility of assets to be included in the borrowing base, the lender will generally seek to exclude any assets that will not result in cash payment to the borrower or are difficult to liquidate.¹⁵⁹ When accounts receivable are used as collateral, the eligibility determination turns on an estimate of the extent to which receivables may be uncollectable.¹⁶⁰ The discount rate will be lower if the lender is less concerned with non-collectability (primarily in the form of dilution) and collection costs.¹⁶¹ According to Udell, specific factors impacting the discount rate include macro and local economic conditions, the credit strength of the borrower's particular accounts, and the borrower's gross profit margin.¹⁶² In general, the liquidation value of receivables is close to

156. See *supra* note 61 and accompanying text.

157. Udell, *supra* note 149, at 60-61.

158. Berger & Udell, *supra* note 16, at 313; UPS CAPITAL, GLOBAL ASSET-BASED LENDING, FREQUENTLY ASKED QUESTIONS, (2012), https://www.upscapital.com/solutions/app_docs/GABL-FAQ.pdf [hereinafter UPS Capital]; Practical Law Company, *Asset-based Loan Agreement: Borrowing Base Definitions* (2013) ("Asset-based lenders generally value inventory at below market sale prices when determining the amount of the loans that the inventory can support through the borrowing base."), <http://us.practicallaw.com/1-502-8687#a542520>; *Utilizing Contracts as Collateral in Asset-Based Lending*, ACCUVAL, March 2010 ("When using long-term contracts as collateral, their value should be considered as if they were under distress since that would be the most relevant value for the lender."), <http://www.accuval.net/insights/featuredarticle/detail.php?ID=60>.

159. Practical Law Company, *supra* note 87.

160. See also Slee, *supra* note 146, at 316-17 (describing the characteristics of receivables that may make them ineligible to be included in the borrowing base).

161. Slee, *supra* note 146, at 317-18.

162. Udell, *supra* note 149, at 66.

their face value and do not substantially diminish in the event of a company's insolvency.¹⁶³ When inventory is used as collateral, the eligibility determination turns on whether the inventory being used as collateral is in the borrower's possession, is owned free and clear of any legal encumbrances, and is in a salable condition.¹⁶⁴ The discount rate applicable to inventory is dependent on the liquidity of the inventory in question, and the difficulty of valuing the collateral in general and verifying its value over the life of the loan to ensure the loan-to-collateral ratio is consistent with the lender's determination.¹⁶⁵

2. Monitoring Covenants and Collateral

Monitoring plays a unique role in asset-based lending because of the covenants that lenders monitor and the prominence of collateral monitoring. Asset-based lending's unique emphasis on collateral monitoring is reflected in the financial ratios that asset-based lenders monitor in contrast to financial statement lenders. Asset-based lenders focus on ratios that evaluate collateral and not a company's overall creditworthiness. Asset-based lenders focus on ratios such as those measuring a company's decrease in accounts receivable collections (dilution) and ratios measuring the quality of its accounts.¹⁶⁶ The former category includes ratios such as the fraction of returned items sold on account. The latter includes ratios such as the fraction of accounts receivable over ninety days past due. Importantly, asset-based loans contain few, if any, financial covenants.¹⁶⁷ By contrast, the ratios focused on by financial statement lenders include financial covenants typically expressed in ratios that measure a company's liquidity, leverage, and profitability.¹⁶⁸

Monitoring plays a unique role in asset-based lending because monitoring collateral is particularly intense. In an asset-based loan, the collateral that is ultimately used to determine the size of the line of credit is

163. *Id.* at 72.

164. Udell, *supra* note 149, at 72; Slee, *supra* note 146, at 318.

165. Udell, *supra* note 149, at 73.

166. *Id.* at 9.

167. David Crumbaugh, *Are Asset-Based Loans The New Black?*, LATHAM & WATKINS (Sept. 17, 2013), <http://www.lw.com/thoughtLeadership/asset-based-loans-middle-market-deals> [hereinafter Crumbaugh] (stating that asset-based loans "are going to be done with either no financial covenants or a springing financial covenant that only gets tested when borrowing availability falls below a very small percentage of the revolving loan commitment"); Kyle Stock, *Asset-Based Lending Grows in Popularity*, WSJ.COM (Feb. 2, 2010) [hereinafter Stock].

168. Stock, *supra* note 167.

known as the borrowing base. Monitoring takes place by borrowers reporting the value of the borrowing base periodically (or whenever new funds are requested) in accordance with the agreed upon borrowing base formula. These reports will also typically include the value of the collateral underlying the borrowing base. Asset-based lenders typically monitor the collateral closely to make the largest possible loan under the terms of the agreement.¹⁶⁹ The nature and frequency of borrowing base and collateral reports depend on several factors, including the eligible assets, the capacity of the lender, and how close the borrower is to the maximum borrowing capacity.¹⁷⁰ Reports can range from daily to monthly. In the case of monitoring receivables collateral, the lender has daily information regarding the status of each of the borrower's receivables.¹⁷¹ In addition, assets with a greater price volatility or turnover are subject to more frequent collateral reporting.¹⁷² Borrowing base reports are reported using a form borrowing base certificate (attached to the loan agreement as an exhibit). Borrowing base reporting may be done by fax, email, or through an electronic platform. Typically, independent nonbank commercial lenders are better borrowing base monitors than banks.¹⁷³

The following is an example of a typical borrowing base certificate. It provides information to the lender about how much the borrowing base is worth and therefore the size of the borrower's credit line.¹⁷⁴

169. Practical Law Company, *supra* note 87.

170. *Id.*

171. Berger & Udell, *supra* note 16, at 312.

172. Practical Law Company, *supra* note 87.

173. *Id.*

174. Slee, *supra* note 146, at 317.

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PERFORMANCE SENSITIVE DEBT

1115

ABLCo Borrowing Base Certificate		
Customer Name:	PrivateCo	
Certificate Number:	50	
1. Accounts receivable control (from prior month's report)		\$6,000,000
2. Additions to accounts receivable control since last certificate		
(A) New sales	\$500,000	
(B) Other additions	\$0	
(C) Total additions		\$ 500,000
3. Reductions to accounts receivable control since last certificate		
(A) Gross reductions	\$300,000	
(B) Credit memos	\$0	
(C) Total reductions		\$ 300,000
4. Accounts receivable control (Line 1 + 2C - 3C)		\$6,200,000
5. Total ineligible accounts		\$1,000,000
6. Eligible accounts receivable (Line 4 - line 5)		\$5,200,000
7. Accounts receivable availability (80% of Line 6)		\$4,160,000
8. Inventory availability (from Line 12 of Recapitulation Inventory)		\$3,000,000
9. Other availability		\$ 0
10. Total gross availability (The lesser of the totals of lines 7, 8, and 9, OR credit line of _____)		\$7,160,000
Loan Position		
11. Beginning loan balance (from previous certificate)		\$5,000,000
12. Plus borrowing requested		\$1,400,000
13. Less cash remitted against loan since last certificate		\$1,200,000
14. Adjustments to loan balance		\$ 0
15. New loan balance (Line 11 + 12 less 13 ± 14)		\$5,200,000
16. Net availability (Line 10 - line 5)		\$1,960,000

The value of the borrowing base must be periodically re-determined to account for fluctuating values of the eligible assets. In particular, to prevent the size of loan from remaining constant while the value of the eligible assets declines, the lender will engage in periodic monitoring through appraisals of the assets.¹⁷⁵ The appraisals are typically carried out by an independent appraiser or engineer.¹⁷⁶ And to prevent fraud, the lender will also hire a third party to engage in periodic field examinations that confirm the accuracy of the lender's reports about the borrowing base.¹⁷⁷ The agreement may also permit the lender to make the changes without an independent appraisal of how the borrowing base is calculated,; nonetheless, the lender must carry out borrowing base redeterminations in good faith.¹⁷⁸

175. Slee, *supra* note 146, at 317.

176. *Id.*

177. Steven M. Rosenberg, *What is the Purpose of a Lender's Field Examination?*, 59 THE SECURED LENDER, July/August 2003, http://www.rosenbergandfecci.com/wp-content/uploads/2011/09/jul03_pg044.pdf; UPS Capital, *supra* note 158.

178. UPS Capital, *supra* note 158.

C. Performance Sensitivity Through a Borrowing Base

As discussed in Section I,¹⁷⁹ *ex ante* performance sensitivity includes the terms of a loan changing based upon the value of the borrower's collateral. Asset-based loans are performance sensitive because the amount of credit available is based upon the value of its collateral. The specific contractual provision that keeps the size of the loan proportional to the value of the collateral is known as the borrowing base.

1. The Borrowing Base Provision

A borrowing base is a contract feature that determines the amount of credit available to a borrower according to the value of certain assets. At any particular time, the amount of funds available to a borrower under a given line of credit depends on the value of the borrower's borrowing base,¹⁸⁰ thereby making credit available dependent on the performance of the borrowing base, and hence performance sensitive. The value of a borrowing base is determined by the value of assets eligible to be used as collateral and a discount rate applied to the borrowing base (the advance rate) to provide the lender a cushion for unforeseeable problems and other costs. This discount rate is known as the *advance rate* and it is the percentage of the value of the eligible assets that constitute the size of the loan (and any letters of credit).¹⁸¹ Assets perceived to generate more cash, or that are easier to liquidate, will receive a higher advance rate.¹⁸² For example, accounts receivable typically receive a higher advance rate than inventory. The advance rate is typically between 70 and 85 percent for accounts receivable and between 50 and 65 percent for inventory.¹⁸³ The advance rate will always be less than 100 percent, meaning that an asset-based loan will be overcollateralized in the sense of the loan amount being

179. See *supra* Section I.B.3.ii.

180. See Robert A. Modansky, *Asset-Based Financing Basics*, J. ACCOUNTANCY, Aug. 2011 ("As the borrower manufactures or acquires new inventory, and as it generates receivables from sales, these new assets become available for inclusion in the borrowing base."), <http://www.journalofaccountancy.com/issues/2011/aug/20113992>; Latham & Watkins, *Book of Jargon: US Corporate and Bank Finance*, Asset-Based Loan, <http://www.lw.com/bookofjargon-apps/boj-us-corporate-and-bank-finance> (defining an asset-based loan as "a Revolving Facility where the *total amount that can be borrowed fluctuates* based upon the value of certain assets of the Borrower at a given time") (emphasis added).

