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SECURED CREDIT AND SOFTWARE FINANCING

*Ronald J. Mann**

Software may be a relatively new type of business asset, but it already has taken on a central role in all sectors of the economy. And when any asset brings such a crucial value to businesses,¹ the desire for lending based on that asset

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Finally, I am particularly grateful to the industry experts who took time out from their productive affairs to speak to me and to help me locate appropriate interview subjects. Confidentiality concerns unfortunately prevent me from thanking all of those people and their companies, but it is appropriate to mention here Jack Ciulla (from Advantage Software Funding Group), John D. McIntosh (from Applied Dynamics International), Rick Snyder (from Avalon Investments), Elizabeth Passela (from BankBoston), Chip Halverson (from Comdisco), Kathy Jehle (from Comshare), Hal Hayden (from First Sierra Software Finance), Mark Radcliffe (from Gray, Cary, Ware & Freidenrich, LLP), Mark A. Kielb (from IA Inc.), Douglas P. Wetzel (from International Software Finance Corp.), Mark Bazrod (from LPI Software Funding Group, Inc.), Jim McGauley (from MedCard Systems, Inc.), Robert W. Gomulkiewicz, Stephanie Guiste, Morris Kremen, Robert B. McAuley, and Matt Verdick (all from Microsoft Corporation), Gary Wyner (from Monetrex, Inc.), Leianne Crittenden (from Oracle Corporation), Holly Towle (from Preston, Gates & Ellis LLP), Oliver Colvin and James F. Forrester (both from Silicon Valley Bank), Mark Trachy (from State Street Bank and Trust), and Dennis J. White (from Sullivan & Worcester LLP). This paper also benefited from comments received on an earlier version of a portion of it at the April 1998 Berkeley Conference on Intellectual Property and Contract Law in the Information Age.

Because all of the applicable bodies of law are rapidly changing, it is useful to specify in advance the versions to which I refer in the article. Except as otherwise indicated, all references to the Uniform Commercial Code in this article refer to the official version as of August 1, 1998 (that is, including the revised Article 9). References to the "old" Article 9 are to the official version as of January 1, 1998. Except as otherwise indicated, references to the proposed Article 2B are to the August 1, 1998 discussion draft.

¹ Although it is difficult to get accurate statistics, the Bureau of the Census reports revenue growth in the software industry from \$4.3 billion in 1977 to \$50.6 billion in 1992. Competition in the Computer Industry, Hearing Before the Subcommittee on Economic and Commercial Law of the House Committee on the Judiciary, 103rd Cong., 1st Sess tbl. 2, at 122 (1993) (Serial No. 34).

cannot be far behind. Unfortunately, however, the existing academic literature contains no sustained examination of software-related lending.

Because of the infancy of the industry, the existing empirical evidence is inadequate to support any understanding of the industry. Accordingly, I undertook a series of twenty-eight informal interviews with industry participants, including lenders both in the Massachusetts Route 128 corridor and in Silicon Valley, software companies that borrow money to develop software, and large software companies that must accommodate their customers' need for funds to facilitate the acquisition of software.²

This article presents the results of those interviews. Although the relevant legal rules are relatively inhospitable to such lending, the interviews reveal a thriving industry that provides substantial debt investment in the two primary areas in which software is particularly valuable to a business: start-up businesses developing software; and established businesses acquiring software.

The article proceeds in three steps. Part I sets the stage by explaining the practical circumstances and background legal rules that make it improbable that lenders rely on liquidation of collateral as an exit strategy for an unsuccessful software lending transaction. As the discussion shows, those problems are more complex and intractable than they might appear at first glance.

Because those problems provide an almost absolute bar on a lender's ability to liquidate collateral, they provide a perfect environment in which to test theories about the basic motivations that drive businesses to engage in asset-based lending. In particular, the existence of a substantial amount of asset-based lending on software flies in the face of the conventional notion that lenders want to use secured lending because of the right of liquidation that they get.³ Conversely, the existence of that lending provides strong support to the developing scholarship that argues that parties are motivated to use secured

² The interviews were conducted in person or by telephone, without prior access to the questions I planned to ask. In most cases, the interviews were recorded on a hand-held tape recorder and subsequently transcribed. Transcripts are available on request. In a few cases, the interview subject did not wish the interview to be recorded (in which case only redacted notes are available). Also, some of the interview subjects requested anonymity; in those cases the transcripts are redacted to preserve the anonymity of the interview subject. For a more general discussion of my interview methodology, see Ronald J. Mann, *Explaining the Pattern of Secured Credit*, 110 HARV. L. REV. 625, 630-31 (1997) [hereinafter Mann, *The Pattern of Secured Credit*].

³ For a general discussion of that conventional justification for secured credit, see Mann, *The Pattern of Secured Credit*, *supra* note 2, at 638-39.

lending because of less direct effects on the borrower's activity and incentives before the point of default.⁴

Parts II and III are the heart of the article, because they describe the two principal types of software lending. In both of the areas mentioned above – software-development lending and software-acquisition lending – the parties have overcome the absence of any practical right of liquidation by developing substitute strategies that provide adequate remedies to render the transactions practicable.

Part II discusses the first of those transactions, software-development lending. Because the development of new software products ordinarily is a risky endeavor, the typical software developer must rely on angel or venture capitalists to invest a substantial amount of equity in the business. But lenders also have found a profitable role for debt in that arrangement. The lender relies primarily on a symbiotic relation with the venture capitalist, in which the lender provides cheaper funds and banking services in return for an informal commitment that the venture capitalist will repay the debt.

Relying on that legally unenforceable commitment, together with the validation of the project that comes from the venture capitalist's own investment in the borrower, the lender can obtain an adequate assurance of repayment not only in later-stage startups that have revenues from initial product and service sales, but even in earlier transactions in which the borrower is not yet generating revenues. Part II provides the first academic analysis of the role of debt in venture-capital companies, and thus substantially extends the extant literature on the venture-capital investment process.

⁴ See, e.g., David Gray Carlson, *On the Efficiency of Secured Lending*, 80 VA. L. REV. 2179, 2188-89 (1994) (pointing to the power of the creditor's leverage as the principal benefit of secured credit); David Gray Carlson, *Secured Lending as a Zero-Sum Game*, 19 CARDOZO L. REV. 1635, 1679-80 (1998) ("[P]ower is the main thing. ... Any theory of secured lending must concentrate primarily on *The Role of Secured Credit in Small-Business Lending*, 86 GEORGETOWN L.J. 1, 11-26 (1997) [hereinafter Mann, *Small-Business Secured Credit*] (arguing that the ability to stave off future debt motivates the use of secured debt in small-business lending); Ronald J. Mann, *Verification Institutions in Financing Transactions*, 87 GEORGETOWN L.J. (forthcoming July 1999) (section II(a)(2)) (arguing that the same analysis applies more broadly to commercial lending); Alan Schwartz, *Priority Contracts and Priority in Bankruptcy*, 82 CORNELL L. REV. 1396, 1412-14 (1997) (arguing that firms issue secured debt to prevent dilution of claims by debt issued to later lenders); Robert E. Scott, *A Relational Theory of Secured Financing*, 86 COLUM. L. REV. 901, 926-27 (1986) (suggesting that collateral functions as a hostage for the lender); George G. Triantis, *Secured Debt Under Conditions of Imperfect Information*, 21 J. LEGAL STUD. 225, 246-47 (1992) (emphasizing the importance of leverage as a determinant of the use of secured credit); see also Mann, *The Pattern of Secured Credit*, *supra* note 2, at 639-58 (summarizing alternate justifications for secured credit).

Part III examines a second type of transaction, software-acquisition lending. In that area, the customary difficulties of liquidation are enhanced because the end-user of the software typically has only a nonexclusive license to use the software, and because the licensor typically will not permit use or remarketing of the software by the lender. Thus, liquidation is not just impractical, it is entirely prohibited. Nevertheless, a thriving lending industry is developing, which funds those transactions in much the way that finance companies fund the acquisition of tangible equipment for use by businesses. And the absence of liquidation as a remedy seems to pose little or no difficulty for the lenders in that market, because they have another remedy that in practice is just as effective: an ability to terminate the borrower's use of the software. The sufficiency of that remedy as a device for convincing lenders to advance funds to software users provides a signal example of the limited relevance of liquidation to the structure of asset-based lending transactions.

Because the remedy on which those lenders rely is independent of the classic secured creditor's remedies of repossession and foreclosure, it poses a series of significant challenges to the legal system. In the most obvious context, recently proposed reforms to the Uniform Commercial Code included several provisions that offered favorable treatment to secured lenders, but denied any benefit to most forms of software-acquisition financing. Those provisions have the unfortunate indirect effect of privileging forms of financing that (in the absence of the encouragement of the statute) apparently would be less effective than the financing transactions discussed here. Moreover, because those reforms failed to recognize the significance of the right to terminate as a remedy, they inadvertently would have undermined the viability of the lending market by casting doubt on the enforceability of the lender's right to terminate use of the software. At least in part because of the defects in those proposals, the entire effort to deal with software-financing issues in the UCC reform process recently has stalled.

Second, treatment of the asset-based software lender as an unsecured lender has a substantial adverse effect on that lender if its borrower files for bankruptcy. The Bankruptcy Code's traditional differential treatment of secured and unsecured lenders – that is, its unfavorable treatment of lenders that it classifies as “unsecured” – reflects a fundamental weakness in the standard classification of lenders. The closing pages of the article examine the normative basis for that preference and conclude that it would make more sense for the bankruptcy system to respect the functional effectiveness of the software lender's remedy. Ideally, that lender's priority would depend on compliance with a public filing requirement, but I would extend priority even without such a filing system in place.

The difficulties that the law has faced in dealing with those issues are symptomatic of a more general problem, a shift in emphasis in the process of codifying commercial law. During the glory days of the drafting of the original Uniform Commercial Code, scholars devoted tremendous effort to identifying and understanding the relevant business practices, so that the law would reflect, guide, and support those practices. Unfortunately, as practices have changed, the law has not kept pace. This article provides a poignant illustration of the law's inability to provide adequate governance of business practices in new industries without a codification process that focuses directly on those practices.

I. LIQUIDATING SECURITY INTERESTS IN SOFTWARE

My prior work about secured credit has emphasized the difficulties that lenders face in liquidating collateral in particular contexts. For example, I have argued that small-business secured lenders place little reliance on their ability to liquidate assets held by small-business borrowers because of the limited value those assets are likely to have if the borrower fails.⁵ Any discussion of software financing must start with the point that liquidation difficulties are more severe for software lenders than they are for other lenders. My point is not simply that software is difficult to liquidate, in the same way that accounts receivable of a failed small business might be difficult to liquidate. I argue instead that fundamental practical differences and firmly held legal distinctions make software categorically more difficult to liquidate than traditional forms of real and personal property.

A. Practical Obstacles to the Liquidation of Software-Related Collateral

1. The Short Half-Life of Software Liquidation Value

Although software can be quite valuable to the business that owns it, a lender that tries to sell the software to recover the balance of its loan must overcome numerous practical obstacles, starting with the rapid pace at which software becomes obsolete. At least under current circumstances, software technology develops much more rapidly than the technology of most other business assets. Thus, software that implements cutting-edge technological expertise can become fatally inferior to newly developed products in just a short time. The lender might not know why or exactly when, but it must accept a

⁵ See Mann, *Small-Business Secured Credit*, *supra* note 4, at 15-17.

significant probability that the market value of the software to a potential new user will decay and reach zero within a relatively short time span.⁶

That rapid development curve produces a broad gap between the value of software to the original end-user and the value of the same software in liquidation. In the facility of an end-user whose business practices incorporate it, the software might be enormously valuable. Yet the same piece of software might be so far behind current technology that it would have no value whatsoever on the open market, because no end-user selecting a new system would choose the obsolete product. The year-2000 software problem illustrates the point well. Every business troubled with a year-2000 problem could replace all of its old software with new software sufficiently sophisticated to recognize the twilight of the millennium. The fact that businesses contemplate spending literally billions of dollars to repair existing software in response to that problem (instead of purchasing wholly new software) shows the huge gap between the in-place and market values of software.⁷

The valuation gap is caused by the low marginal cost of reproducing software. In the case of traditional production machinery, even an outdated machine has some market value, in the sense that a business using similar machinery that needs to expand its production capabilities might be willing to pay a positive sum to purchase the machine. Because producing an additional machine requires the consumption of “real” resources, even the used machine is likely to retain some value as a substitute for the costs of constructing a new machine. In the case of software, however, that should not be true, because the

⁶ See Telephone Interview with Mark Trachy, State Street Bank, transcript at 8 (Mar. 10, 1998) [hereinafter Trachy Interview] (transcript on file with author) (suggesting that a typical product life cycle is 15-18 months). One software lender to whom I spoke argued that the rapid decay of software value is at least partially psychological: people expect software to become obsolete much more rapidly than it does. See Telephone Interview with Mark Bazrod, President, LPI Software Funding Group, Inc., transcript at 6 (Nov. 9, 1998) [hereinafter Bazrod Interview] (transcript on file with author). It also is important to realize that the value of software endures much longer if the software is updated. See Telephone Interview with Hal Hayden, General Manager, First Sierra Software Finance, transcript at 3-4 (Dec. 14, 1998) [hereinafter Hayden Interview] (copy on file with author) (explaining the distinction between the rapid obsolescence of unmaintained software and the relatively enduring value of updated software). As explained in the next section, however, the lender ordinarily is not in a position to provide the updating necessary to maintain software value.

⁷ See Bazrod Interview, *supra* note 6 (transcript at 5-6) (discussing the value of older software in place and explaining that “when you get to large systems that people are making major investments in ... you don’t change those things overnight”); Hayden Interview, *supra* note 6 (transcript at 4) (explaining that the kinds of systems against which he loans “cannot be replaced overnight”); Interview with Robert B. McAuley, Program Manager, Microsoft Corporation, Redmond, Washington (transcript at 6) (Nov. 11, 1998) [hereinafter McAuley Interview] (transcript on file with author) (discussing the large number of companies using relatively obsolete Microsoft products).

cost to create an additional unit of the software is insignificant. Thus, even a business dependent on using the same obsolete software that the lender has for sale is unlikely to be interested in paying the lender any significant amount of money for the right to purchase an additional copy of that software.