181. Practical Law Company, *supra* note 87.

182. *Id.*

183. *Id.*; Slee, *supra* note 146, at 318-19. The principal owners of an asset-based borrower may also offer a personal guarantee or pledge personal assets to support the loan.

less than the market value of the borrowing base assets.

The amount of the loan relative to value of the eligible assets is also typically further reduced by the borrower setting aside a reserve. Agreements typically give wide discretion to lenders to require reserves.¹⁸⁴ One reason why the borrower may be required to set aside a reserve is because of the higher cost of monitoring certain assets.¹⁸⁵ The definition of the borrowing base is typically heavily negotiated and dependent on the particular circumstances of the parties such as relative bargaining power and industry norms.¹⁸⁶ Although inventory, accounts receivable, and equipment are the types of assets traditionally included in an asset-based loan's borrowing base, in principle any type of asset can be included.

2. Borrowing Base Definitions

By examining how borrowing base provisions are drafted,¹⁸⁷ I have identified several different methods by which a borrowing base can establish the size of a loan and keep it in proportion to the value of the assets. Performance sensitivity is a function of how relevant contract language is drafted.

A straightforward way is to define a borrowing base as a percentage of eligible assets. The following are three examples:

“Borrowing Base means an amount equal to eighty percent (80%) of Eligible Accounts, as determined by Lenders with reference to the most recent Borrowing Base Certificate delivered by Parent.”¹⁸⁸

“Borrowing Base means, as of any date of calculation, an amount, as set forth on the most current Borrowing Base Certificate delivered to the Administrative Agent, equal to 85% of Eligible Receivables as of such date.”¹⁸⁹

“Borrowing Base: at any time, an amount equal to the sum of (a)

184. Slee, *supra* note 146, at 318-19.

185. *Id.*

186. See Elizabeth Goldberg, *Facing Down Ford*, AM. LAWYER, April 2007, [http://www.weil.com/wgm/cwgmhomep.nsf/Files/DokosDofY/\\$file/DokosDofY.pdf](http://www.weil.com/wgm/cwgmhomep.nsf/Files/DokosDofY/$file/DokosDofY.pdf) (detailing the process of negotiating the terms of a loan to Ford given by J.P. Morgan, Citigroup, and Goldman Sachs).

187. I reviewed a random sample of 100 borrowing base provisions located in publicly filed loans on SEC Form 8-K.

188. Careview Commc'ns, Inc., Loan and Security Agreement (Aug. 31, 2011), http://www.sec.gov/Archives/edgar/data/1377149/000138713111001976/ex-10_81.htm.

189. Roadrunner Transp. Sys., Inc., Second Amended and Restated Credit Agreement (Aug. 31, 2011), <http://www.sec.gov/Archives/edgar/data/1440024/000095012311082711/c22186exv10w10.htm>.

eighty-five percent (85%) of all Eligible Accounts Receivable of the Borrower and its Subsidiaries, plus (b) sixty percent (60%) of all Eligible Inventory of the Borrower and its Subsidiaries, valued in accordance with GAAP.”¹⁹⁰

The borrowing base definition may also give the lender or the administrative agent significant discretion to reduce the credit available to the borrower by reducing the advance rate percentage. For example:

“Borrowing Base” is eighty percent (80.0%) of Eligible Accounts, as determined by Bank from Borrower’s most recent Borrowing Base Certificate; provided, however, that Bank may decrease the foregoing percentage in its good faith business judgment based on events, conditions, contingencies, or risks which, as determined by Bank, may adversely affect Collateral.¹⁹¹

In addition to reducing the amount of the loan, discretion may also be extended to increasing the amount of required reserves or narrowing the scope of eligible assets. For example:

Notwithstanding anything to the contrary herein, the Administrative Agent may, in its Permitted Discretion, or shall at the direction of the Required Lenders in their commercially reasonable discretion, at any time hereafter, decrease the advance percentage for Qualified Accounts and Qualified Inventory, or increase the level of any reserves or ineligibles, or define or maintain such other reserves or ineligibles, as the Administrative Agent or Required Lenders, as applicable, may deem necessary or appropriate.¹⁹²

A reduction in loan size is also responsive to ex post monitoring in the form of field audits, examinations, and appraisals.¹⁹³ In some asset-based

190. New Enter. Stone & Lime Co., Inc., Second Amended and Restated Credit Agreement (Jan. 11, 2008), http://www.sec.gov/Archives/edgar/data/1527032/000104746911007722/a2204980zex-10_2.htm.

191. Demandware, Inc., Loan and Security Agreement (July 18, 2008) (emphasis removed), <http://www.sec.gov/Archives/edgar/data/1301031/000119312511189260/dex1018.htm>.

192. Universal Stainless and Alloy Products., Inc., Credit Agreement (Aug. 18, 2011), <http://www.sec.gov/Archives/edgar/data/931584/000119312511230804/dex101.htm>.

193. See, e.g., New York & Co., Inc., Third Amended and Restated Loan and Security Agreement 6 (Aug. 10, 2011), http://yahoo.brand.edgaronline.com/EFX_dll/EDGARpro.dll?FetchFilingHTML1?ID=8139753&SessionID=

loans, failure to furnish a borrowing base certificate will automatically cause the loan amount to be reduced to one dollar.¹⁹⁴

D. Asset-Based Lending and Creditor Governance

Asset-based lending combines several fundamental creditor governance devices: strong monitoring, performance pricing,¹⁹⁵ lines of credit, and collateral-based finance in the form of a borrowing base. Combining these governance devices significantly reduces the agency costs of debt that arise from informational asymmetries.¹⁹⁶ Asset-based lending addresses the problems of adverse selection and moral hazard. For example, asset-based lending can prevent borrowers from increasing their risk profile after a loan is made (asset substitution): asset-based lenders monitor borrower collateral on an ongoing basis and are able to quickly intervene to prevent a borrower from engaging in undesired activities, especially when the borrower's financial condition deteriorates and it has a greater incentive to increase its risk taking. Alan and Guar argue that asset-based lending helps to reduce a lender's exposure to a borrower's risk of bankruptcy by setting an upper limit on a lender's potential losses.¹⁹⁷ Consistent with creditor governance devices being substitutes, asset-based lenders are generally more willing to accept fewer (or looser) covenants and personal guarantees because, compared to typical secured lenders, asset-based lenders intensely monitor and overcollateralize their exposures,¹⁹⁸ and also protect themselves with performance sensitivity.¹⁹⁹ Indeed, asset-based lenders are often willing to make loans with no financial covenants at all because they can rely on other governance

XKpFHhUWjxwJX7 (“Agent shall have the right to revise the advance rates in, establish Reserves against or sublimits in the Borrowing Base in such amounts and with respect to such matters as Agent in its good faith discretion shall deem necessary or appropriate, at all times and after Agent has completed its updated field audits, examinations and appraisals of the Collateral”).

194. Reg Marketing & Logistics Grp., LLC, Revolving Credit Agreement 5 (April 8, 2010),

<http://www.sec.gov/Archives/edgar/data/1463258/000119312511243548/dex1021.htm>

(“[T]he Borrowing Base shall be reduced to one Dollar (\$1.00) during any period when the Borrowers have failed to furnish any computation of the Borrowing Base required hereby”).

195. Asset-based loans typically have performance pricing provisions.

196. See Udell, *supra* note 149, at 14-20 (discussing different mechanisms used by lenders to reduce their risk in asset-based financing).

197. Yasin Alan & Vishal Gaur, *Operational Investment and Capital Structure Under Asset Based Lending* (Johnson Sch. Research Paper Series, 2012), available at <http://ssrn.com/abstract=1716925>.

198. Slee, *supra* note 146, at 315.

199. *Id.*

devices to substitute for such covenants.

An important outcome of the strong creditor governance devices employed in asset-based loans and the tradeoffs they make possible is that the loans make credit more widely available and at a lower cost to borrowers that otherwise would not qualify for a loan.²⁰⁰ First, because a potential borrower may be weak from the standpoint of ratios used to determine whether a traditional financial statement loan would be made yet nonetheless have particular assets that are strong when viewed as potential collateral for an asset-based loan, a borrower that lacks general creditworthiness characteristics may nonetheless still be able to obtain an asset-based loan due to the quality of its collateral. For example, a company that is highly leveraged may nonetheless be able to obtain an asset-based loan if it nonetheless is able to generate substantial cash flows through high turnover in its accounts receivables or inventory. Asset-based lenders' lack of concern about the borrower's success as an enterprise explains why they are willing to make loans to riskier companies.²⁰¹ Asset-based lending as a form of intermediation is therefore, in part, a response to borrowers' inability to signal their quality to lenders through traditional financial measures.

Asset-based loans also often have a lower interest rate than comparable loans.²⁰² This is in accordance with my claim that creditor governance devices are tradeoffs such that strong devices in the form of security, monitoring, and performance sensitivity mean that a creditor does not need the additional governance device of a high interest rate. Furthermore, because an asset-based loan is generally structured as a revolving credit facility, it may also reduce a borrower's interest rate because the borrower only pays interest on the amount used and can use any unused borrowings to pay down the loan.²⁰³ Similarly, asset-based loans give borrowers access to cash more quickly than other types of loans. In an asset-based loan, cash is made available to the borrower *before* the actual collateral supporting the loan generates cash—for example, before receivables are collected or inventory is sold.²⁰⁴ Asset-based lenders are

200. *Id.*

201. *See* Udell, *supra* note 149, at 9 (detailing the rationale behind the lending behaviors of asset-based lenders).

202. *See* Schwimmer, *supra* note 25 (providing background information on the general practice of asset-based lending).

203. *See* GE CAPITAL, GUIDE TO ASSET BASED LENDING 10 (1999), http://www.gelending.com/Clg/Resources/PDF/guide/asset_guide.pdf (noting that revolving loans are generally more cost-effective in financing relatively short-term projects whereas term loans are the same for longer projects).

204. *See id.* at 10. Asset-based loans serve the purpose of converting assets to cash faster than their usual business cycle. *Id.* at 10, 15.

willing to advance cash because even at that stage in the loan process they will have already benefitted from strong governance in the form of screening the collateral and limiting the amount of credit to be less than the collateral's liquidation value.

IV. ASSET-BASED STARTUP FINANCING

The prior Sections of this Article suggest that performance-sensitive loans are generally more efficient in the context of high-risk borrowers, and that asset-based loans in particular reduce the agency costs borne by lenders due to their unique combination of strong creditor governance devices. Building on those insights, this Section argues that asset-based loans have the potential to provide more financing to a particular type of high-risk borrower with high agency costs, namely, revenue-stage startups. This is because asset-based loans are often cheaper than other sources of capital and more borrower-friendly than other types of debt. In addition, because asset-based loans can be structured to meet the needs of a wide variety of borrowers, they are likely also able to meet the needs of certain high-tech startups with intellectual property assets. Accordingly, certain types of startups may be missing out on an important source of capital.

A. Background

1. Startup Financing and Asset-Based Lending

Startups cannot raise capital as easily as large or established companies. This is in part due to a lack of revenues. A 2011 survey found that 55 percent of eight-year-old startups had annual revenues under \$100,000, and only 13 percent were over \$1 million.²⁰⁵ Startups are also generally more risky than larger, more established firms due to their relative informational opaqueness and greater incentive to shift risk to creditors.²⁰⁶

Nonetheless, numerous external funding sources are available to startups, including various types of equity and debt.²⁰⁷ Startup financing generally takes place in several stages. The earliest stage consists of a pre-revenue phase where the primary sources of capital come from the founders

205. Alicia Robb & Joseph Farhat, *An Overview of the Kauffman Firm Survey: Results from 2011 Business Activities* 4, (June 2013), available at: papers.ssrn.com/sol3/papers.cfm?abstract_id=227764 [hereinafter Robb & Farhat].

206. Berger & Udell, *supra* note 16, at 300.

207. Issuing public bonds are a type of financing generally unavailable to startups due to their lack of established track records and the costs of underwriting a bond deal.

themselves, friends, family, and credit cards. A second stage is the seed/early stage for companies that are earning revenues, and where the primary source of funds is from angel investors or specialist funds for less than \$5 million. For companies that are (or will likely be) profitable and that want to expand, they usually progress to a third stage and obtain capital in the \$5 million to \$10 million range.²⁰⁸ In these stages, startups that obtain outside equity overwhelmingly do so from angel investors.²⁰⁹ In recent years, angel investors provided about \$20 billion to over 60,000 startups annually with a median deal size ranging from \$590,000 to \$700,000.²¹⁰ Two additional startup financing stages are the “late stage” for consistently profitable companies seeking \$10 million or more of capital, and a subsequent stage for companies that may be ready for a buyout or even an initial public offering of securities.²¹¹

In terms of debt financing, 75 percent of startups obtain external debt in the form of business or trade credit, with credit card debt being the largest source.²¹² External debt makes up the largest source of capital for startups during their first year.²¹³ Credit lines make up about 15 percent of startup capital and term loans constitute another seven percent.²¹⁴ Most loans to startups are small: in any given year, only about 10 percent of startup loans are \$100,000 or greater in size.²¹⁵ In 2011, 13.5 percent of loans to startups required some form of collateral.²¹⁶

For the relatively few startups that receive equity venture capital,²¹⁷

208. MADISON PARK GRP., GUIDE TO VENTURE CAPITAL 3 (detailing the stages of venture capital growth), <http://madisonparkgrp.com/pdf/gtvc.pdf> [hereinafter MADISON PARK GRP.]

209. See ACA, *Angel Groups, and Angel-Backed Companies*, ANGEL CAPITAL ASS'N 16 (2012) (graphing the comparison of venture capital to angel investors), <http://www.angelcapitalassociation.org/data/Documents/Resources/ACAandAngelGroupBackground09-12.pdf>.

210. See Halo Report *Angel Group Update: Q2*, SILICON VALLEY BANK 6 (2013) (providing information on the average amounts of angel investments), http://www.svb.com/uploadedFiles/Content/Blogs/Halo_Report/halo-report-q2-2013.pdf.

211. MADISON PARK GRP., *supra* note 208 at 3.

212. Rebel Cole & Tatyana Sokolyk, *How Do Start-Up Firms Finance Their Assets? Evidence from the Kauffman Firm Surveys* 38 (Working Paper, 2013), available at <http://ssrn.com/abstract=2028176>.

213. Alicia M. Robb & David T. Robinson, *The Capital Structure Decisions of New Firms*, REV. FIN. STUD. 14 (2012) (explaining how outside debt is the largest funding source for start-ups).

214. *Id.*

215. Robb & Farhat, *supra* note 205, at 6.

216. *Id.* at 5.

217. Diane Mulcahy, *Six Myths About Venture Capitalists*, HARV. BUS. REV., May 2013 (“Historically, only a tiny percentage (fewer than 1%) of U.S. companies have raised capital from VCs”), <http://hbr.org/2013/05/six-myths-about-venture-capitalists/ar/1>.

one type of loan that is available is venture debt. Venture debt is a loan provided to a company that is already backed by equity venture capital, or alongside an infusion of venture capital.²¹⁸ An estimated two-thirds to three-quarters of venture-backed startups use some form of debt,²¹⁹ and on average debt makes up about a third of their capital structure.²²⁰ From the beginning of 2012 through the first half of 2013, an estimated 450 venture-backed startups obtained \$3.1 billion in venture debt with an average loan size of \$7.1 million. During that time, venture debt accounted for just under 8 percent of the capital invested in startups.²²¹ Venture debt takes the form of a senior secured term loan that has no financial covenants.²²² It is sold with warrants ranging from five to 15 percent of the loan amount.²²³ The interest rate on venture debt varies based on the risk of the borrower and other terms of the deal,²²⁴ and can range from two to 20 percent above the prime rate.²²⁵ Venture debt is typically used for growth or as a bridge between equity financing rounds.²²⁶ In 2012, \$26.5 billion of equity venture capital financing took place across 3698 deals.²²⁷

In addition to venture debt, asset-based loans can also provide debt financing for startups. When used to fund a startup, an asset-based loan is typically available only to companies that are earning revenues, and it is collateralized by accounts receivable, inventory, or purchase orders from

218. Robb & Farhat, *supra* note 205, at 3-4.

219. Darian M. Ibrahim, *Debt as Venture Capital*, 2010 U. ILL. L. REV. 1169, 1177 (2010) [hereinafter Ibrahim].

220. Berger & Udell, *supra* note 16, at 299.

221. *NXT Capital Launches Venture Debt Index*, BUSINESS WIRE (Nov. 7, 2013), <http://www.businesswire.com/news/home/20131107005202/en/NXT-Capital-Launches-Venture-Debt-Index#.U08YNvldX00>.

222. LEADER VENTURES, *Venture Debt Overview* at 5, <http://leaderventures.com/overview.pdf> [hereinafter LEADER VENTURES].

223. Ibrahim, *supra* note 219, at 1179.

224. SILICON VALLEY BANK, *Venture Debt—Maximizing its Value in The Current Environment* at 9 (2004), http://www.sandhill.com/conferences/pdf/software04_014.pdf [hereinafter Silicon Valley Bank].

225. See, Raghavan Anand, *Is Venture Debt on the Rise?*, REUTERS PEHUB (June 3, 2013) (stating that venture debt “[i]nterest rates are often low, a couple of percentage points above prime rate”), www.pehub.com/2013/06/is-venture-debt-on-the-rise/; BESSEMER VENTURE PARTNERS, *Venture Debt Analysis*, (2009) (noting a 14 percent interest rate for an illustrative company’s venture debt), <http://www.jasonnazar.com/wp-content/uploads/2008/11/venture-debt-analysis1.pdf>; Ibrahim, *supra* note 219, at 1182.

226. BRITISH PRIVATE EQUITY AND VENTURE CAPITAL ASS’N & WINSTON AND STRAWN, *The Rise of Venture Debt in Europe* at 8 (May 2010), available at <http://thebln.com/wp-content/uploads/2010/05/The-Rise-of-Venture-Debt-in-Europe1.pdf>.

227. Leena Rao, *VCs Invested \$26.5B In 3,698 Companies In 2012, Total Dollars And Deal Volume Both Down*, TECHCRUNCH (Jan. 17, 2013), <http://techcrunch.com/2013/01/17/vcs-invested-26-5b-in-3698-companies-in-2012-total-dollars-and-deal-volume-both-down/>.

the startup's customers. A typical structure takes the form of a 12-month, interest-only revolving line of credit secured by a first priority lien on all assets. The nature and extent of any financial covenants will depend on pricing and how much control the lender has over the assets.²²⁸

2. Including Intellectual Property in a Borrowing Base

For technology (tech) startups, intellectual property (IP) makes up a relatively significant portion of their assets. A survey of startups from 2004 to 2008 found that 11.2 percent owned patents, 19.5 percent owned copyrights, and 22.1 percent owned trademarks.²²⁹

Although uncommon, IP can be used as loan collateral and is a well-recognized type of legally enforceable security interest.²³⁰ Securing a loan with IP assets presents unique risks relative to using tangible assets. These risks arise primarily from properly valuing the IP and the complexity of providing legal protection and security.²³¹ Valuation challenges arise from

228. Silicon Valley Bank, *supra* note 224, at 10.

229. ALICIA ROBB ET AL., KAUFFMAN FOUND., AN OVERVIEW OF THE KAUFFMAN FIRM SURVEY: RESULTS FROM THE 2004–2008 DATA, (2010) 14, http://www.kauffman.org/~media/kauffman_org/research%20reports%20and%20covers/2010/05/kfs_2010_report.pdf. For an overview of policy issues regarding patents, see Kirti Gupta, *The Patent Policy Debate in the High-Tech World: A Literature Review*, (Working Paper, 2013), available at https://www.law.northwestern.edu/research-faculty/searlecener/workingpapers/documents/Gupta_patent-policy-debate-literature-review.pdf.