In sum, the liquidation value of software against which a lender loans money generally depreciates much more rapidly than the software's value to its user. Accordingly, lenders cannot rely on the liquidation value of the collateral to justify a loan of funds to be repaid under an amortization schedule based on the useful life of the collateral in the hands of the user. As you would expect, lenders understand the situation well. One lender put it well when he explained that "people in our business ... don't like the prospects of having to liquidate these kinds of assets because ... the values drop off the table very quickly."⁸

2. The Lender's Inability To Support the Software

A similar difficulty arises from the separation of the ownership of a particular copy of a computer program from the expertise necessary to support use of the program. One aspect inherent in the rapid pace of software development is that (at least in our current state of technology) most business software requires more continuing maintenance from the developer/owner than the typical piece of business machinery. Software, especially cutting-edge software, often is plagued with "bugs" and other minor problems that make it impractical for the software to be implemented without continuing assistance and maintenance from the software developer. The assistance can take the form of episodic technical advice about the existing software or a series of improvements in the form of software upgrades. In either case, though, the initial computer program standing alone without that support and maintenance has a significantly diminished value. In order to maintain the value of the collateral

⁸ Trachy Interview, *supra* note 6 (transcript at 8). For similar perspectives on the short useful life of software products, see, *e.g.*, Interview with John D. McIntosh, President and CEO, Applied Dynamics International, Ann Arbor, Michigan, transcript at 1 (Apr. 8, 1998) [hereinafter McIntosh Interview] (transcript on file with author) (statement of software developer that he puts out new releases of his major products at the rate of two a year: "What we are doing today ... two or three years from now will be the old technology."); Telephone Interview with Elizabeth Passela, Team Leader, National Team, Information Technology Division, BankBoston, transcript at 10 (Mar. 8, 1998) [hereinafter Passela Interview] (transcript on file with author) (describing difficulties that lender faced in liquidating obsolete Wang software); *see also* Telephone Interview with Stephanie Guiste, Microsoft Corporation, transcript at 4 (Mar. 11, 1998) [hereinafter Guiste Interview] (transcript on file with author) (suggesting that the residual value of software is so low that it makes little sense to characterize transactions as leases instead of purchase-money loans); Telephone Interview with Chip Halverson, Comdisco, transcript at 2 (Apr. 3, 1998) [hereinafter Halverson Interview] (transcript on file with author) (expressing the view that software leasing is impractical (by comparison to equipment leasing) because the software will have no residual value at the end of the term of the lease).

even in the hands of the original user, it is crucial that support and maintenance remain available.⁹

The importance of support and maintenance services will hinder any foreclosing lender that relies on software-related collateral but is not sufficiently expert to provide that support and maintenance. For example, if a lender foreclosed on a user that failed to repay a loan extended to fund the software's acquisition, it would be difficult for the lender to obtain a good price reselling that software unless the lender could force the software developer to provide those services to the party that purchased from the lender. Similarly, if the lender foreclosed on a software developer, it might be hard-pressed to force even the existing users of the developer's software to continue to pay for software that they already have purchased.¹⁰ The moment the software developer goes out of business, excuses tend to "come out of the woodwork" in response to any effort by the lender to force the users to comply with their obligations to pay for that software.¹¹

B. Legal Obstacles to Obtaining Priority in Software-Related Collateral

Even if a lender could develop business practices and arrangements adequate to overcome the practical difficulties identified above, the lender would have to confront a legal system that, to put it frankly, evinces a deep hostility to a lender attempting to finance the acquisition or development of intellectual property. Software lenders that wish to obtain a security interest in the software on which their loan might be based must confront a set of filing systems and ownership rules that were not designed to accommodate the practicalities of either of those transactions.

⁹ See Bazrod Interview, *supra* note 6 (transcript at 5). Indeed, several interviewees explained that software can retain its value for a surprisingly long time if it is operated under a maintenance and support agreement, with the upgrades provided under such an agreement. See Bazrod Interview, *supra* note 6 (transcript at 5); Hayden Interview, *supra* note 6 (transcript at 3)

¹⁰ See, e.g., Passela Interview, *supra* note 8 (transcript at 5) (describing that problem and ways to mitigate the problem of continuing service obligations in the context of software-based receivables); Telephone Interview with Douglas P. Wetzel, CEO, International Software Finance Corp., transcript at 4 (Jan. 5, 1999) [hereinafter Wetzel Interview] (copy on file with author) (explaining that it is much easier for an equipment lessor to resell used equipment than it is for a software lessor to resell software because "we are not skilled at selling th[e vendor's] software").

¹¹ See Trachy Interview, *supra* note 6 (transcript at 3-4) ("[M]ore often than not in a young company where the technology is new, if they're bundling a maintenance agreement with a license software license the customer is going to challenge the validity of that underlying receivable I mean all kinds of excuses come out of the woodwork."). That problem, of course, is not unique to software, but afflicts many types of intangible collateral, most obviously accounts receivable.

1. *Where To File?*

The most prominent difficulty with the system is that the proper place to file is so unclear that sophisticated participants in the industry disagree about the correct location for making a filing to perfect a security interest in software and related assets. That lack of clarity is a serious problem in any transaction that involves a security interest in software. For the purposes of this article, that happens to include the development transactions discussed in Part II.

The confusion is difficult to understand, because the rules for perfecting security interests in software are relatively straightforward. Software generally receives its protection not from the standard common-law rules of state property law, but from the federal Copyright Act.¹² That statute includes an asset-based filing and registration system much like the standard systems for perfecting liens against real estate. Among other things, Section 205(a) of the Copyright Act provides that “[a]ny transfer of copyright ownership or other document pertaining to a copyright may be recorded in the Copyright Office.”¹³ Although the language of that provision leaves room for doubt, the definitional section of the Act (Section 101) defines “transfer of copyright own way that makes it clear that a grant of a security interest in a copyright is covered by Section 205(a). Specifically, a “transfer of copyright owner

¹² 17 U.S.C. § 101 et seq. *See, e.g.*, ROBERT P. MERGES ET AL., *INTELLECTUAL PROPERTY IN THE NEW TECHNOLOGICAL AGE* 860-955 (1997) (general discussion of the origin and nature of copyright protection for software). Although it once was thought impossible to obtain patent protection on software, recent decisions of the United States Court of Appeals for the Federal Circuit have made patent protection at least a theoretical possibility. *See, e.g.*, *In re Alappat*, 33 F.3d 1526 (Fed. Cir. 1994) (en banc) (finding patentable subject matter in an algorithm for enhancing a wave display in an oscilloscope); *see also* Telephone Interview with Mark Radcliffe, Gray, Cary, Ware & Friedenrich, transcript at 5 (Mar. 11, 1998) [hereinafter Radcliffe Interview] (transcript on file with author) (“I would say that the majority of software companies either have patents or are seeking to file

For now, however, patent protection for software remains much less common than copyright protection. *See generally* MERGES ET AL., *supra*, at 955-1004 (discussing the requirements for patent protection for software). Moreover, because patent protection (unlike copyright protection) exists only upon a filing with the Patent Office, the lender can ignore patent issues unless its borrower already has sought patent protection. In any event, when patent filing issues are relevant, the same doubts arise, complicated by a significantly different set of federal enactments. For a summary of the issues that those enactments present, *see, e.g.*, Alice Haemmerli, *Insecurity Interests: Where Intellectual Property and Commercial Law Collide*, 96 COLUM. L. REV. 1645, 1696-1716 (1996).

¹³ 17 U.S.C. § 205(a).

includes any “assignment, mortgage, ... or hypothecation of a copyright or of any of the exclusive rights comprised in a copyright.”¹⁴

Although Section 205(a) states simply that a transfer “may be recorded in the Copyright Office,” the statute effectively makes that filing mandatory, because Section 205(d) grants priority to a second-in-time recorded transfer over a prior unrecorded transfer if the first-in-time transferee fails to record within one month after its transfer was executed.¹⁵ Thus, a lender that wants to be sure that it is protected against subsequent lenders must file in the Copyright Office within one month of the date that the borrower grants the security interest. To be sure that it also has perfection over any prior lenders, the new lender must wait a month after it has filed to exhaust the possibility of any superior deferred filings by preexisting unrecorded lenders.

For some time Article 9 of the Uniform Commercial Code (the “UCC”) has included provisions recognizing that the federal filing system applies to security interests in copyright-protected property. Specifically, old UCC § 9-302(3)(a)¹⁶ stated:

(3) The filing of a financing statement otherwise required by this Article is not necessary or effective to perfect a security interest in property subject to

(a) a statute or treaty of the United States which provides for a national ... registration ... or which specifies a place of filing different from that specified in this Article for filing of the security interest.

The Copyright Act plainly satisfies the UCC test for an alternative filing system, because it provides for a national registration and specifies a filing in the federal Copyright Office.¹⁷ Indeed, the comments to the old Article 9 specifically listed the Copyright Act as one of the federal recording statutes to which that provision refers.¹⁸ Thus, under Article 9 as it existed until 1998, it was obvious

¹⁴ 17 U.S.C. § 101.

¹⁵ 17 U.S.C. § 205(d).

¹⁶ As I explained in the introductory footnote above, UCC Article 9 recently has been revised. References to the “old” Article 9 are to the official version as of January 1, 1998. Unqualified references to Article 9 are to the current version (adopted in May of 1998).

¹⁷ For discussion of that point, see, *e.g.*, Haemmerli, *supra* note 12, at 1666-68.

¹⁸ Old UCC § 9-302 comment 8. That comment refers to Sections 28 and 30 of the Copyright Act, instead of Section 205 (the provision discussed in the text), because the comment was written

both that a creditor wishing to perfect a security interest in copyrighted software was required to file in the federal copyright records, and that a parallel state UCC filing was “not necessary or effective,” to use the language of old UCC § 9-302(3).¹⁹

The revised Article 9 is somewhat more guarded on the question, stating only that compliance with Article 9 is not necessary for property subject to “a statute ... of the United States whose requirements for a security interest’s obtaining priority over the rights of a lien creditor with respect to the property preempt [the UCC filing requirement in UCC § 9-301(a)].”²⁰ The change in wording, however, should not be interpreted to reflect a view that the federal filing system does not apply. The preemptive effect of federal law comes not from the UCC drafters, but from the Supremacy Clause. Hence whatever the UCC says about the matter the Copyright Act’s delineation of a rule of priority between competing transferees necessarily gives effect to filings in the federal system and prevents any state law from granting a conflicting priority based on a filing in a state system.

before Congress enacted the current Copyright Act in 1976. Sections 28 and 30 were the analogous provisions of the old Copyright Act of 1909.

¹⁹ The law is not so clear with respect to software-related receivables. Because a transfer of a security interest in a payment received for the use of software is not a “transfer of copyright ownership” for purposes of the Copyright Act, 17 U.S.C. § 101, the priority rules of 17 U.S.C. § 205(d) should not apply to transactions granting security interests in such assets. *Cf.* *Broadcast Music Inc. v. Hirsch*, 104 F.3d 1163, 1166-68 (9th Cir. 1997) (holding that an outright assignment of an interest in royalties to creditors need not be recorded in the federal system, but reserving the question whether the same rule would apply to a collateral assignment of an interest in royalties).

Unfortunately, two recent lower-court cases call that analysis into doubt. See *In re Peregrine Entertainment, Ltd.* (National Peregrine, Inc. v. Capitol Federal Savings & Loan Association), 116 B.R. 194, 199 (C.D. Cal. 1990) (suggesting that “an agreement creating a security interest in the receivables generated by a copyright may also be recorded in the Copyright Office”); *In re Avalon Software Inc.*, 209 B.R. 517, 520 (Bankr. D. Ariz. 1997) (suggesting that the federal filing requirement “extends to the proceeds naturally derived from the copyrighted material”). Although neither case directly held that a federal filing is *necessary* to obtain priority over copyright-related receivables, they have led to a significant amount of commentary suggesting that such a filing is appropriate. *See, e.g.*, Haemmerli, *supra* note 12, at 1680-81 (reading *Peregrine* to require federal filing for receivables); Noel D. Humphreys, *The Peril of Copyrightable Materials as Security*, available on Westlaw, 20-APR PALAW 42 (1998); *see also* Raymond T. Nimmer, *An Update on Financing with Intellectual Property as Collateral: Part II of II*, J. PROPRIETARY RIGHTS, Nov. 1997 (stating that a security interest in a licensor’s right to receive payments under an exclusive copyright license “arguabl[y] ... requires perfection (recording) in the federal registration system”). In my view, the entire problem could be resolved by a well-reasoned opinion from the United States Court of Appeals for the Ninth Circuit. Considering the volume of West-Coast lending described in Part II of this article, such an opinion seems likely in the next few years.

²⁰ UCC § 9-311(a)(1).

The more cautious phrasing should be read to reflect a sensible trend towards a general “hands-off” approach to issues of preemption. It is pointless for the UCC drafters to attempt to describe the precise bounds of federal preemption, because federal courts doubtless will feel free to resolve those questions for themselves, without regard to the pronouncement of state legislatures adopting the UCC. Moreover, it is particularly futile to try to define the scope of preemption in this context, given the possibility that the difficulties discussed below might lead Congress to remove the federal filing obligation and leave the field to state-law filings.

Notwithstanding the relative clarity of the analysis summarized above, it came as a considerable shock²¹ to practitioners when Judge Kozinski articulated that conclusion in the district-court decision of *In re Peregrine Entertainment, Ltd. (National Peregrine, Inc. v. Capitol Federal Savings & Loan Association)*.²² That case involved the Chapter 11 bankruptcy of a business (National Peregrine, Inc.) that owned a library of copyrights, distribution rights, and licenses to approximately 145 films.²³ The bankrupt company had been in the business of licensing those films to programmers and collecting revenues in the form of license fees from the programmers.²⁴ At the time of Peregrine’s bankruptcy, Capitol held a six-million-dollar line of credit secured by the film library.²⁵

Capitol had attempted to perfect its interest by filing a UCC-1 in the state of Peregrine’s incorporation and in the various states in which Peregrine did business.²⁶ Reasoning that the state UCC filing was insufficient to perfect Capitol’s security interest,²⁷ Judge Kozinski allowed the debtor to use the

²¹ See, e.g., Telephone Interview with James F. Forrester, Head of Corporate Finance, Silicon Valley Bank, transcript at 13 (Feb. 19, 1998) [hereinafter Forrester Interview] (transcript on file with author) (characterizing *Peregrine* as “goofy” and “the one that stirred the hornet’s nest up”); Telephone Interview with Dennis J. White, Sullivan & Worcester, LLP (transcript at 7) (Mar. 5, 1998) [hereinafter White Interview] (transcript on file with author) (describing reaction to *Peregrine* as “just some wacko case out in California”).