230. Maria Loumioti, *The Use of Intangible Assets as Loan Collateral* (Working Paper, 2012), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1748675 [hereinafter Loumioti] (“I find that twenty-one percent of U.S.-originated secured loans from 1996-2005” have been collateralized by intangibles); Gaétan de Rassenfosse, *How SMEs Exploit their Intellectual Property Assets: Evidence from Survey Data*, (Intellectual Prop. Research Inst. of Austl., Working Paper No. 8/10, ISSN 1447-2317, 2010), available at http://www.ipria.net/publications/wp/2010/Working%20Paper%208_2010.pdf (“a survey of about 50 European commercial banks found none that routinely accept intangible assets as collateral for loans to new technology-based firms”); Anjanette Raymond, *Intellectual Property as Collateral in Secured Transactions: Collision of Divergent Approaches*, 10 BUS. L. INT’L. 27, 32-33 (2009) [hereinafter Raymond].

231. Darin Neumyer, *Future of Using Intellectual Property and Intangible Assets As Collateral*, THE SECURED LENDER, Jan/Feb 2008, at 45, available at https://cfa.com/eWeb/docs/tsl_archives_pdf/jan08_pg042.pdf [hereinafter Neumyer]; Ian Ellis, *Maximizing Intellectual Property and Intangible Assets*, 4-5 (Athena Alliance, Working Paper No. 07, 2009), available at <http://www.athenaalliance.org/pdf/MaximizingIntellectualPropertyandIntangibleAssets.pdf> [hereinafter Ellis]; See also Bruce W. Barton et al., *Have IP Assets, Need Money!*, The Role of IP Valuation in Startup Investment, STOUT, RISIUS, ROSS, 2013, available at <http://www.srr.com/assets/pdf/role-ip-valuation-startup-investment.pdf> (discussing the importance of IP assets in securing financing, types of financing, valuation methodologies, and why valuation is important).

the difficulty of estimating the extent to which the market will accept new products and the obsolescence of technology and brands.²³² When lenders attempt to value IP for the purposes of securing a loan, they are generally concerned with the value of the IP under a distressed sale scenario and not its value as part of a larger operating company.²³³ Legal risks include ownership challenges (infringement) and the expiration of IP rights.²³⁴ In addition, there is uncertainty regarding the interaction between how federal law and the Uniform Commercial Code govern security interests in patents.²³⁵

When IP is used as collateral, it is typically the type of IP that generates income from patent or trademark licenses or copyright royalties.²³⁶ Startups tend to license out a greater portion of their patents than more mature firms.²³⁷ IP is also typically only valuable to firms for obtaining financing after the company is already generating revenues, but not before.²³⁸

IP may be used independently to secure a loan or lumped in together with the borrower's other, tangible assets.²³⁹ In terms of general structures, a lender may have a security interest in the IP or own it outright and lease it back to the borrower.²⁴⁰ If the lender has an enforceable security interest in

232. Neumyer, *supra* note 231, at 45.

233. *Leveraged IP*, IP INVESTOR, Dec. 2006, at 24, available at <https://files.nyu.edu/djk244/public/12Loans.pdf> ("Middle-stage companies . . . usually have an IP portfolio that has been proven, and there is more certainty that the IP has value and can be sold if the company defaults on the loan.").

234. Neumyer, *supra* note 231, at 45. Other difficulties inherent to using IP as collateral include structuring issues, prioritization, registration issues, and not being categorized as after-acquired property. Raymond, *supra* note 230, at 45-50.

235. Alicia G. Mills, *Perfecting Security Interests in IP: Avoiding the Traps*, 128 BANKING L. J. 746 (2008), available at <http://www.dorsey.com/files/Publication/7c9a4920-e4c6-4011-8811-05313de35e9f/Presentation/PublicationAttachment/189f4db8-692e-4223-a0e1-33785fd8d0f0/mills.pdf>.

236. *Id.* at 9.

237. Gaétan de Rassenfosse, *How SMEs Exploit Their Intellectual Property Assets: Evidence from Survey Data*, (Melbourne Inst., Working Paper Series, Working Paper No. 20/10) available at http://melbourneinstitute.com/downloads/working_paper_series/wp2010n20.pdf.

238. See Ronald J. Mann & Thomas W. Sager, *Patents, Venture Capital, and Software Start-ups*, 36 RES. POL. 193, 194, 206 (2007) (introducing author's quantitative analysis of the role of patents for pre-revenue and later-stage startups).

239. *Id.* at 14-15; *Leveraged IP*, IP INVESTOR, Dec. 2006, at 24, available at <https://files.nyu.edu/djk244/public/12Loans.pdf> [hereinafter IP INVESTOR] ("This leads to the heart of the problem with IP collateral lending: How does one value something with no proven value? This conundrum has historically made most lenders wary of this type of lending.").

240. Steven J. Henry, Neil P. Ferraro & Hunter Keeton, *Securing a Loan with Patents, Trademarks, and Copyrights is Best for Lenders*, 6 J. BANK. L., (Jan. 2010).

the IP, the lender can typically seize and sell the IP if the borrower defaults or otherwise fails in its obligations.²⁴¹ If the lender owns the asset outright through an assignment by the borrower, the lender does not have to be concerned with having a legal right to sell the IP upon borrower default.²⁴² When a security interest is granted in IP that produces a revenue stream, the IP asset is pledged as collateral and the loan is paid down by the revenue that it generates (as opposed to the revenue generated by the company).²⁴³

Although rare, IP may be a primary source of collateral as opposed to merely being a secondary, back-up source (a credit enhancer).²⁴⁴ IP assets may be used to make longer-term loans if the lender views a new round of equity as their primary method of repayment instead of the company's cash flows—a situation likely for certain startups. In a sale-leaseback structure, the lender takes a hands-off approach towards managing the IP and only controls it if the borrower defaults.²⁴⁵ An alternative to the sale-leaseback structure is for the borrower to keep ownership of the IP but promise (in a negative pledge clause) to not pledge the asset to any other creditor.²⁴⁶ Borrowers are often reluctant to assign away or permit a lender to take a lien in their IP.²⁴⁷

In an asset-based loan, IP can serve the role of a credit enhancer by being included in the pool of assets that serve as collateral, even though the IP is not part of the borrowing base.²⁴⁸ Another structure that incorporates IP with an asset-based loan is a “split” or “bifurcated collateral” transaction. This type of deal consists of an asset-based loan with a first lien on assets in the borrowing base combined with a term loan with a first lien term loan in the borrower's IP.²⁴⁹ For example:

241. *Id.*

242. However, owning the IP asset outright may impair its value to the lender, and hence undermine its value as collateral, because the lender may be impaired in its ability to seek damages for infringement, fail in its responsibility to maintain proper records and fees, and other reasons. *Id.*

243. Ellis, *supra* note 231, at 4.

244. IP INVESTOR, *supra* note 239.

245. *Id.* at 22-23.

246. *Id.* at 23.

247. *Id.* at 23-24. Practitioners claim that using IP as collateral makes the most sense for middle stage companies and is significantly riskier for startups. *Id.* at 24 (“Middle-stage companies . . . usually have an IP portfolio that has been proven, and there is more certainty that the IP has value and can be sold if the company defaults on the loan.”).

248. Marie Leon, *Collateral Salvage*, CFO.COM (June 2, 2005).

249. *Done Deal: Junior Capital's Role in Debt Financing*, THE SECURED LENDER, Aug. 12, 2012, available at http://crystalfinco.com/files/3713/4523/4116/August_2012_Roundtable_Discussion_Secured_Lender.pdf [hereinafter *Done Deal: Junior Capital's Role in Debt Financing*]; Steven

[I]n one such transaction, an equity firm purchased an apparel company in October 2011 with the intent of restructuring the European operations. The capital structure included a \$30 million revolver secured by inventory and accounts receivables and a \$12.5 million term loan provided by Crystal [Financial] that was secured by a first lien on the intellectual property (in this case the brand) . . . [and] on all the non-working capital assets²⁵⁰

In such a structure, the lenders may also each take a second lien position in the other lender's primary collateral.²⁵¹

But beyond simply being used as collateral in an ordinary secured loan, IP may also be included as part of an asset-based loan's borrowing base.²⁵² When IP is included in a borrowing base, it is valued according to the same advance rate methodology as traditional, tangible assets in an asset-based loan.²⁵³ Including IP in a borrowing base along with more traditional assets can increase the amount of credit available to the borrower.²⁵⁴ This is typically the case for companies that are at least

Migliero, *Recent Trends in Asset-Based Lending — Understanding the History of ABL Can Reap Benefits*, ABF J. (Sept. 2012), <http://www.abfjournal.com/articles/recent-trends-in-asset-based-lending-understanding-the-history-of-abl-can-reap-benefits/>.

250. Steven Migliero, *Getting to Yes When Banks Say No - Bifurcated Collateral Loans Provide Incremental Liquidity*, ABF J., (Sept. 2012), <http://www.abfjournal.com/articles/getting-to-yes-when-banks-say-no-bifurcated-collateral-loans-provide-incremental-liquidity/>.