²² 116 B.R. 194 (C.D. Cal. 1990).

²³ See *id.* at 197.

²⁴ See *id.*

²⁵ See *id.*

²⁶ See *id.* at 197-98.

²⁷ See *id.* at 198-204.

Bankruptcy Code's strong-arm power to invalidate Capitol's interest in the copyright library.²⁸

The most interesting thing about practice in the area is that, notwithstanding the provisions of the Copyright Act and the widely noted *Peregrine* decision, many lenders ignore the rule and file only in the state UCC records.²⁹ Different lenders offer different reasons for that practice. Some suggest that their attorneys have advised them that other courts would be unlikely to follow *Peregrine*.³⁰ Based on the analysis above, I find that result relatively unlikely. Others offer more practical reasons, such as the cost of filing in the federal system: because that system is asset-based (unlike the debtor-based Article 9 filing system), it requires a separate filing for each item. For lenders contemplating loans on large libraries or portfolios of collateral, that can make the filing costs quite high.³¹

Here as in other lending markets, lenders faced with high filing costs can be persuaded to forgo filings if they think that the value of a perfected security interest cannot justify the cost of the filing.³² My impression, however, is that

²⁸ See *id.* at 204-07 (applying Bankruptcy Code § 544(a)(1)); see also, e.g., JAMES J. WHITE & ROBERT S. SUMMERS, UNIFORM COMMERCIAL CODE § 23-3 (4th ed. 1995) (discussing the strong-arm power under Section 544(a)(1)).

²⁹ See Forrester Interview, *supra* note 21, at 13 (statement of bank officer that his bank files only in the state records in jurisdictions outside the Ninth Circuit); Passela Interview, *supra* note 8, at 4 (statement of bank officer that she “prefers to have [filings] with the copyright office” but that “[i]t is *supra* note 21 (transcript at 2-3) (describing large transaction in which lender required filings only with respect to the 25 most valuable pieces of software out of a library of “hundreds if not thousands of titles”); *id.* (transcript at 8) (suggesting that “most lenders” do not require federal filings on software loans below \$10 million). I did not speak with a single lender or attorney outside the territory of the Ninth Circuit who asserted that his employer or clients regularly file in the Copyright Office records on loans secured by copyright-protected assets.

³⁰ See Forrester Interview, *supra* note 21, at 13 (suggesting that “bankruptcy attorneys [on the East Coast] have not been successful at dragging that *Peregrine* into [the issue]”).

³¹ See White Interview, *supra* note 21 (transcript at 2).

³² See Technology-Bank Credit Officer Interview, Santa Clara, California (transcript at 1) (Nov. 12, 1998) [hereinafter Technology-Bank Credit Officer Interview] (transcript on file with author) (subject requested anonymity) (acknowledging that his bank often “may not have a perfected filing in the code”); Technology-Bank Emerging-Business Lender Interview, Santa Clara, California, transcript at 12 (Nov. 12, 1998) [hereinafter Technology-Bank Emerging-Business Lender Interview] (transcript on file with author) (subject requested anonymity) (statement of bank officer that his bank does not insist on registration and filing on smaller transactions); White Interview, *supra* note 21 (transcript at 8) (suggesting that competitive cost pressures limit the ability of lenders to require federal filings on small loans); cf. Mann, *Small-Business Secured Credit*, *supra* note 4, at 28 (presenting anecdotal

cost alone is not the problem. The root of the problem is evident from the next two subsections: even if the lender tries to comply with the system and is willing to pay the filing fees, it will be difficult for the lender to provide filings that satisfy the Copyright Act's procedures.

2. *What To File?*

The poor fit between the Copyright Act's filing procedures and the practicalities of software financing transactions is highlighted by the Copyright Act's deposit requirement. Under Article 9, of course, the lender taking an interest in an asset need file only a simple one-page financing statement form.³³ For the lender to make a filing under the Copyright Act, however, the borrower first must register the copyrighted material with the Copyright Office.³⁴ Registration requires the borrower (as copyright owner) to deposit two copies of the material with the Copyright Office.³⁵

The deposit requirement is of little consequence when the copyrighted material is a book — the owner simply forwards two copies of the book to the Copyright Office — but several aspects of the requirement make it a real problem for software. The biggest difficulty is the archaic insistence that the deposit be in a form “visually perceptible without the aid of a machine or
³⁶ What that means as a practical matter is that the copyright owner cannot simply give the Copyright Office a copy of the software in the form that would be sold to a user; instead, the copyright owner must provide the Copyright Office a printed copy of the source code for the copyright.

Copyright developers are reluctant to release their source code because of the ease with which competitors can “reverse engineer” from the source code to develop competing programs that use the same concepts but do not infringe the rights of the copyright owner in the protected program. Because borrowers that do not register their software do not lose any significant amount

evidence that even the modest Article 9 filing fees drive small-business bank lenders to unsecured transactions).

³³ See UCC §§ 9-502(a) (describing formal requirements for UCC financing statement), 9-521(a) (providing a standard form and requiring filing offices to accept filings on that form).

³⁴ 17 U.S.C. § 205(c)(2) (Copyright Office filings give constructive notice only if “registration

³⁵ 17 U.S.C. § 407(a)(1).

³⁶ 37 C.F.R. § 205.20(c)(2)(vii)(A).

³⁹ The amount of the deposit is determined by a complicated formula set forth in the regulation. That formula generally requires about 50 pages of the source code, with rules permitting the copyright owner to block out some portions of those pages if they contain protectible trade secrets, so long as the deposit includes at least 20 pages of actual code. 37 CFR § 205.20(c)(2)(vii)(A)(1) & (2). Lenders rely on those revisions in their efforts to convince borrowers to file at the federal level. See Forrester Interview, *supra* note 21, at 11.

⁴⁰ See Technology-Bank Credit Officer Interview, *supra* note 32 (transcript at 2) (arguing that software developers are “psychologically adverse” to making the required filings even though the rules seem to minimize any risk to the developer from making the required filings).

⁴¹ See Forrester Interview, *supra* note 21, at 11 (suggesting that his bank requires filings “unless we have lots of cushion in the deal”); Passela Interview, *supra* note 8, at 4 (“It is not a hard and fast rule but certainly we would prefer to have them filed with the copyright office.”); Technology-Bank Credit Officer Interview, *supra* note 32 (transcript at 2-3) (expressing a willingness to forgo filings on loans that are graded as having a low risk); Technology-Bank Emerging-Business Lender Interview, *supra* note 32 (transcript at 12) (describing willingness to forgo registration on small lending transactions).

between the type of works for which federal law preempts the UCC's filing system, on the one hand, and the type of works for which federal perfection is available, on the other. That mismatch leaves a considerable window in the development process, during which neither state nor federal protection is practicable.

On the first point, the previous section explains that federal law preempts state law at least with respect to any item that has reached the stage at which rights attach under the federal Copyright Act. Thus, once an item is protected under the Copyright Act, an unrecorded transfer of the item does not have priority as a matter of federal law.

The standard for federal protection is so low, however, that copyright protection attaches at an early stage in the work's development. All that is required is an "original wor[k] of authorship fixed in any tangible medium of expression."⁴² As the Second Circuit has explained, that originality standard is satisfied whenever the purported author provides "something more than a [trivial] variation, something recognizably 'his own.'"⁴³ Thus, a software program surely would be protected by copyright long before it is finished. The developer does something more than "merely trivial" well before it has a completed program ready for retail delivery.

Unfortunately, courts consistently have held that a lender cannot obtain a perfected security interest in the work (a "transfer of ownership," in the terms of the statute) until the work has been registered with the federal Copyright Office.⁴⁴ For the reasons discussed above, software developers have a powerful incentive to delay federal registration as long as possible.⁴⁵ Thus, it is a

⁴² 17 U.S.C. § 102(a).

⁴³ *Alfred Bell & Co. v. Catalda Fine Arts*, 191 F.2d 99, 102-03 (2d Cir. 1951) (upholding copyright protection for high-quality reproductions of public-domain paintings).

⁴⁴ See *In re Avalon Software Inc.*, 209 B.R. 517, 522 (Bankr. D. Ariz. 1997); *In re AEG Acquisition Corporation (Official Unsecured Creditors' Committee v. Zenith Productions, Ltd.)*, 127 B.R. 34, 41 (Bankr. C.D. Cal. 1991) (per Bufford, J.), *aff'd*, 161 B.R. 50 (B.A.P. 9th Cir. 1993). For secondary sources discussing that point, see, e.g., MELVIN SIMENSKY & LANNING G. BRYER, *THE NEW ROLE OF INTELLECTUAL PROPERTY IN COMMERCIAL TRANSACTIONS* 463-66 (1994); Haemmerli, *supra* note 12, at 1667-68, 1694; Kenneth P. Wilcox & Dennis J. White, *Practical Problems with Intellectual Property as Collateral*, INSTITUTIONAL INVESTOR, Summer 1996.

⁴⁵ It is important to emphasize the limited value of registration. Since the United States adhered to the Berne Convention, registration is now little more than an archaic formality, which provides no important substantive benefits to the copyright holder (aside from the ability to grant a security interest under the Copyright Act). See, e.g., MERGES ET AL., *supra* note 12, at 345, 349-50.

commonplace, if not unavoidable, occurrence for copyright protection to attach (and thus exclude the possibility of state-law perfection by the lender) long before the point of registration (at which federal-law perfection becomes possible).⁴⁶

That framework is quite troubling from the perspective of a lender trying to obtain a perfected interest in the software. The lender knows (or at least it hopes) going into the transaction that its borrower will be working every day to improve the software. But if the borrower doesn't register the software until it is complete, then the security interest will remain unperfected until development is complete. Imagine what a construction lender would think of a system in which it could not obtain a perfected interest in the building until the building had been completed!

Nor is there any simple way for the lender to respond to the problem. Even if the lender requires intermediate filings (perhaps every quarter, as many lenders do),⁴⁷ it is not entirely protected, because its security interest would not extend to the developments made during the current calendar quarter.⁴⁸

That is not to say that the lender has nothing in that case. Presumably the newer version of the software includes many things carried over from the older version.⁴⁹ And the lender's perfected interest in all of those carried-over features entitles it to some indeterminate share of revenues from any use of the newer version.⁵⁰ But "some indeterminate share of revenues" from the debtor's assets is not the goal of the lender that makes a development loan. Again, the

⁴⁶ See, e.g., *Montgomery v. Noga*, 1999 WL 114487 (11th Cir.) (analyzing copyright protection for software program for which the developer that did not register any version earlier than version 2.9).

⁴⁷ See Forrester Interview, *supra* note 21 (transcript at 11-12) (quarterly filings); Passella Interview, *supra* note 8 (transcript at 4) ("periodic" filings); Radcliffe Interview, *supra* note 12 (transcript at 3) (filings "at least once a quarter"); see also White Interview, *supra* note 21 (transcript at 3) (suggestion by experienced lawyer that a requirement of filings every six to twelve months is typical).

⁴⁸ See *In re C Tek Software, Inc.*, 127 B.R. 501 (Bankr. D.N.H. 1991) (perfected security interest in version 3.7 of borrower's software did not entitle creditor to improvements reflected in the 4.1 version in use at the time of the borrower's bankruptcy); see also Radcliffe Interview, *supra* note 12 (transcript at 3) (describing loan perfected only in the "delta" of the new version of the software).

⁴⁹ Think how much of Windows 97 is carried over from Windows 95.

⁵⁰ See *Montgomery v. Noga*, 1999 WL 114487, at *5-*6 (11th Cir.) (holding that the use of version 4.3 of a software program (which was not registered) infringes the registered copyright in version 2.9 of the same software program).

difficulty of finding any method that protects the lender entirely leads many lenders (especially on the East Coast) to forgo any sustained effort to comply with the filing requirements.

4. *What Do You Get Without Licensor Consent?*

A final difficulty for the software lender – the ability of the lender to take control of the collateral upon a default by the borrower – comes as something of a surprise. Those who study commercial transactions tend to assume that a borrower always has the power to grant a security interest in its assets and that a foreclosure of that interest will transfer the borrower's interest to the lender.⁵¹

That basic premise, however, is completely foreign to the community of intellectual-property practitioners, where transfers by a licensee without the consent of the licensor are strongly disfavored, even if the transfer is limited to the licensee's rights under the license. For example, in a recent case in which a bankrupt patent licensee tried to transfer its rights under the license, the Ninth Circuit explained:

[E]very licensee would become a potential competitor with the licensor-patent holder in the market for licenses under the patents. And while the patent holder could presumably control the absolute number of licenses in existence under a free-assignability regime, it would lose the very important ability to control the identity of its licensees. Thus, any license a patent holder granted – even to the smallest firm in the product market most remote from its own – would be fraught with the danger that the licensee would assign it to the patent holder's most serious competitors, a party whom the patent holder itself might be absolutely unwilling to license.⁵²

Similar concerns trouble software licensors. In their case, the principal goal of transferability restrictions is to protect their pricing structures, which offer deep discounts for volume purchasers. If a licensee of a large number of copies of a software program could carve that license up into several smaller licenses, it could sell those smaller licenses at prices greater than the price it

⁵¹ See, e.g., UCC § 9-408(a) (generally rendering ineffective contract terms that bar creation of security interests in intangible property).

⁵² In re CFLC, Inc. (*Everex Systems, Inc. v. Cadtrak Corp.*), 89 F.3d 673, 679 (9th Cir. 1996); see also In re Patient Education Media, Inc., 210 B.R. 237, 242-43 (S.D.N.Y. 1997) (following *Everex* for a nonexclusive license of copyrighted videotapes).

paid, yet still below the price charged by the licensor.⁵³ Thus, large licensors tend to forbid transfers of their software by their licensees.⁵⁴

The question then arises, if a licensee cannot transfer its rights under the license without the consent of the licensor, can it grant an effective security interest to a lender that funds the licensee's acquisition of the software? In the modern world in which a grant of a security interest is viewed as a transfer to the lender of some partial interest in (or rights against) the collateral, the logic of *Everex* suggests that a lender could not enforce a security interest if the licensor has not consented. Although there has been no judicial analysis yet of the permissibility of such an interest as a matter of federal law,⁵⁵ the drafters of the revised UCC Article 9 have responded to the concerns of licensors by including provisions that firmly bar any enforcement of such an interest without the consent of the licensor. Specifically, UCC § 9-408(d) includes a laundry list of things not required of the licensor when a lender takes a security interest in the face of a contrary provision in a license. Among other things, such a security interest does not require the licensor to recognize the lender's rights (UCC § 9-408(d)(3)), does not entitle the secured party to use the software (UCC § 9-408(d)(4)), and does not even entitle the secured party to enforce the security interest or otherwise assign the right to use the software (UCC § 9-408(d)(3) & (4)).⁵⁶ Hence, Article 9 on the one hand permits the user to grant

⁵³ See Guiste Interview, *supra* note 8 (transcript at 2-3) (“We would sell to the large-area reseller at a different price if they are going to turn around and resell to Chevron than what we would if they were going to turn around and sell to Bob’s Auto who wants 20 licenses”); McAuley Interview, *supra* note 7 (transcript at 4-5) (discussing importance of tiered pricing in the sale of Microsoft software).

⁵⁴ One interesting exception proves the rule. One Microsoft program used for licensees using less than 1,000 desktops (its Open License program) permits the licensee to transfer its interest en masse to a third party. Because the transfer must be en masse, the program ensures that the licensee is using a quantity of the software consistent with the price paid to Microsoft for the original license. See McAuley Interview, *supra* note 7 (transcript at 4-5); see also Bazrod Interview, *supra* note 6 (transcript at 10) (software lender’s recognition of the free transferability of certain Microsoft Office licenses). Transferability is particularly easy with that software because of the ready availability of support and maintenance services from third-party providers. See McAuley Interview, *supra* note 7 (transcript at 6-7).

⁵⁵ The general view seems to be that such an interest would be prohibited. See 3 Equipment Leasing (MB) ¶ 31A.06[3], at 31A-13 (Jeffrey J. Wong gen. ed. Feb. 1998) (relying on *Everex* to support the view that “a licensee cannot effectively ... grant remarketing rights to a secured party ... without the licensor’s consent”).

⁵⁶ The now-deleted financing provisions of the proposed Article 2B included a similar provision, which stated that “[t]he financier may not enforce its interest by taking possession or control, using, selling, or taking any other action with respect to the [software] without the licensor’s

the security interest without the licensor's consent, but on the other hand deprives the security interest of any operative significance.

Thus, unlike most lenders, if a lender funding a user's software acquisitions wants to be sure that it has any of the typical attributes of a secured lender, it needs to obtain consent from a third party, the licensor that owns the underlying copyrighted software. The need for that consent makes it much more difficult for the lender to obtain a right to liquidate intellectual property than a right to liquidate any other common business asset.

* * * * *

To put the general point bluntly, the filing and perfection system for copyrightable assets is so ill-suited to modern commercial lending transactions that even well-counseled lenders on substantial transactions often find that it is not cost-effective to comply with the system sufficiently to obtain a perfected security interest in their collateral.

II. SOFTWARE-DEVELOPMENT LENDING

Given the practical and legal obstacles discussed in Part I, the casual theorist would predict a limited role for asset-based debt on the balance sheets of companies dependent on software. From that perspective, the limited ability of a lender to obtain an enforceable right to liquidate a valuable asset should deter the asset-based lender, leaving the field to equity investors of various kinds or (in the case of the most creditworthy companies) general unsecured debt unrelated to specific assets of the company.⁵⁷

As it happens, however, the actual lending markets in our economy contradict that perspective. It would be only a slight exaggeration to say that the problems lenders face in obtaining repayment through liquidating software are irrelevant to the lending market. The main difficulty is not the impossibility of lending in the area, but rather the need to adapt traditional lending models to accommodate the unusual dynamics of software as an asset.⁵⁸ Software-based

express consent in the license or another record." Proposed UCC § 2B-503(b)(3). For discussion of those provisions and their deletion, see *infra* section III(B)(1).

⁵⁷ See Mann, *The Pattern of Secured Credit*, *supra* note 2, at 668-74 (analyzing the use of unsecured debt by creditworthy companies).

⁵⁸ See Interview with Mark A. Kielb, CEO, IA Inc. (Nov. 10, 1998) [hereinafter Kielb Interview] (redacted notes of interview on file with author) (explaining that Michigan banks' lack of familiarity with software companies limits their willingness to make loans that would be profitable for a bank more familiar with the financial circumstances of such companies); McAuley Interview, *supra* note 7

lending is a new field because software itself has emerged only recently as a valuable business asset. And as a new field, it requires new techniques and approaches, different from those developed over decades of practice related to more traditional assets. Thus, as with any developing market niche, different lenders will have different approaches to the area at any given time.⁵⁹ Some lenders will concentrate on the new field, develop expertise in the field, and lead the way to a new lending product. Others will wait to enter the field until the lending practices and business models become more stable.

Even looking at the practices already in place, it is clear that the industry can overcome the difficulties of software lending in at least two broad categories of transactions. This part discusses the first of those two transactions, loans to fund the development of new software products. Part III discusses the other, loans to fund the acquisition of software.

A. The Basic Transaction

I start with the software-development lending transaction because it is the more difficult. The business that seeks funds for the development of software faces not only most of the general problems discussed in Part I, but also the likelihood that an enterprise developing a product might have little or no revenue available to service debt. To make matters worse, the typical software developer often will not have significant tangible assets to bolster the liquidation value of the collateral it can offer a lender. Indeed, to the extent that the firm has any tangible equipment, it is likely to be computer equipment with high rates of obsolescence, specialization, and other features that make liquidation problematic.⁶⁰

Current accounting conventions exacerbate the problem by understating the financial position of such companies. Specifically, they make it quite hard to capitalize expenditures on developing software. Absent unusual

(transcript at 7) (“[B]anks and finance companies have not necessarily been real open to financing for software simply because it is an intangible asset and there is nothing that can be really resold.”).

⁵⁹ I examined a similar phenomenon what appears to me to be the declining usage of collateral in bank lending to small businesses in Mann, *Small-Business Secured Credit*, *supra* note 4, at 26-36.

⁶⁰ See Ronald J. Mann, *Strategy and Force in the Liquidation of Secured Debt*, 96 MICH. L. REV. 159, 181 (1997) [hereinafter Mann, *Strategy and Force*] (portion of an earlier case study recounting an incident where a bank declined to repossess retail computers notwithstanding fraud by the borrower, based on the lender’s assessment that it would incur large losses if it attempted to resell the computers).

circumstances, those expenditures must be treated for accounting purposes as periodic expenditures. The result is that a company that has gone a long way toward developing a valuable asset still might show almost no assets on its balance sheet.⁶¹

To be sure, a sophisticated lender would look beyond the formal balance sheet to the “true” value of the partially developed software. But only a sophisticated lender will be as comfortable looking past the balance sheet ignoring the lack of accounting-recognized assets for a novel asset like software as it might be for a more conventional asset like a new piece of production machinery. That result limits the universe of financial institutions willing to consider such loans to those that are quite experienced in the field.⁶²

The general solution to the capital requirements of those businesses is a substantial external equity investment from venture-capital or angel investors.⁶³ As other scholars have explained in numerous studies on the venture-capital market, venture-capital firms raise funds from groups of investors (both individuals and institutions).⁶⁴ They pool those funds into a single entity that invests in a number of portfolio companies. The portfolio companies typically are development-stage high-technology companies, companies with an idea that

⁶¹ See Kielb Interview, *supra* note 58.

⁶² See Kielb Interview, *supra* note 58.

⁶³ I have not been able to locate statistics specific to software-related venture-capital investments. One analyst, however, does state that 61% of 1998 venture-capital investments were in “information technology.” Joshua Harris Prager, *Venture Capitalists Buy Stakes in Public Biotech Firms*, Wall St. J., Feb. 2, 1999, at B2. The best available statistics describe the entire industry. See Bernard S. Black & Ronald J. Gilson, *Venture Capital and the Structure of Capital Markets: Banks Versus Stock Markets*, 47 J. FIN. ECON. 243, 247 (1998) (reporting statistics on domestic venture-capital investments from 1978 to the mid-1990’s, with new capital investments averaging more than \$4 billion per year during the early to mid-1990’s); Prager, *supra* (reporting total venture-capital investments in 1998 of \$12.2 billion in 1776 different deals, for an average of just under \$7 million per deal).

⁶⁴ See, e.g., Black & Gilson, *supra* note 63, at 248-49 (presenting statistics on typical sources of funds for venture capitalists); Curtis J. Milhaupt, *The Market for Innovation in the United States and Japan: Venture Capital and the Comparative Corporate Governance Debate*, 91 NW. U. L. REV. 865, 880-82 (1997) (discussing sources of venture-capital funding in the United States); William Sahlman, *The Structure and Governance of Venture-Capital Organizations*, 27 J. FIN. ECON. 473, 487-93 (1990) (describing and analyzing the typical arrangements between venture capitalists and their investors).

might turn out to be worth a great deal or might turn out to be worth little or nothing.⁶⁵

Scholars have paid particular attention to how the parties to the venture-capital arrangement deal with the differing incentives of the parties and the potential for agency costs associated with the differences to undermine the profitability of the arrangements. The typical venture-capital arrangement is designed to limit several different potential agency costs: the risk that the venture-capitalist will favor itself (for example, in deciding which potential portfolio companies will be placed in which funds); the risk that the entrepreneur managing the portfolio company will shirk; and the risk that the venture capitalist will treat the portfolio company unfairly.⁶⁶

Although the story of equity investments in those companies has been told frequently and analyzed in detail, little or nothing has been written about the role of debt investments in them. Despite the absence of scholarly discussion, debt investment in development-stage software companies is a significant phenomenon.⁶⁷ As suggested in Part I, those transactions formally are secured loans, but the benefits of the collateral are so minimal that lenders often do not even bother to perfect their security interests.⁶⁸ To put it more pointedly, those transactions involve loans to small, start-up companies, yet the benefit of a security interest in the principal asset of those companies is not substantial enough to justify the costs of filing.

The first key to those loans is the surprising fact that even development-stage software companies often have sufficient revenues to service substantial amounts of debt. For example, one banker experienced in the area advised me

⁶⁵ See, e.g., Black & Gilson, *supra* note 63, at 248-50 (presenting statistics on typical uses of funds raised by venture capitalists); Milhaupt, *supra* note 64, at 876-79 (contrasting the startup-related investments typical of American venture capital with the more conservative portfolio choices of venture capitalists in other countries); Sahlman, *supra* note 64, at 503-14 (describing and analyzing the typical arrangements between venture capitalists and their portfolio companies).

⁶⁶ For discussion of that literature, see Mann, *Verification Institutions*, *supra* note 4 (section II(B)).

⁶⁷ The market for lending in this context does not seem to distinguish between software development companies and other intellectual-property dependent enterprises (such as biotechnology companies). Thus, the analysis of this part applies as well to development-stage patent-dependent companies. A broader picture of patent-related lending, however, is beyond the scope of this article.

⁶⁸ See Technology-Bank Emerging-Business Lender Interview, *supra* note 32 (transcript at 12) (“[E]verything we do is secured lending ... and by the way we do get a security interest in all of the *supra* pp. 13-14.

(perhaps with a bit of excessive optimism) that more than 80% of companies that reach the venture-capital stage eventually develop sufficient revenue usually from pilot projects selling their product or service on an introductory basis to cover debt service on some type of lending arrangement.⁶⁹

Another banker who specializes in loans to development-stage technology-based companies had a similar perspective. He viewed the lack of cash flow not so much as an obstacle for technology companies as a feature of a particular stage of all young companies. In his view, the funding of the company at the earlier stage — before any revenues exist — is properly (and normally) provided by equity investors. Bank lending “kicks in ... when the company gets beyond their development cycle and they ... begin to ship a product.”⁷⁰

Those revenues provide a substantial lending opportunity geared to a bank’s customary focus on debt-service coverage, at a relatively modest interest rate.⁷¹ Even if the underlying asset has slight liquidation value, a loan to fund general working-capital needs often has a satisfactory likelihood of repayment⁷² if it can be matched against a revenue stream that provides adequate coverage for periodic interest payments on the debt.⁷³ Although the analysis in Part I should make the point clear, it is important to note that my interview subjects agreed that the lending in question relied on that revenue stream for repayment, not on

⁶⁹ See Forrester Interview, *supra* note 21 (transcript at 6-7); Technology-Bank Credit Officer Interview, *supra* note 32 (transcript at 3) (discussing bank’s reliance on revenues from beta and post-beta versions of software).

⁷⁰ Trachy Interview, *supra* note 6 (transcript at 2). The idea that bank lending is a regular feature of such companies is supported by the only quantitative analysis of the question that I have been able to locate. See Jeffrey J. Trester, *Venture Capital Contracting Under Asymmetric Information*, 22 J. BANKING & FIN. 675, 693 & tbl. 12 (1998) (presenting data indicating that 43.1% of later-stage venture-capital-backed software-development companies have debt from a third party).

⁷¹ See Forrester Interview, *supra* note 21 (transcript at 4) (discussing interest rates in the range of prime plus one or two percent per annum).

⁷² The loss rate on those loans is quite modest, generally in a range below 50 basis points (that is, less than one-half of one percent). See Forrester Interview, *supra* note 21 (transcript at 5); Technology-Bank Credit Officer Interview, *supra* note 32 (transcript at 7-8). To put that figure in perspective, the net rate of loans charged-off for all FDIC-insured national banks in 1997 was 71 basis points (just under three-quarters of one percent). Comptroller of the Currency, Administrator of National Banks, *Condition and Performance of Commercial Banks*, QUARTERLY J., June 1998, at 1, 5.

⁷³ See Forrester Interview, *supra* note 21 (transcript at 3) (describing the niche for lending based on those revenues). See generally Mann, *Small-Business Secured Credit*, *supra* note 4, at 18 n.67 (describing that rationale for loans to small businesses).

the value of any underlying collateral.⁷⁴ In particular, my interview subjects expressed little concern about the safety of their lending programs, while at the same time explaining that prospects for liquidating the assets of their working-capital borrowers were bleak.⁷⁵

Because of the high cost to develop new technology, many technology companies have a desire for more general working-capital debt than traditional lending ratios would justify based on the revenues generated by the sale of pilot-stage products and services. For those companies, traditional working-capital financing might be insufficient. The presence of the venture capitalist, however, often convinces banks to increase the amount and accelerate the timing of the lending that they provide. Thus, at least some banks are willing to provide funding as soon as the venture capitalist invests, even if the company has no revenues at that time.⁷⁶

Although their perspectives differed on exactly why the presence of the venture capitalist makes the transactions safe enough for the bank to go forward, the bankers to whom I spoke generally emphasized two separate points: an enhanced exit opportunity and confidence in the merits of the borrower. The exit strategy arises from the concrete likelihood that the venture capitalist will provide or arrange future equity funding for the portfolio company. Interestingly, the venture capitalist apparently does not offer any formal legal commitment that it will repay the bank's loan or otherwise advance funds to the portfolio company; as a legal matter, future funding obligations fall almost entirely within the venture capitalist's discretion.⁷⁷ Thus, to the extent the banks

⁷⁴ See, e.g., Technology-Bank Credit Officer Interview, *supra* note 32 (transcript at 1) (suggesting that “our collateral is essentially nothing more [than the likelihood of repayment from internal funding or further equity contributions]”).