251. *Id.*

252. For considerations in lending against trade names and patents, see Neumyer, *supra* note 231, at 45-47; Gerald Sherman et al., *Consumer Brands as Collateral: Opportunities for Asset-Based Lenders*, COMM. LENDING REV., (Nov.-Dec. 2009), <http://www.northstarm.com/pdf/Consumer%20Brands.pdf> (looking at the value of consumer brands).

253. Neumyer, *supra* note 231, at 48.

254. Marie Leon, *Collateral Salvage*, CFO.COM, (June 2, 2005) (“as early as 2001, Levi Strauss & Co. . . . directly arranged for \$1.05 billion asset-based loan that used ‘a package of trademarks’ as well as hard assets”); John R. Hermann, *Two Approaches to Financing Software* at 5, *available at* <http://www.iiiglobal.org/component/jdownloads/finish/337/4030.html> (“Occasionally, the Lender will include some of the value of a borrower’s intellectual property in the borrowing base, almost always in connection with a loan that is collateralized by the substantial majority of the borrower’s other assets.”); Mario Ippolito et al., *Certainty of Execution: Asset-Based Lending in Leveraged Finance*, 11 ABF J. 2, (May/June 2013), *available at* http://www.paulhastings.com/Resources/Upload/Publications/Certainty_of_Execution_-_Asset-Based_Lending_in_Leveraged_Finance.pdf. (“The borrowing base collateral . . . may . . . include . . . intellectual property.”).

somewhat established or if the IP is relatively easy to value.²⁵⁵ Consistent with my analysis of monitoring costs and performance sensitivity,²⁵⁶ adding IP to the borrowing base has the potential to increase a lender's profits despite having higher monitoring costs.²⁵⁷ Venture lenders and other nonbank lenders are much more likely to include IP in a borrowing base than banks.²⁵⁸

B. Why Startups Should Seek Asset-Based Loans

1. Company-Friendly Financing

Several aspects of asset-based loans indicate that startups should increasingly seek them out. First, obtaining capital through a loan is often better for a startup than equity financing. Debt is beneficial to startups that want to grow without giving up control rights, rights to profits, or suffering other aspects of equity dilution that result from selling stock. Taking on debt is also beneficial for companies that want to avoid raising equity during a down round of financing—when their equity is valued lower than what the previous venture capital investors paid.²⁵⁹ Although obtaining capital through a loan requires a company to pay a fixed interest rate (and other fees), in circumstances often applicable to startups the net cost of a loan relative to equity is lower. For example, a startup that grows 25 percent over two years may have a higher return (to its current equity investors) if it finances that growth with a loan rather than additional equity.²⁶⁰ An asset-based loan in particular may be cheaper than raising funds with equity. This is because the revolver structure of asset-based loans minimizes the interest payments to such an extent that it is even cheaper relative to equity than other forms of debt.²⁶¹

For startups that may otherwise obtain venture debt, there are several

255. *Asset Based Lending*, COMMERCIAL FINANCE PARTNERS, http://commercialfinancepartners.com/Asset_based_lending.html (“Intellectual property can be considered as part of an asset based lending facility, however, only for companies that have a proven track history and recognizable brand that has value in itself.”).

256. See Kamphol, *supra* notes 96 and accompanying text.

257. *Capturing the Value of Intellectual Property for Leveraged Finance Considerations*, ACCUVAL, (April 2008), <http://www.accuval.net/insights/featuredarticle/detail.php?ID=36>.

258. *Id.* at 22-23.

259. LEADER VENTURES, *supra* note 222, at 4.

260. Jan Haas, *The Case For Raising a Venture Debt Round*, BOSTON BUS. J., June 12, 2013, <http://www.bizjournals.com/boston/blog/startups/2013/06/venture-debt-nxt-capital-jan-haas.html?page=all>.

261. *GE Capital*, *supra* note 203, at 10.

reasons why asset-based loans may be a superior type of debt. First, the interest rate on an asset-based loan is typically lower than for a comparable venture debt agreement.²⁶² The interest rate is lower because asset-based loans have stronger creditor governance than venture debt. Asset-based lenders perform more stringent monitoring than venture lenders and have already performed a thorough screen upfront. In addition, the performance sensitivity of asset-based loans due to their use of a borrower base and performance pricing makes it less likely that an asset-based loan overextends credit to a borrower. Finally, because asset-based loans are structured as a revolving credit facility, they only require the borrower to pay interest on capital actually drawn down from the facility. Repayment of loan principal is also more flexible in an asset-based loan.²⁶³ When a startup has stable revenues, an asset-based loan may also be cheaper than venture debt if the borrowing base assets produce predictable cash flows.²⁶⁴ A lower interest than other forms of debt is crucial, because startups often find the requirement to make regular payments to a lender as one of the most unappealing aspects of taking on debt in any form.

Asset-based loans are also cheaper and generally more attractive than other types of debt besides venture debt.²⁶⁵ Asset-based loans have less stringent covenants and can get capital to borrowers more quickly than typical secured loans.²⁶⁶ Asset-based loans typically also do not include warrants issued to the lender, which dilute the startup owners' stake in the company.²⁶⁷ The lack of financial covenants and focus on company-level performance may also make an asset-based lender more willing to work with a company during times of distress.²⁶⁸ And because the amount of credit available in an asset-based loan is performance sensitive, it will increase as the borrowing base grows, thereby saving the borrower from having to obtain a new loan to keep up with its growth.²⁶⁹

262. LEADER VENTURES, *supra* note 222, at 5.

263. *Id.* at 5.

264. *Id.* at 6.

265. Slee, *supra* note 146, at 315; Crumbaugh, *supra* note 167; *The Fundamental Benefits of Today's Asset-Based Finance*, *Capital Eyes*, BANK OF AMERICA (April 2006), http://corp.bankofamerica.com/publicpdf/products/abf/0406_FundBenefits_ABL.pdf [hereinafter Bank of America]; Schwimmer, *supra* note 25 ("Many of these issuers that historically have obtained less rigorously monitored, or even unsecured, facilities, are finding ABL to be cheaper and more flexible.").

266. See Crumbaugh, *supra* note 167 and citations therein (explaining execution of asset-based loans).

267. Crumbaugh, *supra* note 167 and citations therein.

268. *Asset-Based Lending: A Financing Alternative That Fuels Small Business Growth*, TAB BANK WHITE PAPER, at 2, available at http://go.tabbank.com/rs/tabbank/images/TAB_WhitePaper_ABL.pdf.

269. *Financing Alternatives that Support Growth*, WELLS FARGO CAPITAL FINANCE,

2. Industry Momentum

Recent years have seen asset-based loans being adapted for a broader range of purposes. This suggests that it can be further adapted to finance various types of startups as well. Traditionally, asset-based lending was used by high-risk borrowers for working capital. These borrowers typically included retailers, wholesalers, distributors, and manufacturers because these types of firms have assets that can most easily serve as collateral suitable for an asset-based loan.²⁷⁰ Over time, however, asset-based lending lost its stigma as a type of loan for low quality borrowers²⁷¹ and became used by a wide variety of small and medium enterprises for a variety of purposes.²⁷² Currently, asset-based loans are used for a wide range of purposes, including: financing working capital and other expenditure needs, expansion through transactions such as mergers and leveraged buyouts, and stabilizing troubled companies through turnaround and debtor-in-possession transactions.²⁷³

Another important dynamic in the asset-based lending industry is increasing competition among lenders. Increasing competition has resulted in asset-based lenders expanding the types of borrowers and industries they are willing to lend to.²⁷⁴ For example, since entering the asset-based loan business in 2007, most of On Deck Capital's loans have been to companies with revenues of less than \$3 million a year.²⁷⁵ Competition has also made the loans much more flexible and borrower friendly. These include a lower minimum required cushion of value of assets over debt outstanding (excess availability), a lower threshold of excess availability for triggering financial covenants, greater collateral over-advances, and allowing the borrower to pay out dividends.²⁷⁶

Technology is also reducing the costs associated with monitoring a borrowing base.²⁷⁷ For example, CADENCE provides software that

(2011), available at <http://wellsfargocapitalfinance.com/docs/growth.pdf>.

270. GE Capital, *supra* note 203, at 10.

271. John B. Caouette et al., *Asset-Based Lending and Lease Finance*, in *MANAGING CREDIT RISK: THE GREAT CHALLENGE FOR GLOBAL FINANCIAL MARKETS* 122 (2011); Tim Reason, *Borrowing Big Time*, CFO.COM, Nov. 1, 2003; Hugh C. Larratt-Smith, *Asset-Based Lending in Europe Today*, THE SECURED LENDER, Sept. 2013, at 16, 19.

272. Crumbaugh, *supra* note 167 (stating that “[asset-based] loans have gone mainstream in the last four or five years and as people find more uses for them they are going to continue to increase in popularity”).

273. Bank of America, *supra* note 265. See also Slee, *supra* note 146, at 315.

274. Myra A. Thomas, *ABL Goes Mainstream*, THE SECURED LENDER, Nov. 2013, at 20.

275. Stock, *supra* note 167.

276. Schwimmer, *supra* note 25. These changes have been mitigated to some extent by increasing advance rates or increasing the fixed charge ratio. *Id.*

277. See Rishi Kumar, *The Hitchhiker's Guide to Technology for the Commercial*

enables lenders to monitor multiple types of collateral and automatically screen assets for eligibility, which it claims speeds up the process from several days to several minutes.²⁷⁸ Another company, ABLSoft, provides continuous, Web-based collateral monitoring software.²⁷⁹ Ftrans also sells an automated collateral monitoring product and explains its benefits as the following:

With Ftrans, lenders can adjust advance rates using online monitoring of automatically generated, risk-adjusted clients' borrowing bases to decrease exposure and systematically manage the key risks of extending working capital loans to smaller businesses. Because acquiring standard loan documentation is automated, you can comfortably extend your lending footprint and extend credit to smaller businesses at acceptable rates. Less time is spent monitoring the loan and managing the loan documents.²⁸⁰

A decrease in the costs and administrative burdens associated with monitoring should increase parties' willingness to use asset-based loans. High monitoring costs are a major reason why lenders avoid making asset-based loans, and the burden of continually reporting loan information is a major reason why borrowers find the loans unattractive.