⁷⁵ See, e.g., Trachy Interview, *supra* note 6 (transcript at 2) (describing reliance on cash flow from operations).

⁷⁶ See Technology-Bank Credit Officer Interview, *supra* note 32 (transcript at 1) (explaining willingness to lend “a fraction of what the venture-capital community has put in to it [even though] the company is probably not even in a revenue state much less a profitability state”); Kathleen Borie, *Financing Emerging Companies – Equity vs. Debt* (essay by Senior Vice President, Silicon Valley Bank) (available at <http://www.garage.com/forums/commercialBanking/articles.shtml>) (discussing the life cycle of the financing of emerging companies and explaining that “[d]ebt providers will typically provide financing once the company has received angel or venture capital (VC) funding”); Stephanie T. Gates, *Startup Finance: Debt Financing for Young Private Companies Is a Trend That Can't Last*, RED HERRING, Jan. 1999, at 98, 98 (reporting the existence of “banks willing to make loans to startups” as soon as the startups “clos[e] an initial round of venture funding”).

⁷⁷ The parties to whom I spoke considered their actual documentation proprietary, but it is clear from their comments that the venture capitalist provides no formal written guaranty. Rather, the

rely for their loans on the prospect of future funds from the venture capitalist, they rely at least in part on the informal sanction to the venture capitalist's reputation if it fails to provide the funding that the bank expects based on customary industry practices.

The structure of the transaction also bolsters considerably the likelihood that future funding to repay the bank will be forthcoming. For one thing, the bank is sure to be paid in any case in which the company proceeds far enough to make a public offering.⁷⁸ But even if the firm does not succeed in reaching that stage, the venture capitalist has to continue funding the borrower if it hopes even to obtain its initial investment in the borrower. The lenders understand well the difference between their debt investments and the equity investments of the venture capitalists: “[W]e are relying very heavily on their need to succeed by getting their money out They get nothing until we get everything.”⁷⁹

That dynamic leaves the bank two successful exit strategies from portfolio companies that do not go public. First, the venture capitalist might pay off the bank directly with a new investment into the project, a course that enhances the venture capitalist's general control over the situation.⁸⁰

lenders rely on vaguer commitments that are at best indirectly enforceable. *See* Forrester Interview, *supra* note 21 (transcript at 5); Passela Interview, *supra* note 8 (transcript at 2) (“[W]e don’t [get a guaranty or other commitment from the venture capitalists,] but we do talk to them and do ask what their commitment is to the company and ... that they would be willing to support growth should it be needed.”); Technology-Bank Emerging-Business Lender Interview, *supra* note 32 (transcript at 4-5); Technology-Bank General Counsel Interview, Santa Clara, California (transcript at 1-2) (Nov. 12, 1998) [hereinafter Technology-Bank General Counsel Interview] (transcript on file with author) (discussing “comfort letters” issued by venture capitalists and doubts about the extent to which those letters impose a legal obligation on venture capitalists); Trachy Interview, *supra* note 6 (transcript at 2) (suggesting the possibility of “bridge financing” based on future lending commitments).

⁷⁸ *See* Forrester Interview, *supra* note 21 (transcript at 5).

⁷⁹ Technology-Bank Credit Officer Interview, *supra* note 32 (transcript at 5); *See* Passela Interview, *supra* note 8 (transcript at 2) (describing reliance on implicit commitment of venture capitalists to continue funding); Technology-Bank Credit Officer Interview, *supra* note 32 (transcript at 1) (“[W]e like the motive of the venture capitalists to try to make sure we get out so they get something. ... [W]e will lend a fraction of what they put in, so they have much more skin in the game than we do and they get none of their money back until we get all of our money back.”); Technology-Bank General Counsel Interview, *supra* note 77 (transcript at 1-2) (discussing the importance of relationships in assessing the commitment of the venture capitalist to fund); Mann, *Verification Institutions*, *supra* note 4 (section II(B) (explaining how the structure of venture-capital investments makes it quite difficult for venture capitalists to abandon their portfolio companies).

⁸⁰ *Cf.* Mann, *The Pattern of Secured Credit*, *supra* note 2, at 641 n.59 (discussing an interview presenting a similar rationale for a senior lender's desire to avoid dealing with subordinate lenders).

Alternatively, the bank might be paid upon the sale of the failing enterprise's product to a competing enterprise. Interestingly, such sales seem to be fairly common even when the enterprise is failing, often because of significant off-balance-sheet assets – either the value of the user base that the enterprise has developed⁸¹ or the stable of talented software developers employed by the company.⁸² In practice, the banks' low rate of losses suggests that only a very small number of the portfolio companies to which it loans money fail to reach a point at which one of those strategies is available.

The other main benefit that the venture capitalist brings to the transaction is assistance in identifying the borrowers that are less likely to default. Thus, officers at one institution emphasized the importance of the venture capitalist's analysis of the credibility of the portfolio company. Basically, a determination by a reputable venture capitalist that a particular company warranted investment provided considerable validation of the business plan of the portfolio company.⁸³ Piggybacking on that determination, the bank often is willing to justify funding a considerable percentage of the amount invested by the venture capitalist, even before the firm develops revenues sufficient to support a conventional working-capital loan.⁸⁴ One lender put it succinctly: “[I]f [a prominent venture capitalist] puts in five or ten million dollars it is not really rocket science for the bank to layer on a piece of debt onto that.”⁸⁵

⁸¹ See Forrester Interview, *supra* note 21 (transcript at 4-5) (emphasizing the value to a competitor of the “installed base” of users of the borrower's software product).

⁸² Although a number of my interview subjects referred to that point indirectly, Bob Gomulkiewicz at Microsoft pointed it out specifically in informal conversation.

⁸³ See Technology-Bank Credit Officer Interview, *supra* note 32 (transcript at 2) (emphasizing the importance of the venture capitalist's “due diligence” in assessing the likelihood that the borrower has substantial “enterprise value”); Technology-Bank Emerging-Business Lender Interview, *supra* note 32 (transcript at 1) (explaining importance of “validation of the product market in the industry ... because those [*i.e.*, the venture capitalists] are the experts”). The reason for that validation is tied to the venture capitalist's long-term business, which depends on a continuing capacity to raise new funds from investors. Thus, the venture capitalist depends heavily on its reputation for picking winners; that reputation dependency is evident to the bank, which thus naturally relies on the venture capitalist's views as credible.

⁸⁴ See Technology-Bank Emerging-Business Lender Interview, *supra* note 32 (transcript at 1) (“The bank's model ... is ... to lever off of the intellectual capacity of the venture-capital community and partner with that community and bank companies from the point of [the first venture-capital] funding forward.”); Gates, *supra* note 76, at 98 (quoting an executive at Silicon Valley Bank explaining that “[w]e leverage off the experts”).

⁸⁵ See Technology-Bank Emerging-Business Lender Interview, *supra* note 32 (transcript at 1). The heavy emphasis on reputation extends not only to the venture capitalists themselves, but also to

⁸⁶ For a discussion of the importance of venture-capitalist monitoring in the American market, see Milhaupt, *supra* note 64, at 875-76. The strong reliance on monitoring by venture capitalists was underscored by the concern one interview subject expressed about a potential borrower whose venture capitalists had not obtained majority ownership of the borrower. He explained:

[I]t is a personal opinion of mine when I don't see a majority ownership with the VCs [that is, venture capitalists] it is – that's a place where you have to spend a little more time on the due diligence and trying to understand the capabilities and competence of management.

....

They are very economic and I mean emotion does not get into the equation very often, as it would with an entrepreneur, this is a — I mean the VCs are predictable in how they react and it is always in their own best interest and self-interest, which generally ... will make sure that we are where we need to be.

Forrester Interview, *supra* note 21 (transcript at 10-11).

⁸⁷ See Passela Interview, *supra* note 11 (transcript at 2-3).

⁸⁸ See generally Alan Schwartz, *A Theory of Loan Priorities*, 18 J. LEGAL STUDIES 209, 226-28 (1989) (theoretical explanation of reasons why entrepreneurs might prefer debt financing to equity financing).

this context, the lender helps to fund the acquisition by the portfolio company of low-return assets. The venture capitalist's relatively risky equity investments are geared to extraordinarily high rates of return (in the range of 100% per annum). As a result, portfolio companies are reluctant to expend the equity infused by a venture capitalist to acquire low-tech assets as to which such a return is most unlikely.⁸⁹ Because the typical bank is happy with a much lower return (a few points above prime after losses), it is easy for the bank to earn a profit by providing a funding source that can be used for ordinary business expenses (for furnishings and similar petty expenditures).⁹⁰ Thus, the complete structure is symbiotic: the lenders and the equity investors both obtain significant benefits from the participation of the other in the financing of the software company.⁹¹

That answer poses an obvious further question: Why does the venture capitalist need to involve the bank instead of funding the loan itself? A variety of practical concerns seem to coalesce to limit the practicability of venture-capitalist lending as a substitute for the bank's involvement. For one thing, the two investors have different skills. For example, the bank's role in the later-stage portfolio companies centers on the revolving funding of short-term receivables. To do that funding safely requires considerable expertise, which banks are much more likely to possess than venture capitalists.⁹² Also, because

⁸⁹ See Technology-Bank Emerging-Business Lender Interview, *supra* note 32 (transcript at 5); Borie, *supra* note 85 ("Debt financing enables a company to 'stretch' its equity dollars."); Gates, *supra* note 76, at 98 ("VCs are happy to get additional cheap capital for their portfolio companies and ... leverage their own equity investment for greater return."). One lender also explained that the distinction between bank and equity investment also relates to the residual value created by the investment. See Technology-Bank Emerging-Business Lender Interview, *supra* note 32 (transcript at 11) ("[I]f you are going to buy a PC, bank debt. If you are going to develop a marketing campaign, probably equity dollars because there is no asset there.").

⁹⁰ See Technology-Bank Emerging-Business Lender Interview, *supra* note 32 (transcript at 5).

⁹¹ One lender explained his firm's benefits to the venture capitalist as follows: "bank ... can get the prime or prime-plus-one-return as opposed to the 100% per annum return that you demand and help you lever that company to go a little bit further in their development that helps everyone." Technology-Bank Emerging-Business Lender Interview, *supra* note 32 (transcript at 5); see also Borie, *supra* note 85 (attributing the emergence of bank lending to early-stage technology companies to "[l]ong term strategic relationships between lenders and investors").

⁹² See Interview with Gary Wyner, President, Monetrex, Inc., West Bloomfield, Michigan (Oct. 28, 1998) (no transcript available). For formal models designed to demonstrate that venture capitalists should not be willing to use debt in their funding of their portfolio companies, see Trester, *supra* note 70, at 677. Dirk Bergeman and Ulrich Hege presenting a model indicating that venture capitalists should take convertible securities. Dirk Bergemann & Ulrich Hege, *Venture Capital Financing, Moral Hazard, and Learning*, 22 J. BANKING & FIN. 703, 723 (1998). As Josh Lerner explains, however, Bergemann & Hege's analysis is "quite unrealistic" because it ignores the venture

the venture-capitalist itself presumably would have to borrow the money and then lend it to the portfolio company, it is likely that such an arrangement would have significantly higher transaction costs than a loan directly to the borrower.⁹³

Finally, even if the venture capitalist could obtain funds at a net cost as low as a bank willing to advance funds directly to the borrower, it is doubtful that the venture capitalist could compete successfully with the bank in pricing such a transaction. On that point, the bank has an inherent advantage because of its ability to profit from the relationship through related non-lending services that it can provide the portfolio company for cash-management and account-related matters. The anticipated profits from those services typically are reflected in lower nominal pricing of the bank's loans.⁹⁴ Similarly, the bank's ability to monitor expenditures through disbursements from an account maintained at the bank itself gives the bank a low-cost monitoring procedure difficult for venture capitalists to imitate.⁹⁵

C. Possible Limitations

The foregoing portrays what appears to be a successful lending niche, but the dependency of that arrangement on venture capitalists suggests caution in extrapolating to a general view that it is easy for the software-development company to obtain loans to fund working-capital needs. For one thing, that particular type of lending must stand or fall with the continued existence of

capitalist's monitoring activities. Joshua Lerner, *Comment on Bergemann & Hege*, 22 J. BANKING & FIN. 736, 738 (1998).

⁹³ Although the mundane costs of processing the transaction doubtless could be minimized through routinization, the insertion of the venture capitalist into the funding process is likely to add a less tractable cost of increased risk from that structure. The difficulty is that the venture capitalist – albeit more creditworthy than its portfolio companies – is by no means a risk-free entity. Hence, a loan to the venture capitalist from an institutional lender doubtless would include some premium for risk above that lender's own cost of funds and desired rate of return on the transaction. As a result, if the venture capitalist borrowed funds to advance to its portfolio companies, the cost of funds obtained through that route would be higher than funds loaned directly to the portfolio company. Theoretically the venture capitalist might avoid those costs by using a portion of the funding it obtains from its investors as debt. That course, however, seems to me likely to raise additional complications in the already difficult relations between the venture capitalist and its investors.

⁹⁴ See Technology-Bank Emerging-Business Lender Interview, *supra* note 32 (transcript at 10-11) (discussing the bank's focus in its pricing on the profitability of the entire relationship with the portfolio company).

⁹⁵ See Technology-Bank Emerging-Business Lender Interview, *supra* note 32 (transcript at 9-10) (discussing bank's process for comparing the rate at which capital dissipates to the anticipated schedule for completion of the financed project).

something much like the venture-capital investment cycle as we know it. As the literature on comparative corporate governance has begun to demonstrate, the structure of our venture-capital investment cycle appears to be highly contingent, dependent on factors not yet completely understood.⁹⁶ Thus, it is entirely possible that venture-capital investment as we now know it could disappear fairly rapidly.⁹⁷

Second, although the number of investments seems to have been rising recently, venture capital funds only a tiny portion of the small innovation-based enterprises in our economy, in the range of a thousand each year.⁹⁸ To be sure, for many companies the lack of venture-capital funding reflects an accurate judgment that the chances of success are too small to make the funding prudent.⁹⁹ But in some cases the lack of venture-capital funding rests at least in part on factors other than likelihood of success, such as geographic location or an inadequate expectation of a *large* profit (a disqualifying factor quite different from an inadequate expected rate of return).¹⁰⁰ Indeed, venture capitalists generally are interested only in companies that need relatively large cash

⁹⁶ See, e.g., Black & Gilson, *supra* note 63, at 265-73 (arguing that venture capital is more vital in stock-market-centered financial systems); Ronald J. Gilson, *The Legal Infrastructure of High Technology Industrial Districts: Silicon Valley, Route 128, and Covenants Not To Compete* (unpublished July 14, 1998 manuscript) (copy on file with author) (arguing that Silicon Valley's technology industry persists in part because of California's weak enforcement of covenants not to compete); Milhaupt, *supra* note 64, at 879-97 (arguing that the venture-capital market in the United States is more vital than Japan's market because of the focus on market rather than bank governance mechanisms).

⁹⁷ See, e.g., Gates, *supra* note 76, at 98: "Debt financing for startups is beginning to dry up in response to the turbulence of the public markets, the hedge-fund fallout, the instability of international loans by large banks, and inactivity in the high-yield markets." As the text suggests, I disagree with that assessment.

⁹⁸ See Forrester Interview, *supra* note 21 (transcript at 6) (only 300-500 new venture-backed companies in the early 1990's); Prager, *supra* note 63, at B2 (reporting 1776 venture-capital investments in 1998); Sahlman, *supra* note 64, at 475-82 (reporting statistics regarding the limited role of venture-capital funding for new businesses as a whole).

⁹⁹ See Joshua Lerner, "Angel" Financing and Public Policy An Overview, 22 J. BANKING & FIN. 773, 777-779 (1998) (arguing that the limitations on venture-capital investments reflect real problems with potential startups rather than a shortage of funds available for investment).

¹⁰⁰ See, e.g., Josh Lerner, *Venture Capitalists and the Oversight of Private Firms*, 50 J. FIN. 301, 312-15 (1995) (presenting empirical evidence of a statistically significant relationship between the likelihood that a venture capitalist sits on the board of a firm and the distance between the firm's location and the venture capitalist's headquarters); Sahlman, *supra* note 64, at 475-87 (general discussion of the types of businesses in which venture capitalists invest and their limited role in capital formation generally).

infusions, so that a firm that needs “only” a million dollars need not apply!¹⁰¹ The general reason seems to be that it is not effective for the venture capitalist to commit the resources to investigate the prospects of a firm that does not need a substantial infusion of cash.¹⁰² For the firms that fail to obtain venture-capital backing, the limited availability of working-capital financing from banks might pose a significant barrier to development.

It is difficult to assess the effect of that barrier. For one thing, it is clear that bank lending in the area is not strictly limited to venture-backed companies. For example, both of the Route 128 lenders to whom I spoke indicated that loans to companies without venture backing, although uncommon, were not unheard of.¹⁰³ More importantly for the future, it appears that major players in the development-stage lending market are moving to enhance the funding opportunities for companies not well-served by the current venture-capital market. The most notable development is the high-profile introduction in late 1998 of Garage.com, a project expressly directed at pre-venture-capital enterprises.¹⁰⁴ Similarly, another lender to whom I spoke explained that his

¹⁰¹ One lender explained:

It is very difficult to walk into a VC and say “I need a million dollars.” And they go “Hey unless you want five, don’t waste our time because we have so much money to invest and so little time to manage three, four, five, ten, fifteen investments for our firm. We can’t put it out in million-dollar chunks, we have to put it out in much

Technology-Bank Emerging-Business Lender Interview, *supra* note 32 (transcript at 2).

¹⁰² As one lender explained, venture capitalists currently seem to have a shortage of intellectual capacity to evaluate potential investments. Thus, they need to ration their existing capacity over fewer, larger investments than otherwise might be the case. Technology-Bank Emerging-Business Lender Interview, *supra* note 32 (transcript at 2).

¹⁰³ See Passela Interview, *supra* note 8 (transcript at 5-6) (discussing reasons why bank is reluctant to loan to technology-based development-stage “bootstrap” companies); Trachy Interview, *supra* note 6 (transcript at 4-5) (“Unless you are focused, unless you have a lot of horse power behind you both in terms of management talent and in venture backing, you are not going to get out of the starting gate. And if you are a bootstrap trying to compete in that [market] space that is a deadman’s strategy. And so, we don’t ignore the bootstraps, but they are not our primary focus for those very

¹⁰⁴ See Roy Furchgott, *Private Sector: Financier to the Garage Start-Up*, N.Y. TIMES, Oct. 18, 1998, § 3, at 2, available in LEXIS, News Library, CURNWS File; Karen Rodriguez, *Garage.com Finds Angels for Startups*, BUSINESS J., Oct. 19, 1998, at 3, available in LEXIS, News Library, CURNWS File; *Garage.com Debuts as New Technology Funding Source*, PR NEWSWIRE, Oct. 1, 1998, available in LEXIS, News Library, CURNWS File; Technology-Bank Emerging-Business Lender Interview, *supra* note 32 (transcript at 2-3). A large amount of information on garage.com is available on its website at (predictably enough) <http://www.garage.com>

institution had identified the perception that funds were unavailable to non-venture backed companies as a potential market niche, and was responding by implementing a program explicitly designed to provide loans to development-stage companies that were too small to obtain venture-capital backing.¹⁰⁵

In the end, it is not at all clear that the difficulty in obtaining funding has anything to do with the difficulty of liquidating software. The information I have found suggests that any difficulty is a much more general feature of the lending market, a natural consequence of the riskiness of development-stage companies trying to generate profits based on as-yet-unproven technology. And however serious that might be, the most important point for my purposes is clear: a substantial lending market provides funds for at least a significant subset of the companies engaged in cutting-edge software development. What that indicates is that the symbiotic arrangements described in this part generally have overcome the obstacle of software illiquidity.

III. SOFTWARE-ACQUISITION LENDING

A. The Private Ordering of the Transaction

1. *The Structure of the Loan*

Many companies invest substantially in software that they have not developed. They might use software directly to produce revenue (in the case of the Web-based information merchant) or, more conventionally, they might use software simply to enhance the efficiency with which they provide tangible goods or traditional services. In any event, software is now a crucial asset for many businesses throughout our economy. Thus (at least to the student of commercial finance), the question naturally arises: Can a business borrow money to purchase software when the software has little (or no) liquidation value?

The answer is “absolutely.” Indeed, the amount of such funding is growing at a staggering pace. Although comprehensive statistics are difficult to obtain, that type of financing certainly is in the range of billions of dollars per

¹⁰⁵ See Technology-Bank Emerging-Business Lender Interview, *supra* note 32 (transcript at 4). Like the venture-backed lending described above, that lending would proceed before the development of a revenue stream, on the premise that objective indicators of a likelihood of success (such as participation by particularly knowledgeable angel investors) warranted belief that the borrower would survive at least to the stage where a venture capitalist could invest and pay off the loan. See Technology-Bank Emerging-Business Lender Interview, *supra* note 32 (transcript at 4-5, 7-11).

year.¹⁰⁶ The typical transaction would be in the range of \$100,000-\$200,000,¹⁰⁷ but transactions could range as low as a few thousand dollars or go as high as several million dollars.¹⁰⁸ Typical applications might be to manage a nationwide database of available hotel rooms and reservations, to maintain a record of outstanding traffic citations against driver's license holders,¹⁰⁹ or to provide a uniform desktop operating-system for all of the workstations in a large company.¹¹⁰

Because the field has developed so rapidly and so recently, the transactions currently appear in a dizzying variety of formats. The defining characteristic of the transactions relevant to this discussion is that a software vendor (a licensor) sells a large-dollar software system to an end-user that uses the software in its business (a licensee).¹¹¹ The transaction is facilitated by a

¹⁰⁶ See Telephone Interview with Technology-Bank Software Lessor, transcript at 1-2 (Nov. 23, 1998) [hereinafter Technology-Bank Software-Lessor Interview] (transcript on file with author) (subject requested anonymity). One in-house counsel for a software developer told me that her company alone sold more than \$1 billion of financed software in 1997. Telephone Interview with Software-Developer Counsel (Oct. 16, 1998) [hereinafter Software-Developer Counsel Interview] (redacted notes of interview on file with author) (subject requested anonymity).

¹⁰⁷ See Bazrod Interview, *supra* note 6 (transcript at 3) (software lessor stating that his company's "average deal varies between \$150 to \$200 thousand, but the range has been from \$4,000 to \$10 million"); Telephone Interview with Jack Ciulla, President, Advantage Software Funding Group, transcript at 2 (Dec. 11, 1998) [hereinafter Ciulla Interview] (copy on file with author) (reporting a typical size of "about \$100,000 to \$200,000"); Software-Developer Counsel Interview, *supra* note 106 (describing 1100 transactions totaling more than \$1 billion); Wetzel Interview, *supra* note 10 (transcript at 1) (reporting an average size between \$250,000 and \$500,000, with some multimillion-dollar deals); *Background: LPI Software Funding Group, Inc.* (available at <http://www/lpilease.com/backmsb.html>) (visited Nov. 5, 1998) [hereinafter LPI Software Home Page] ("We ... prefer the minimum lease size to be \$25,000, although there are exceptions to this limit."). One banker told me that in his market the average size of the transaction appears to be rising fairly rapidly, so that, at least for his institution it is now up into the \$350,000-\$400,000 range. See Technology-Bank Software-Lessor Interview, *supra* note 106 (transcript at 2-4).

¹⁰⁸ See LPI Software Home Page, *supra* note 107 ("In the last five years, our smallest transaction has been for \$4,000; our largest \$10,000,000.").

¹⁰⁹ See Software-Developer Counsel Interview, *supra* note 106 (describing those transactions).

¹¹⁰ See McAuley Interview, *supra* note 7 (transcript at 4) (describing that transaction and the increasing interest in using financing to allow the end-user to purchase the software immediately).

¹¹¹ It is conventional in the software industry to describe that transaction as a license rather than a sale, because the licensor grants only a right to use the software. The licensor does not transfer whatever copyright, patent, or trade-secret rights it might have in the software.

lender's intervention to provide the funds for the purchase at the time of the acquisition. Ordinarily, though not always, the lender is brought to the transaction by the licensor, based on a preexisting relation between the lender and the licensor.¹¹² The lender typically advances funds to the licensor in a lump sum sufficient to defray the entire cost of the software. The licensee, in turn, undertakes to repay the lender over time.¹¹³ Although variation is considerable, the typical payment schedule amortizes the debt over a period of three to five years.¹¹⁴ The interest rates vary considerably with the credit of the end-user, but they seem to be surprisingly modest.¹¹⁵

¹¹² Numerous software lenders confirmed the prevalence of that arrangement. See Bazrod Interview, *supra* note 6 (transcript at 6-7) (describing the development of relationships between a large software lessor and vendors); Ciulla Interview, *supra* note 107 (transcript at 2-3) (explaining that his transactions usually are based on vendor relationships); Telephone Interview with Chip Halverson, Comdisco, transcript at 2 (Apr. 3, 1998) [hereinafter Halverson Interview] (transcript on file with author) (“[I]f you wanted to be in that business you needed to be aligned with the software vendors.”); Hayden Interview, *supra* note 6 (transcript at 2) (describing typical vendor financing program); Passela Interview, *supra* note 7 (transcript at 8) (describing bank’s vendor financing programs); Software-Developer Counsel Interview, *supra* note 106 (describing use of financier affiliated with software developer); Technology-Bank Software-Lessor Interview, *supra* note 106 (transcript at 4-6) (discussing the shift in the industry from licensee-based working-capital financing to vendor-finance programs); Trachy Interview, *supra* note 6, at 9-10 (“[T]here are not ... banks who just go around the country specializing in financing the purchase of software applications. Generally what occurs is that [the lenders enter into vendor financing arrangements based on exclusive deal flow to the identified lender.]”); Wetzel Interview, *supra* note 10 (transcript at 3) (“[T]he majority of the business we originate comes from our vendor programs.”); see also *Advantage Software Funding Group Frequently Asked Questions*, available at <http://www.advantage~sfg.com/faq.html> [hereinafter *Advantage Software FAQ*] (advertisement by software financier directed at software vendor); *First Sierra Software Finance: How It Works*, available at <http://www.softwarefinance.com/how.html> (pictorial representation of lender’s facilitation of transactions based on relationship between lender and software vendor); LPI Software Home Page, *supra* note 107 (advertisement for “the market leader in the software leasing industry” emphasizing financier’s “formal or informal relationships with more

¹¹³ See Software-Developer Counsel Interview, *supra* note 106 (describing structure of transaction using affiliated financier).

¹¹⁴ See Bazrod Interview, *supra* note 6 (transcript at 4-5) (stating that the transactions “tend to be 2- to 3-year leases ... but on some of the ... larger transactions, I’m going to say a ¼ of a million dollars and more there is a ... tendency to go toward 5 years”); Ciulla Interview, *supra* note 107 (transcript at 3) (suggesting that three to five years is typical); Hayden Interview, *supra* note 6 (transcript at 3) (describing a three-year term as typical and five years as the longest ordinary term); Passela Interview, *supra* note 7 (transcript at 8) (describing terms that “[u]sually ... would not be more than 24 to 36 months”); Software-Developer Counsel Interview, *supra* note 106 (“The duration is two to three years.”); Wetzel Interview, *supra* note 10 (transcript at 1) (“[F]ive years is the majority of the longest terms, although we did do one 7-year transaction.”); *Advantage Software FAQ*, *supra* note 112 (“Standard terms are from 1 to 5 years, with level payments paid monthly or quarterly”).

¹¹⁵ The rates that were quoted to me varied widely, but none of them are high. See Ciulla

For reasons that seem to be largely historical,¹¹⁶ this type of financing generally is referred to as “software leasing,” by analogy to the market for equipment leasing.¹¹⁷ The markets bear obvious similarities. Both involve lenders accommodating the acquisition by business enterprises of specific, relatively fungible large-dollar assets that generate sufficient revenues to support a stream of payments amortizing the cost of the assets over a period of years. Also, several of the earliest prominent lenders in the industry have (or had) large equipment leasing programs.¹¹⁸

Interview, *supra* note 107 (transcript at 3-4) (suggesting that a typical company would pay a rate of 10.5-12% per annum at the time of the interview); Hayden Interview, *supra* note 6 (transcript at 10-11) (suggesting that a typical mid-sized privately held company would pay about seven percent under market conditions at the time of the interview).