3. Structural Flexibility

In addition to being adaptable for various economic purposes generally, in recent years, asset-based loan structures have evolved to meet the specific circumstances of borrowers. This structural flexibility suggests that asset-based loans can be structured to meet the specific needs of various types of startups as well. These specific needs include financing the purchase of equipment and providing working or growth capital.

In the 1990s, hedge funds began providing capital for asset-based loan

*Lender, SECURED LENDER, May 2013, available at http://www.nxtbook.com/ygsreprints/CFA/p34301_tsl_may2013/index.php#/26. Berger & Udell, *supra* note 16, at 319 (noting generally that software and internet-based networking have reduced the costs of monitoring accounts receivable collateral).*

278. *CADENCE For ABL*, BAYSIDE BUSINESS SOLUTIONS, available at <http://baysidebiz.com/products/cadence-for-abl/>.

279. *Intelligent Asset-Based Lending Software*, ABLSOFT, available at <http://www.ablsoft.com/documents/brochure4.pdf>.

280. *Lightly Monitor and Lend With Confidence*, FTRANS FINANCIAL TRANSACTION SYSTEMS, 2011, available at <http://www.ftrans.net/ftrans/BankSolutions/CIcollateralmonitoring/tabid/325/Default.aspx>.

transactions in the form of second lien loans when asset-based lenders could not provide the entirety of the capital needs of borrowers.²⁸¹ In such a structure, the asset-based lender takes a senior lien on all of a company's assets while the hedge fund takes a second lien.²⁸² The second lien provider does not take any equity and has the same strict covenants as ordinary cash-flow loans.²⁸³ Borrowers increasingly found second-lien loans attractive compared to mezzanine and high-yield debt for numerous reasons.²⁸⁴ Second-lien loans were generally priced lower than unsecured mezzanine debt, not packaged with equity components that would require borrowers to dilute their equity or give up control in their company, and

281. Steven Migliero, *Recent Trends in Asset-Based Lending — Understanding the History of ABL Can Reap Benefits*, ABF J., Sept. 2012, <http://www.abfjournal.com/articles/recent-trends-in-asset-based-lending-understanding-the-history-of-abl-can-reap-benefits/> [hereinafter Migliero]. A second lien loan is a loan that is secured by a borrower's assets but has a subordinate position with respect to the collateral relative to the original, first lien secured lender. George H. Singer, *The Lender's Guide to Second-Lien Financing*, BANKING L. J. (2008), at 199-201, <http://www.lindquist.com/files/Publication/0611cf1d-72f4-4b32-a5ec-00d521026e0f/Presentation/PublicationAttachment/964a8361-687c-47a5-aa66-0726c43fe20c/The%20Lenders%20Guide%20to%20Second%20Lien%20Financing.pdf>; Neil Cummings & Kirk A. Davenport, *A Primer on Second Lien Term Loan Financings*, COMMERCIAL LENDING REVIEW, Sept-Oct 2004, available at http://www.lw.com/upload/pubContent/_pdf/pub1066_1.pdf.

282. Migliero, *supra* note 281. See also *How to Finance a Gap ('Airball') In An Asset Based Loan*, SC CREDIT ADVISORS, at 7, http://www.stonecarlie.com/content_uploads/HowtoFinanceaGapinanAssetBasedLoan.pdf. An important aspect of second-lien lending is the contractual and legal relationship between multiple creditors secured by the same collateral. Second-lien lenders usually must first obtain an agreement from first-lien holders to subordinate at least some of their rights in the common collateral and common borrower. The first-lien lender will seek to have its rights and remedies against the second-lien lender as free and clear as possible and also control the common collateral and the actions of the second-lien lender with respect to the common collateral and borrower. All things being equal, a second-lien lender will seek to preserve its own control over the common collateral and borrower and hence its likelihood of being repaid in the event of default or bankruptcy. The agreement between the first-lien and second-lien holders is made in an intercreditor (or subordination) agreement that specifies the effect of a default or bankruptcy with respect to payment and lien priority. Intercreditor agreements typically do not block payments to second-lien lenders and impose relatively short standstill periods post default, after which the second-lien holder can exercise its remedies against the borrower or the collateral. Intercreditor agreements are subject to legal uncertainty, however, in part because the jurisprudence surrounding the details of such agreements is not highly developed, and unsecured lenders have increasingly been attempting to secure their loans with second liens. Drawbacks of second-lien lending relative to mezzanine loans include having more restrictive covenants and potential volatility from utilizing floating rates.

283. Migliero, *supra* note 281.

284. Robert C. Rubino, *Why Today's Borrowers and Lenders are Leaning Towards Second Liens*, SECURED LENDER, May/June 2004, at 30.

were non-amortizing until first-lien loans were paid in full.²⁸⁵ First/second lien loan structures constitute about 20 percent of the asset-based loan market.²⁸⁶

A further evolution on the first lien/second lien structure came in the mid-2000s in the form of bifurcated deals. Bifurcated structures involve combining an asset-based revolver with a first lien on current assets (such as accounts receivable) with a term loan secured by long-term assets and the enterprise value of the company.²⁸⁷ This structure is more expensive than a pure asset-based loan facility but cheaper than the first lien/second lien structure and in the range of seven to eight percent.²⁸⁸ Since the financial crisis of 2008, asset-based loan structures have returned with bifurcated deals.²⁸⁹ The bifurcated structure is likely one that will continue to be used for borrowers that need more capital than provided by an asset-based revolver alone.²⁹⁰ Bifurcated structures are also cheaper than revolving credit lines offered by banks that use a high-yield bond structure instead of a term loan.²⁹¹

A structural modification that may give comfort to lenders not otherwise inclined to make an asset-based loan is taking equity stakes in borrowers. Lenders can take equity positions in the companies to which they extend credit through the use of warrants and other so-called equity kickers.²⁹² Likewise, purchasing credit insurance allows asset-based

285. Merger and acquisition activities among middle market companies also fueled the demand for nontraditional financing in the form of second-lien loans. Cassandra Mott, John Mazey & Scott Moore, *Middle Market Lending: Traits and Trends*, PRACTICAL LAW JOURNAL, Nov. 2010, at 63.

286. Migliero, *supra* note 281.

287. *Id.*

288. *Id.*

289. *Id.*

290. See also Crumbaugh, *supra* note 167 (explaining that “you are going to find more and more deals where certain classes of lenders who can’t do revolvers are going to do a cash flow term loan coupled with an [asset-based loan] revolver from an ABL lender with a split collateral intercreditor agreement between the two of them.”).

291. Crumbaugh, *supra* note 167

292. There are four main types of equity kickers. Warrants are option-like rights enabling the holder to purchase the borrower’s stock at a price that is prespecified and, if the stock is publicly traded, are typically 15 percent above the current market price when the warrants are issued. The use of warrants gives an incentive for an asset-based lending fund to offer asset-based loans at lower prices than traditional asset-based lenders that do not use equity kickers because the fund’s interest in the overall health of the borrower mitigates their interest in charging a high rate of interest. A second type of equity kicker is debt that is convertible to common stock (convertible debt) and is usually subordinated to senior debt. Converting the debt to common stock is an option of the lender; to exercise the option the lender will typically have to pay a premium of 20 to 30 percent above the price of the common stock when the loan was originally made. The option is hence more valuable the higher the stock has risen since credit was extended and thereby gives an incentive for the

lenders to feel more comfort in the loan and potentially extend credit on terms they would not have otherwise.²⁹³

4. Asset-Based IP Financing

Tech startups with IP assets may fail to appreciate the willingness of lenders to use IP in an asset-based loan and therefore miss out on an important source of capital. Asset-based loans backed by, or involved with, IP are beginning to grow. IP is increasingly being used to secure loans generally.²⁹⁴ In particular, bifurcated asset-based loan structures with IP in a (second lien) borrowing base are increasingly common.²⁹⁵ Venture lenders are taking a larger role in lending against IP with low or uncertain value, as opposed to well-established brands and other assets,²⁹⁶ which indicates that asset-based lenders will increasingly do so as well. Startups with IP also have a greater ability to attract equity capital,²⁹⁷ which indicates that the value investors find in IP may be financed with debt as well. In addition, startups with patent assets are more likely to use venture debt financing,²⁹⁸ which indicates that asset-based loans may be particularly

lender to monitor, control, or work with the borrower in order to enhance the value of the company overall. A third, and perhaps the most straightforward type of equity kicker, is the issuance of low-priced common stock to the lender, which allows it to share in any equity gains while retaining minimal downside exposure. Peter K. Nevitt & Frank J. Fabozzi, *Types of Capital and Debt*, in PROJECT FINANCING 59 (7th ed. 2000).

293. Lee Spurrier, *Asset-Based Lenders Employ New Tool to Increase Lending Volumes While Lowering Risk*, SECURED LENDER, June 2013 at 27-28, available at http://www.nxtbook.com/ygsreprints/CFA/TSL_Jun2013/index.php#/38.

294. IP Investor, *supra* note 239; Loumioti, *supra* note 230 (“I find that twenty-one percent of U.S.-originated secured syndicated loans during 1996-2005 have been collateralized by intangibles, with intangible asset collateralization *significantly increasing* over this time period”) (emphasis added).