¹¹⁶ See Bazrod Interview, *supra* note 6 (transcript at 11) (stating that references to leasing are common in part because “[t]he user is used to seeing it”). The same interviewee also suggested that accounting rules encourage leasing. In his view, it is “simpler to expense the payments when you have a lease than when you have a loan agreement. ... For the large companies that is a big impetus for *supra* note 6 (transcript at 11-12). A related problem makes it difficult for vendors to report income from a sale transaction if they permit deferred payment of the purchase price; under current accounting rules it ordinarily is improper to treat a transaction as a sale if any portion of the payments due to the seller are deferred more than a year. See Accounting Standards Executive Committee, American Institute of Certified Public Accountants Statement of Position 97-2 ¶ 27, at 20 (Oct. 27, 1997) [hereinafter AICPA SOP 97-2] (articulating a presumption against treating a payment as fixed and determinable if “a significant portion of the software licensing fee is not due until ... more than twelve months after delivery”). The natural solution, of course, is for the user to make deferred payments to a third party (the lender), which in turn makes immediate full payment to the vendor. In that arrangement, the vendor can recognize immediate income from a sale, while the user can extend the timing of its payments to match more closely the timing of the revenue accruing from use of the software.

¹¹⁷ See, e.g., Proposed UCC § 2B-619 reporter’s notes 1, 5 (referring to software “leases” and the “leasing industry”); Bazrod Interview, *supra* note 6 (transcript at 9-10) (explaining the use of the term “lease” in the software-acquisition financing industry); Telephone Interview with Stephanie Guiste, Microsoft Corporation (transcript at 4) (Mar. 11, 1998) [hereinafter Guiste Interview] (transcript on file with author) (describing use of software “leasing” by “smaller, medium-size businesses”); Passela Interview, *supra* note 8 (transcript at 7) (description by banker of “how we lease software”).

¹¹⁸ That seems to be the case with Comdisco and GE Capital, both of whom have large equipment-leasing programs and are reputed to have large software-leasing programs. See Trachy Interview, *supra* note 6 (transcript at 10-11) (suggesting that GE Capital “do[es software leasing] in a fairly extensive way” and that Comdisco “is very active on the leasing side”). The link with equipment leasing also is clear with respect to several of my interview subjects. For example, LPI Software Funding Group explains on its home page:

LPI and its management has concentrated in the computer and communications industries since the late 1960’s. After leasing more than \$1.5 billion of computer and communications equipment, primarily by short-term operating leases, in the United States, Canada and Europe, we concluded in late 1991 that the paradigm of the computer industry

But whatever the reason, the transaction at issue here is so different from the equipment-leasing transaction that use of the term software leasing fosters considerable confusion.¹¹⁹ Most importantly, in equipment leasing, the lessor acquires title to the asset, at least momentarily, and then leases the asset to the borrower/end-user.¹²⁰ In the context of software, however, that arrangement is relatively uncommon. To be sure, it is possible to structure a transaction that inserts the lender between the licensor and the end-user licensee. The arrangement would involve two separate licenses: the first from the primary licensor to the lender (as first-tier licensee), the second a sublicense from the lender (as sublicensor) to the end-user (as sublicensee).¹²¹ And in the early years of the industry, the familiarity of equipment leasing seems to have motivated use of that arrangement. It appears, however, that in recent years “financiers have moved away from being in the middle of the license chain, which gives rise to potential liabilities for copyright, performance and other issues.”¹²²

had experienced a monumental shift – the value of hardware was declining at an accelerating rate and the primary value generator in the industry was now software. So LPI changed its focus from equipment and now concentrates on leasing computer software.

LPI Home Page, *supra* note 107; *see also* Ciulla Interview, *supra* note 107 (transcript at 4) (describing evolution of his company from equipment leasing to software leasing); Hayden Interview, *supra* note 6 (transcript at 1) (same).

¹¹⁹ *See* Halverson Interview, *supra* note 112, at 2 (statement of equipment lessor that the differences between software “leasing” and equipment leasing are so great that it is not correct to

¹²⁰ *See, e.g.*, DANIEL KEATING, SALES: A SYSTEMS APPROACH 156-61, 270-72 (1998) (introductory discussion of UCC provisions regarding finance leases).

¹²¹ *See* Equipment Leasing, *supra* note 55, ¶31A.07[2][b], at 31A-14 to –15 (describing that transaction); Memorandum from Steven O. Weise, Heller, Ehrman, White & McAuliffe, to Article 9 Drafting Committee and Interested Persons 3 (Jan. 12, 1998) [hereinafter Weise Memorandum] (copy on file with author) (same).

¹²² William S. Veatch, *Software Leasing: The Intricacies of the Intangible*, J. EQUIPMENT LEASE FINANCING, Fall 1996, at 21, 24 (explaining that in the software loan transaction the software typically passes directly from the licensor to the user, not through the lender); Memorandum from Anil Vora, Vice President, Oracle Financing Division, to Professor Raymond T. Nimmer, Reporter for Article 2B, and Carlyle C. Ring, Jr. 1 (Feb. 14, 1997) [hereinafter 2/97 Vora Memorandum] (copy on file with author), available at <http://www/2bguide.com/issues/guide/docs/avora.html>; *see* Proposed UCC § 2B-619 reporter’s note 3 (characterizing the two-tiered license/sublicense structure as “less common”); Bazrod Interview, *supra* note 6 (transcript at 9) (statement of software lessor that he prefers a structure in which the software goes directly from the licensor to the end-user because “[w]e don’t have to worry about warranties and liabilities if the software doesn’t work like we would if it was a license/sublicense agreement”); Ciulla Interview, *supra* note 107 (transcript at 6) (“[W]e have nothing

A more significant functional distinction arises from the differing useful lives of equipment and software. At least in some contexts, the equipment has a significant useful life beyond the length of the lease.¹²³ Thus, the parties often contemplate a return of the equipment to the lessor at the conclusion of the lease, followed by a second “releasing” of the equipment to a subsequent user.¹²⁴ For reasons discussed above, that is most unlikely in the software context.¹²⁵

One interesting question about those transactions is why the long-term lending relationships generally run with the software developers rather than the end-users. All the parties with whom I discussed this type of lending emphasized the dominance of transactions in which the lender established a regular program with a software vendor financing the acquisition of the client’s software by end-users.¹²⁶

The most obvious answer is historical. You could say that equipment financiers traditionally have operated based on relations with the equipment manufacturers and that software-acquisition financing has developed in the same mold. But absent some functional or cost-based reason for the arrangement,

to do with the license between the vendor and the end user.”); Passela Interview, *supra* note 7 (transcript at 7) (statement of bank officer who finances software purchases that she “do[es]n’t know of any circumstance where ... they have licensed us and we have sublicensed it”).

¹²³ Indeed, a transaction would not qualify as a lease under UCC § 1-201(37) if there was not a realistic likelihood that the lessor would regain the property at the termination of the lease. *See, e.g.,* WHITE & SUMMERS, *supra* note 28, § 21-3, at 718-33 (discussing the UCC’s distinction between leases and security interests); *see also* Bazrod Interview, *supra* note 6 (transcript at 9) (defending use of the term “leases” to refer to software financing on the ground that Article 9 already recognizes the lease that is functionally equivalent to a secured transaction).

¹²⁴ *See* Bazrod Interview, *supra* note 6 (transcript at 1) (explaining that lenders in equipment leasing transactions often “get [the collateral] back and liquidat[e] it”); Halverson Interview, *supra* note 112 (transcript at 1) (statement of equipment lessor that “[o]n the equipment we ultimately expect to take it back and remarket it and earn some kind of residual value”); Wetzel Interview, *supra* note 10 (transcript at 4) (contrasting the ready ability of equipment lessors to remarket their typical “yellow iron” products with the difficulties that they would face in attempts to remarket software).

¹²⁵ *See* Bazrod Interview, *supra* note 6 (transcript at 11) (“[I]n almost all cases in the equipment-leasing business you can sell that asset to somebody else and in most cases in software you can’t sell it.”); Guiste Interview, *supra* note 117 (transcript at 4) (suggesting that the residual value of software is so low that it makes little sense to characterize transactions as leases instead of fully amortizing purchase-money loans); Halverson Interview, *supra* note 124 (transcript at 1-2) (statement by officer of large equipment lessor that the traditional business model for the equipment lessor doesn’t work in the software context because of the limited residual value of software); *supra* pp. 5-7.

¹²⁶ *See* sources cited *supra* note 112.

that seems a bit too easy. The sophistication of the players and the amount of money involved suggests that there is some rational basis for the prevailing pattern.¹²⁷ Although it is difficult to produce a definitive explanation, a number of possible reasons support the current arrangement.

In my view, the most plausible explanation relates to the economies of scale in transaction design. Those economies cut distinctly in favor of a licensor-lender structure and against a licensee-lender structure. In the licensor-lender structure that characterizes much of the current industry, the lender frequently engages in transactions that finance the same or similar software (because the licensor recommends the lender to a large share of the licensor's customers). Thus, the lender develops an understanding of the amount of revenue that a particular software product is likely to generate and the period of time over which those revenues are likely to be sustained.¹²⁸ The cost of developing that understanding is minimized because of the volume of transactions over which it can be allocated.

Conversely, the downside of that structure is that the lender must start over each transaction with a new assessment of the creditworthiness of the end-user that is acquiring the software. In a licensee-lender structure, the lender would acquire a detailed understanding of a particular borrower's creditworthiness, on which the lender could rely to fund any of the borrower's software acquisitions. Although generalizations are risky, at least under current technology the greater benefit usually should come from economizing on the costs of assessing the software. Software is a rapidly developing, heterogenous asset unlikely to be susceptible of simple categorization. By contrast, lenders have developed relatively routinized and streamlined procedures for assessing and categorizing the credit strength of businesses.¹²⁹

A closely related benefit comes from the capacity of the lender-licensor structure to create a large body of relatively homogenous payment obligations,

¹²⁷ Moreover, although explanations I provide here are relatively localized, it is worth noting (as Steve Harris points out to me) that the seller-financier structure appears in many other lending industries (most obviously the automobile-retail industry). Thus, the benefits of that arrangement seem to appear in many contexts.

¹²⁸ See *infra* note 157 and accompanying text (discussing the importance of careful assessment of the vendors for whom a software lender provides financing).

¹²⁹ Large creditworthy businesses are likely to have public credit ratings available from a glance at a newspaper. For small businesses, credit scoring offers an inexpensive, rapid, and accurate method of assessment. See, e.g., Mann, *Small-Business Secured Credit*, *supra* note 4, at 30-34 (discussing the use of credit scoring in small-business lending).

representing obligations to pay over time for the same software. Because those obligations are relatively homogenous,¹³⁰ the lender can securitize those obligations and thus transfer them into the public debt markets.¹³¹ Although those transactions are only just beginning to occur,¹³² the possibility of general access to those markets presents a significant long-term benefit of the existing structure.

In two respects, relational concerns also appear to cut in favor of the licensor-lender structure. To be sure, that structure forfeits the benefits of traditional relational lending with the end-user.¹³³ In this context, however, crucial benefits accrue to the lender from formal relations with the licensor. Among other things, the lender can enhance its loan transactions through its

¹³⁰ It is easy to overstate the benefits of homogeneity. One software financier reports that the “buckets” of software obligations that he sells are “highly heterogeneous particular risks related to “the vendor that supplied the software, ... regional [and] industry of the *supra* note 10 (transcript at 2). Notwithstanding his comments, it is not clear to me why there would be an advantage to diversifying the risk at the software-lender stage rather than at some later stage of the investment cycle. Investors should be indifferent between an investment in a diversified pool of his obligations and investments in several homogenous pools generated by several different software financiers.

¹³¹ I have not received consistent information about the frequency of those transactions. *See* Hayden Interview, *supra* note 6 (transcript at 5-6) (software lessor stating that he securitizes “virtually all of our software transactions”); Software-Developer Counsel Interview, *supra* note 106 (describing that transaction as governing “most ... but not all” of the financed software that her company sells). *But see* Supplemental Telephone Interview with Technology-Bank Software Lessor, transcript at 1 (Dec. 16, 1998) [hereinafter Supplemental Technology-Bank Software-Lessor Interview] (transcript on file with author) (subject requested anonymity) (statement of bank officer specializing in software leasing that “there has been a little drying up of [software securitization] and I would say ... that people are not doing securitization as often as they did say a year ago or two years ago”); Wetzel Interview, *supra* note 10 (transcript at 1) (stating that only two small securitizations have been done to date, both of which were limited to investment-grade end-users, and characterizing the “software financing, securitization marketplace as dead or not accessible or not available”). A functionally similar transaction that does seem to be common has the software company financing a group of similar transactions and then selling them off “at very low margins” to a bank or other financial institution. Bazrod Interview, *supra* note 6 (transcript at 4); Wetzel Interview, *supra* note 10 (transcript at 2) (describing “buckets of those deals, in \$5, \$10, \$15 million dollar buckets [that he] sells ... to insurance companies, major finance companies, major banks”).

¹³² *See* Bazrod Interview, *supra* note 6 (transcript at 13) (suggesting that the first such transactions were completed in 1998, based on installment-payment obligations collected by single software licensors).

¹³³ *See, e.g.,* Mann, *Verification Institutions*, *supra* note 4 (section II(B)) (discussing those benefits). I should add that it appears that the lenders do not have multi-faceted relationships with the software developers that would provide relational benefits extending beyond the software-lending program.

relation with the software developer by, for example, obtaining the consent to a transfer or termination of the licensee's interest in the software that makes it certain that the lender has an effective remedy for default.¹³⁴ Even better, the lender might obtain some commitment by the licensor to take some affirmative action to support the lender's action, such as an agreement that the software developer would cease its support and maintenance of any license terminated by the lender.¹³⁵ Interestingly, what the lender doesn't get – even in long-term vendor arrangements – is permission from the software developer to remarket software for which borrowers are unable to pay.¹³⁶ One final item outside the agreement, but perhaps even more important, a relationship with the software vendor can ensure that the lender's products are offered directly to each of the vendor's customers; that kind of free marketing is considered quite valuable.¹³⁷ As one lender put it, “by hooking up with a [large software company] I have effectively got 1,000 people out in the field working handing out pieces of paper

¹³⁴ See Hayden Interview, *supra* note 6 (transcript at 4) (describing vendor agreements that obligate the vendor to terminate support and terminate the user's license upon failure to pay the lender); McAuley Interview, *supra* note 7 (transcript at 8) (description by Microsoft executive of financiers' efforts to obtain confirmation of Microsoft's willingness to cooperate with enforcement of their remedies upon default); Supplemental Technology-Bank Software-Lessor Interview, *supra* note 131 (transcript at 6) (describing provisions in vendor-finance agreement permitting termination of a license upon the user's failure to pay); Wetzel Interview, *supra* note 10 (transcript at 4-5) (emphasizing the importance of obtaining vendor's consent to termination of the software by the software financier). The legal obstacles that hinder such financing in the absence of licensor consent are discussed *infra* in subpart III(A).