295. Done Deal: Junior Capital’s Role in Debt Financing, *supra* note 249, at 12 (“Sometimes other assets will be added into the second lien borrowing base, including IP, which never would have happened years ago.”) (emphasis added); Thomson Media, *ABL MM Lenders look to IP Collateral for Second Lien Loans*, BANK LOAN REPORT, February 14, 2005, at 20, available at <http://www.pullmanbonds.com/BankReport.pdf> [hereinafter Thomas Media]; Neumyer, *supra* note 231, at 44 (“As the economy has shifted away from manufacturing, there has been an increase in the quantity of IP [asset-based lending] transactions.”).

296. IP Investor, *supra* note 239. Venture lenders will often purchase the IP assets and then lease them back to the borrower. *Id.*

297. Carolin Häussler, Dietmar Harhoff, & Elisabeth Müller, *To Be Financed or Not . . . - The Role of Patents for Venture Capital-Financing*, (Ctr. for European Econ. Research, Discussion Paper No. 09-003, 2012), available at <http://ssrn.com/abstract=1393725>; Annamaria Conti, Jerry G. Thursby & Marie C. Thursby, *Patents as Signals for Startup Financing*, 61 J. INDUSTRIAL ECON. 592 (2013).

298. Timo Fischer & Gaetan de Rassenfosse, *Venture Debt Financing: Determinants of*

amenable for financing patents.

For lenders, a benefit of using IP in a borrowing base is that its value is not directly tied to the stock market or broader economic cycles.²⁹⁹ Second lien asset-based loans backed by IP also offer higher returns and thereby attract investors willing to take on higher risks, including hedge funds.³⁰⁰ For borrowers, using IP to secure loans can significantly increase the amount of credit available.³⁰¹

In addition, over time lenders will likely reduce their aversion to IP-backed loans because they perform no worse than traditional secured loans.³⁰² There also is likely more room for IP to be used as collateral because practitioner expertise has room to grow. According to attorney Daniel Kegan, “[e]ven within the United States, even limited to intra-state transactions, securing intellectual property collateral is often forgotten, while both securing and collecting intellectual property are often misunderstood, and misapplied.”³⁰³

Commercial law scholar Anjanette Raymond makes a similar point, stating that:

Perhaps the most significant fact for all . . . practitioners is that most lenders do not understand intellectual property at all. They have difficulty understanding its value as collateral, find it hard to gauge its worth, and have no idea how to maintain its value when used as collateral in a finance device.³⁰⁴

the Lending Decision, (TUM School of Management, Working Paper 2012), at 14, available at <http://ssrn.com/abstract=1909602>. But see Paroma Sanyal & Catherine L. Mann, *The Financial Structure of Startup Firms: The Role of Assets, Information, and Entrepreneur Characteristics*, (Federal Reserve Bank of Boston, Working Paper No. 10-17, at 19, available at <http://www.econstor.eu/bitstream/10419/55565/1/642984506.pdf> (“[S]tartups with intellectual property are more likely to use external debt compared to the owners’ personal resources. For hi-tech startups, patents may signal a future revenue stream that can help to secure external loans”).

299. Thomson Media, *supra* note 295.

300. *Id.*

301. Loumiotis, *supra* note 230.

302. *Id.*

303. Daniel Kegan, *Securing and Collecting Intellectual Property Collateral*, 52 COMM., BANKING & BANKRUPTCY LAW, Dec. 2007, available at http://www.keganlaw.com/keganlaw-elan/Clipper_files/16-Securing%20IP-IsbaCbbDec07%E2%88%9A.pdf.

304. Anjanette H. Raymond, *The Use of Intellectual Property as Collateral in Secured Financings: Practical Concerns*, 32 COMPARATIVE LAW YEARBOOK OF INTERNATIONAL BUSINESS, 2010, at 1-2, available at <https://qmro.qmul.ac.uk/xmlui/bitstream/handle/123456789/1221/RAYMONDTheUse2010FINAL.pdf?sequence=2>.

Better IP valuation methods, the growth of nonbank lenders that specialize in lending against IP (and other nontraditional collateral), and the market's growing comfort with using IP to secure loans³⁰⁵ all indicate that there exist overlooked opportunities for startups that own IP.

5. The Role of Hedge Funds

Over the past decade, hedge funds and other non-bank asset-based lenders have grown to meet borrowers' demand for capital. The growth of non-bank lenders like hedge funds is significant because it is these lenders that will likely be the ones to make loans to startups, either alone or as part of a broader loan syndicate. Compared to hedge funds, traditional banks tend to be more conservative, lack the capacity for intense collateral monitoring, and require compliance with financial ratios that startups typically cannot meet. By contrast, hedge funds and other non-bank lenders have a higher tolerance for risk and are not subject to the same regulatory constraints as banks.³⁰⁶ Indeed, the financial crisis led to a long-term reduction in the credit available from banks due to banks adopting higher lending standards and being subject to more strict capital regulation.³⁰⁷

Shortly after the turn of the century, hedge funds began to steadily increase their loan origination activities and did so through asset-based lending. According to HedgeFund.net, the total amount of assets managed by asset-based lending hedge funds grew rapidly, from under \$1 billion in 2003 to \$16 billion in 2008.³⁰⁸ Hedge funds may make direct asset-based loans to borrowers as a borrower's primary lender or play a role in a first lien/second lien or bifurcated structure. Asset-based lending funds have enabled traditional asset-based lenders to make larger loans and the overall asset-based industry to grow.³⁰⁹

Two unique aspects of asset-based lending hedge funds indicate that

305. Thomson Media, *supra* note 295.

306. See Kenneth H. Marks, *Four Places to Find Capital*, FINANCIAL PLANNING ASS'N., May/June 2010, <http://www.myarticlearchive.com/articles/10/026.htm>; Eden, *supra* note 16 (discussing the importance of asset based lenders in the current marketplace); Slee, *supra* note 146, at 315 ("Since [asset-based lenders] are not regulated, they have more autonomy to structure deals.").

307. See Mark V. Nuccio & Richard R. Loewy, *Basel III: Impact on Asset-Based Lending*, ROPES & GRAY, Jan./Feb. 2013.

308. Peter Laurelli, Strategy Focus Report: Asset Based Lending Funds, April 1, HEDGEFUND.NET, Apr. 1, 2009, available at <http://www.herrick.com/siteFiles/News/ED7DE95AD77C1B98BDD5097B225845B2.pdf>.

309. See Streck, *infra* note 316 (discussing the importance of the flexible nature of hedge funds in growing the financing market).

growth in the funds create new opportunities for startups to receive more asset-based loans. First, asset-based lending funds are generally willing to accept a wider range of collateral against which to extend credit. Traditional asset-based lenders typically secure their loans using accounts receivable, inventory, and equipment or other fixed assets. Asset-based lending funds, by contrast, are more willing to use nontraditional forms of collateral in a borrowing base,³¹⁰ including franchise loans, real estate, life insurance, energy receivables, litigation receivables, municipal receivables, film-related income and distribution rights, education assets, and medical equipment.³¹¹ For example, an owner of workers compensation receivables was able to use the receivables to secure a loan from an asset-based lending fund, whereas traditional asset-based lenders were not willing to advance funds against such assets.³¹² In 2011, a maker of augmented reality glasses used its 47 patents as collateral for a \$500,000 loan from a hedge fund.³¹³

Consistent with asset-based lending funds' acceptance of a wider range of collateral is a study that hedge fund lenders generally make loans to companies having lower profitability, lower creditworthiness, and higher asymmetric information than companies that raise debt from bank loans.³¹⁴ Hedge funds are also more willing than banks to make loans to smaller companies, such as those with less than \$50 million in income.³¹⁵

Second, asset-based lending funds are more likely to use a wider and more borrower-friendly range of structures in their asset-based lending transactions. Fast-growing startups, for example, may prefer an interest-only, back-ended loan in which the principal is not owed until maturity, and asset-based lending hedge funds are more likely to make such loans

310. Warren H. Feder, *Hedge Funds Fill the Void with a Flexible, Non-Traditional Approach*, 3 ABF J., July-Aug. 2005 [hereinafter Feder] (discussing the flexible nature of hedge funds).

311. See *id.* (showing specific examples of non-traditional collateral); Chris O'Leary, *Asset-based Lending Funds Seize on Demand for Credit*, INST'L INVESTOR, Oct. 29, 2009, available at <http://www.institutionalinvestor.com/Popups/PrintArticle.aspx?ArticleID=2327050> (discussing how asset-based lending funds have filled voids in the lending market and profited as a result).

312. Feder, *supra* note 310. This is in part due to the fact that traditional asset-based lenders are more likely to have restrictions limiting their eligible accounts receivable to those that extend up to 120 or 150 days, whereas hedge funds do not. *Id.*

313. Dugan, *supra* note 19.

314. Vikas Agarwal & Costanza Meneghetti, *The Role of Hedge Funds as Primary Lenders*, REV. DERIVATIVES RES. (forthcoming), available at <http://ssrn.com/abstract=1596830>.

315. Nick Mann, *The Revival of Asset-Based Lending*, BRIGHTON ASSOCIATES (May 31, 2012), <http://www.brightonhouseassociates.com/web/the-revival-of-asset-based-lending/> (discussing changes in financial markets that have led to different targeted investments by hedge funds).

available. In addition, asset-based lending funds are more willing to make second-lien loans than are traditional asset-based lenders.³¹⁶

The use of second-lien loans was historically a very limited type of financing utilized by companies to provide temporary (bridge) capital or pay down existing debt in restructuring and “rescue financing” situations.³¹⁷ Beginning in 2003, however, the second-lien loan market was transformed, primarily by asset-based lending hedge funds, to be used for more general financing needs and across a variety of transactions. The amount of second-lien loans outstanding surged from \$630 million in 2002 to over \$28 billion in 2006.³¹⁸ Data by Credit Suisse Group found that hedge funds in 2006 purchased approximately 60 to 80 percent of second-lien loans.³¹⁹ Importantly, asset-based lending funds are also often particularly interested in second liens secured with collateral in the form of intellectual property because of its higher yield.³²⁰

316. Hedge fund lenders found second-lien loans attractive because they gave their holders high yields relative to first-lien financing, the ability to recover against collateral, and protective rights in bankruptcy liquidation and restructuring situations. Second-lien loans are also a type of investment that provides investors with the attractive features of asset-based lending fund investing: equity-like returns with the risk-mitigating benefits of lending against collateral, having operational controls, and protections through covenants and other contractual provisions. See John O. Streck, *Hedge Funds Provide Liquidity to Healthy, Distressed Markets Primary Fund Source in Second-Lien Market*, J. CORP. RENEWAL (Dec. 2005) [hereinafter Streck] (discussing the extra protections that hedge funds can obtain in asset-based lending), <http://www.turnaround.org/Publications/Articles.aspx?objectID=5437>. When asset-based lending hedge funds extend second-lien loans, they typically do not actively monitor collateral as intensively as traditional first-lien asset-based lenders, and instead rely on the senior secured lender to do so. In this respect asset-based loan funds may be free-riding on the monitoring efforts of first-lien lenders, thereby constituting secondary members of information-sharing coalitions, as conceptualized by Leland and Pyle. See Hayne E. Leland & David H. Pyle, *Informational Asymmetries, Financial Structure, and Financial Intermediation*, 32 J. FIN. 371, 371-72 (1977) (discussing the role of asymmetric information signaling in providing secondary market participants the information to invest). In addition, as second lien lenders and nonprimary monitors, asset-based lending funds are acting consistent with Park’s theory that postulates that senior (first liens) are the efficient monitors. See Park, *supra* note 37.

317. See George H. Singer, *The Lender’s Guide to Second-Lien Financing*, BANKING LAW J., March 2008, at 199, 200-01 (discussing the traditional applications of second-lien lenders).

318. Thomas C. Carlson, *Rights Offerings Provide “New” Solution to Classic Leverage Problem*, J. CORP. RENEWAL, June 2007.

319. Harris Rubinroit, *Georgia-Pacific Takeover Sets Record Year for Second-Lien Loans*, BLOOMBERG, Nov. 13, 2006.

320. Thomson Media, *supra* note 295 (discussing the use of IP as collateral in loans).

C. Limitations and Asset-Based Lender Opportunism

Despite the potential benefits of asset-based loans to borrowers, the loans may directly or indirectly result in creditor opportunism in three ways. First, asset-based loans are structured so as to be overcollateralized since the loan is always less than the value of the asset. This means that asset-based lenders are generally less concerned about the overall health of the company than a typical financial statement lender. Indeed, by lending against assets for less than they are worth if sold, an asset-based lender seeking earlier repayment of their loan would rather have the debtor default on their loans so they can seize and sell the assets in a liquidation. Other characteristics of asset-based loans that may make default attractive to a lender is that lenders may earn fees upon a covenant breach and borrowers may have to pay an early-payment fee.³²¹ Because of the overcollateralization and fees, asset-based lenders may be less willing than financial statement lenders to renegotiate a loan if there is a covenant breach. These incentives may be exacerbated by a perverse incentive created by asset-based loans. A borrower that is desperate for cash may seek to increase the size of its credit line by accumulating inventory (or otherwise growing its borrowing base) instead of actually earning cash from its customers.³²²

Second, the specific ways in which borrowing base provisions are drafted may enable lenders to engage in opportunistic conduct. Contracts that give lenders too much discretion to value the assets in a borrowing base, or what assets are eligible in the first place, give lenders an incentive to “low ball” the valuation to help assure themselves of repayment later. Third parties that perform valuation services may also be paid or otherwise captured by lenders, and therefore have a bias towards the lenders’ interests. In addition, a borrowing base provision that permits lenders to unilaterally decrease the amount of credit available by decreasing the advance rate or increasing reserve requirements³²³ may effectively allow the lender to foreclose on the loan by cutting needed working capital from the borrower — even though the borrower is in perfect financial health.

321. See Dugan, *supra* note 19 (discussing ways in which hedge fund asset-based lenders are filling a demand for loans stemming from a lack of traditional financing sources).

322. Ted Hurlbut, *The Dangers of Asset Based Loans for Small and Independent Retailers*, HURLBUT & ASSOCIATES, Feb. 3, 2009, <http://www.hurlbutassociates.com/retail-perspectives-blog/bid/50787/The-Dangers-of-Asset-Based-Loans-For-Small-and-Independent-Retailers> (discussing pitfalls for retailers when using asset-based loans).

323. See *generally* Universal Stainless and Alloy Products, Inc. Credit Agreement, *supra* note 192 (showing an example of an asset-based deal putting in such conditions).

Third, distressed borrowers may be particularly vulnerable to creditor opportunism. In general, when a company is in distress, its assets may be more valuable than its broad enterprise value. This discrepancy gives lenders an incentive to sell a company's loans at a discount to buyers that are more interested in owning the collateral than investing in the company.³²⁴ Moreover, to the extent second lien loans are used as part of or to enable an asset-based loan package, they may facilitate certain types of creditor opportunism both before and during the bankruptcy process. One type of opportunism is known as a "loan to own" strategy which consists of a lender providing financing to a troubled firm at a high interest rate to increase the probability of default and then exchange the debt positions for equity in a restructuring, thereby gaining ownership of the firm.³²⁵ In particular, providing second lien loans may afford a hedge fund an opportunity to ultimately control a struggling firm. According to Streck,

the second-lien market has also become a method for hedge funds to gain control of companies that default on their financings. Some of these loans may have an equity conversion feature in an instance of financial distress. Hedge funds are very comfortable becoming owners of companies through such "loan-to-own" strategies. The basic strategy is for a hedge fund to provide financing to a struggling company at attractive rates for the fund. If the company cannot subsequently service the debt obligations, the fund converts its debt position into a significant/majority equity position.³²⁶

In addition, when a borrower does go into bankruptcy, the presence of second lien lenders may create impediments to reorganization by limiting assets to secure financing in bankruptcy and general reorganization

324. Eric Uhlfelder, *Asset-Based Lending Shifts to Owning*, INST'L INVESTOR, July 2010, <http://www.institutionalinvestor.com/Popups/PrintArticle.aspx?ArticleID=2628221> (reporting that "instead of originating [asset-based] loans, the fund could do better buying secondary loans at deep discounts from distressed owners . . . [because] income streams could be unleashed once the assets were divorced from the troubled institutions").

325. See Michelle M. Harner, *Activist Distressed Debtholders*, 89 WASH. U. L. REV. 155, 164-170 (2011) (discussing loan-to-own strategies); Adam Pincus, *Shining a Light on Loan-to-Own*, THE REAL DEAL (April 1, 2009), http://therealdeal.com/issues_articles/shining-a-light-on-loan-to-own/ (discussing the increased risks of loan-to-own); Danielle Fugazy, *Lender Rebirth?*, MERGERS & ACQUISITIONS, April 9, 2009, http://www.themiddlemarket.com/maj/2009_5/-192060-1.html (loan-to-own "opportunities involve buying debt of distressed companies, and then swapping those positions for equity in the restructured entity.").

326. Streck, *supra* note 316.

options.³²⁷ Hedge funds in particular may disrupt the reorganization process by causing collective action problems or having conflicts of interest with the debtor or other creditors.³²⁸

CONCLUSION

This Article has shown that performance sensitivity is an important and unique characteristic of financial contracts. Commercial loans in particular can be performance sensitive in several ways. This Article focuses on performance pricing, borrowing base provisions, and renegotiation as the most important mechanisms of performance sensitive loans. Performance sensitivity is a type of creditor governance mechanism that protects creditors against losses resulting from the agency costs of debt. Performance sensitivity is also related to traditional governance mechanisms in the form of monitoring, collateralization, and covenants. As predicted by incomplete contracting theory, performance sensitive debt is generally more efficient than debt that lacks any responsiveness to a borrower's creditworthiness. In addition, performance sensitive debt helps to flesh out existing theories and empirical findings of corporate capital structure. Focusing on performance sensitivity as a separate governance mechanism may also increase the efficiency of corporate credit markets by causing practitioners to implement better or new types of performance sensitive provisions. My analysis suggests that increased performance sensitivity has the potential to improve markets for financial instruments that typically are not performance sensitive, such as bonds.

Asset-based lending in particular is an important and underappreciated type of performance sensitive debt. Asset-based loans adjust the credit available to a borrower using the unique borrowing base provision. The loans are often the only type available for high risk borrowers, and therefore employ robust governance in the form of strong monitoring, collateralization, and two forms of performance sensitivity (performance pricing and borrowing base revolvers). Because asset-based loans can be structured to meet the needs of a wide variety of borrowers, they likely can be expanded to provide financing to certain startups. The types of startups most likely to benefit from asset-based loans are revenue-stage angel-backed or venture-backed startups that have qualifying assets and are

327. See generally Gordon L. Su, *Bankruptcy Implications of Second Lien Loans* (Working Paper), <http://www.turnaround.org/cmaextras/Paper—BankruptcyImplications.pdf> (discussing the impact on bankruptcy recoveries caused by second-lien loans).

328. See *id.* at 21-25 (discussing the interference second-lien holders create in bankruptcy proceedings).

seeking financing for growth or working capital. Asset-based lending has grown and evolved in the last few decades and will likely continue to do so and become a more mainstream financing option.

Despite its general efficiency and ability to make credit available to borrowers with nowhere else to turn, asset-based lending is not immune from problems of creditor opportunism. Indeed, because asset-based loans are overcollateralized, they may give lenders too much discretion and are often made to distressed borrowers. The loans may present lenders with unique forms of opportunism and weak incentives to work with borrowers to restructure loans. While certain startups are likely to benefit from making greater use of asset-based loans, failure to take into account the loans' potential dangers and incentive misalignments may put the borrower's enterprise in jeopardy.