¹³⁵ See Supplemental Technology-Bank Software-Lessor Interview, *supra* note 131 (transcript at 6-7) (discussing the practical significance of the licensor's willingness to terminate support).

¹³⁶ See Bazrod Interview, *supra* note 6 (transcript at 7) (discussing the efforts to obtain such agreements and accounting obstacles that make licensors increasingly unwilling to provide them). Those agreements are loosely analogous to the repurchase agreements that traditional finance companies use when they finance equipment purchases. See Mann, *Strategy and Force*, *supra* note 60, at 167-68 (discussing repurchase agreements). For software, however, the software developer's willingness to accept a direct repurchase obligation is limited because of the likelihood that such an obligation would prevent accounting treatment of the transaction as a final sale. See AICPA SOP 97-2, *supra* note 116, ¶ 112, at 48 (noting that the “likelihood of vendor refunds” weighs against treating the payment as sufficiently fixed and determinable to justify treating the transaction as a sale); Hayden Interview, *supra* note 6 (transcript at 4) (discussing that accounting problem); Software-Developer Counsel Interview, *supra* note 106 (same); see also Passela Interview, *supra* note 8 (transcript at 9) (describing efforts of software lenders to obtain recourse to the licensor in the event of default by the end-user borrower); Trachy Interview, *supra* note 6 (transcript at 10-12) (same).

¹³⁷ See Hayden Interview, *supra* note 6 (transcript at 6 (explaining that “the main thing that we look for in a vendor ... is a proactive use of the program and a commitment for them to actively roll *supra* note 10 (transcript at 3) (attributing prevalence of vendor-based financing to the fact that “the vendors are introducing us to the end users.”)).

with my name on it and saying if you want ... software and you want to finance call [the interview subject] and he can arrange it.”¹³⁸

Yet another answer is that the industry’s structure might be less homogenous than it appears.¹³⁹ Lenders to large creditworthy companies that purchase software make loans based on the overall financial strength of the company, with little regard for the nature or quality of any specific assets that the company might have.¹⁴⁰ Given the significant share of the market for large-dollar software purchases held by the largest creditworthy companies, those lenders in the aggregate might finance a large portion of software acquisitions. Yet, because the loans are not asset-based in any significant way, those lenders would not be apparent as members of any software-lending “industry.”¹⁴¹

2. *Termination as the Remedy*

The central question in all the arrangements is what protection the lender can obtain to ensure repayment of its loan. As a formal matter, that depends on the way in which the transaction is structured. For example, if the transaction is an assignment to the lender of a periodic payment stream due to the licensor from the licensee, the lender’s collateral is an account under the new Article

¹³⁸ Ciulla Interview, *supra* note 107 (transcript at 3).

¹³⁹ Here, I must emphasize what I noted above, that my research suggests only that most of the lending proceeds on the licensor-lender model, not all. It is clear from several of my interviews that some licensee-lender transactions occur. *See* Bazrod Interview, *supra* note 6 (transcript at 6, 13) (describing such transactions); Ciulla Interview, *supra* note 107 (transcript at 7) (“[T]hey come to us, we don’t spend our marketing time and dollars looking for them.”); Hayden Interview, *supra* note 6 (transcript at 5) (describing occasional licensee-lender transactions); Kielb Interview, *supra* note 58 (describing software lenders who fund software purchases only by venture-backed borrowers); Technology-Bank Software-Lessor Interview, *supra* note 106 (transcript at 4-5) (describing bank financing directed at the acquisition of software by venture-capital backed companies).

¹⁴⁰ *See* Mann, *Pattern of Secured Credit*, *supra* note 2, at 668-74 (discussing the use of unsecured debt by creditworthy borrowers); *see also id.* at 677 n.208 (discussing the limited ability of even the strongest technology companies to obtain long-term unsecured debt).

¹⁴¹ *See* Bazrod Interview, *supra* note 6 (transcript at 4) (“If you leased a million dollars of software to J.P. Morgan you wouldn’t care if it was software, hardware, pencils or whatever.”); Passela Interview, *supra* note 8 (transcript at 9) (“[W]e are looking to the lessee as being the source of repayment and so a lot of our decision on what we would be willing to do would have to do with the financial strength of that particular entity rather than as to what we believe the value of the license was.”); Trachy Interview, *supra* note 6 (transcript at 9) (describing how licensees obtain financing from their existing bank lenders).

9.¹⁴² Alternatively, if the transaction is structured as an advance of funds to the borrower that the borrower uses to purchase the software from the licensor, the stream of payments from the borrower might be transferred to a third-party lender as a payment intangible.¹⁴³

In either case, however, the payment stream—the obligation of the end-user to repay the loan—is the principal source of repayment.¹⁴⁴ To be sure, it is certainly possible for the lender to take a security interest in the licensee’s interest in the license, with a view to foreclosing on the software and remarketing it in the event of default by the licensee/end-user/borrower.¹⁴⁵ But the feasibility of that lending runs squarely into the difficulties identified in Part I, most importantly the legal prohibition on foreclosure without the consent of the licensor.¹⁴⁶ If anything is clear about this industry, it is that licensors usually are unwilling to permit foreclosure and transfer of software from the original user to the lender or any third party.¹⁴⁷

¹⁴² See UCC § 9-102(a)(2)(i) (extending the definition of account in old UCC § 9-106 to include not only payments for goods and services, but also “a right to payment of a monetary obligation ... for property that has been ... licensed”); Equipment Leasing, *supra* note 55, ¶ 31A.07[3], at 31A-16 (describing that transaction).

¹⁴³ See UCC § 9-102(a)(61) (defining payment intangible). As discussed above, *see supra* note 131 and accompanying text, those transactions appear to be the basis of the increasingly common sale of software-financing arrangements into the secondary financial markets.

¹⁴⁴ See Trachy Interview, *supra* note 6, at 10 (explaining that “people in our business who lend money to technology companies really don’t like the prospects of having to liquidate these kinds of assets” and explaining that “[i]t’s cash flow that repays bank debt, pure and simple, cash flow”).

¹⁴⁵ See, e.g., Bazrod Interview, *supra* note 6 (transcript at 10) (describing such transactions with respect to Microsoft Office software); Passela Interview, *supra* note 8 (transcript at 7-8) (describing secured software financing by banks); Trachy Interview, *supra* note 6 (transcript at 8) (recognizing the possibility of such lending).

¹⁴⁶ See *supra* pp. 18-20 (discussing that issue). That problem does not arise for the software-development lender because it funds not the licensee but the licensor that owns the software.

¹⁴⁷ See Bazrod Interview, *supra* note 6 (transcript at 10) (agreeing with the statement that his company has a lot of leases with no right to remarket); Guiste Interview, *supra* note 8 (transcript at 7) (Microsoft executive) (“Our biggest concern ... is the redistribution of those licenses. ... If the customer defaults the leasing company can shut off the licenses, but they cannot redistribute those licenses to anybody else.”); Halverson Interview, *supra* note 8 (explaining that the licensors typically want “another license fee if it [*i.e.*, the software] moves at the end of term”); Supplemental Telephone Interview with Software-Developer Counsel (Mar. 5, 1998) (redacted notes of interview on file with author) (subject requested anonymity) (describing her company’s unwillingness to permit transfers of the licensee’s interest to the software lender); Supplemental Technology-Bank Software-Lessor Interview, *supra* note 131 (transcript at 8-9) (statement of bank officer specializing in software leasing

The formal responses vary. Some lenders still take security interests in the software of the borrowers to which they lend.¹⁴⁸ Those lenders recognize that in some sense the security interest is futile, because (at least in most cases) that interest lacks any right for the lender to use or liquidate the software.¹⁴⁹ Thus, many lenders abandon the pretense of collateral entirely. In that arrangement, known in the industry as “unsecured” software leasing, the lender’s rights against the license include neither a security interest nor any right to resell or remarket the software; the lender’s remedy is limited to a simple right to terminate the licensee’s use of the software.¹⁵⁰

that his institution does not even ask vendors for a right to remarket software); Wetzel Interview, *supra* note 10 (transcript at 3-4) (suggesting that it “has yet to happen” that a licensor will grant his company a right to remarket and that “[w]e used to ask” for permission to remarket, but no longer do). That is not always true. Microsoft, for example, permits such transfers under its Open License arrangement, but only if the software is sold en masse. The requirement that the software be sold en masse ensures that the purchaser is using enough copies of the software to be entitled to the price charged the original user; that prevents the lender from breaking up the software into smaller parcels that would undercut Microsoft’s size-based tiered pricing scheme. See McAuley Interview, *supra* note 7 (transcript at 4-5).

¹⁴⁸ See Bazrod Interview, *supra* note 6 (transcript at 14) (explaining that all his transactions are structured as secured transactions even though he often has no right to remarket the software); Ciulla Interview, *supra* note 107 (transcript at 4-5) (stating that he formally takes a security interest); Hayden Interview, *supra* note 6 (transcript at 6) (stating that he takes a security interest in larger transactions); Passela Interview, *supra* note 8 (transcript at 7-8); Supplemental Technology-Bank Software-Lessor Interview, *supra* note 131 (transcript at 7-8) (acknowledging that “some people in the business world ... think you really should do that [even though he doesn’t]”); Trachy Interview, *supra* note 6 (transcript at 8); Wetzel Interview, *supra* note 10 (transcript at 3) (describing practice of filing UCC financing statements).

¹⁴⁹ See Bazrod Interview, *supra* note 6 (transcript at 15) (statement of financier acknowledging that he could not resell the collateral); Ciulla Interview, *supra* note 107 (transcript at 5) (acknowledging that he has no right to resell the software); Hayden Interview, *supra* note 6 (transcript at 7) (“[W]e do not have th[e] illusion [that we can resell the software].”); Trachy Interview, *supra* note 6, at 8 (suggesting that “at the end of the day it doesn’t matter” whether the transaction is secured); Wetzel Interview, *supra* note 10 (transcript at 3) (characterizing UCC filings as “useless” and “more

¹⁵⁰ See Bazrod Interview, *supra* note 6 (transcript at 7) (statement by software lessor that even if he asks for a right to remarket, “you don’t get it very often [because] ... most of the time the view, *supra* note 8 (transcript at 2-3) (stating that Microsoft licensees that use financing do not grant security interests to their lenders, but instead rely on a right to terminate use); McAuley Interview, *supra* note 7 (transcript at 10-11) (describing those arrangements with respect to Microsoft software); Software-Developer Counsel Interview, *supra* note 106 (describing that arrangement); Supplemental Technology-Bank Software-Lessor Interview, *supra* note 131 (transcript at 7) (statement of bank-officer specializing in software leasing that his bank treats software leasing as unsecured lending, without financing statements); Veatch, *supra* note 122, at 27 (statement of experienced practitioner that “many software lease transactions are documented as
randum from Anil Vora, Vice President, Oracle Financing Division, to

At first glance, the absence of repossession and liquidation rights appears to make that remedy starkly inferior to the secured creditor's classic remedies. On closer examination, however, its virtue is clear. First, simple termination of use generally has lower transaction costs than repossession and sale, if only because the costs of repossession and sale can be omitted. Second, for the reasons discussed in Part I—principally the low probability that liquidation would produce significant revenues—losing the right to liquidate software is not all that significant.¹⁵¹

Finally, and certainly most importantly as a matter of transactional design, termination of use in fact is likely to be a most effective remedy.¹⁵² Given the importance a large-dollar software system is likely to have to its typical user, a right to terminate use of that software gives the lender considerable leverage over the borrower, which in many cases might coerce the borrower into making payment even if the lender has no right to repossess and remarket the software.¹⁵³ As one software lessor put it:

It's the real remedy. It is the only real remedy and it is a very worthwhile one. I think it is a better remedy than trying to get the software and remarket it because in most cases the software is essential to running

Professor Raymond T. Nimmer, Reporter for Article 2B, and Carlyle C. Ring, Jr., Chairman, Drafting Committee 2 (March 31, 1997) (available at <http://www/2bguide.com/issues/guide/docs/orvora.html>) [hereinafter 3/97 Vora Memorandum] (describing secured and unsecured structures and asserting that the unsecured structure is “a major segment of the pure software financing transactions” and that “[w]e have financed the acquisition of over \$1 billion of licenses and related services using this *supra* note 121, at 3-4 (describing unsecured software financing by licensees). For a typical termination clause, see Equipment Leasing, *supra* note 55, at 31A-89 (Form 31A-10, at ¶ 5).

¹⁵¹ See Bazrod Interview, *supra* note 6 (transcript at 15) (stating that he has no difficulty with the lack of a remarketing right “[b]ecause we are really not looking at the value of collateral being derived from the proceeds on remarketing”); Trachy Interview, *supra* note 6, at 8 (suggesting that “at the end of the day it doesn’t matter” whether the transaction is secured).

¹⁵² It is difficult to obtain comprehensive statistics about default; most of my interview subjects considered that information proprietary. The two software financiers that did offer loss rates both indicated that less than 2% of their transactions go into default during the course of repayment. Hayden Interview, *supra* note 6 (transcript at 10) (reporting a rate of 1.6%); Wetzel Interview, *supra* note 10 (transcript at 2) (reporting a rate of 1.7%).

¹⁵³ That assumes, of course, that the lender’s threat to use the remedy can be made credible to the borrower. Because the industry is young and still developing, it is not yet clear whether lenders frequently will use the remedy. As the interviews below suggest, the remedy presently appears to be sufficiently credible to be effective. For a more general theoretical discussion of the credibility problem, see Mann, *Verification Institutions*, *supra* note 4 (Part I).

the business. Even something mundane like word-processing you can't run your business, I think, without word-processing software.¹⁵⁴

Of course that does not mean that default is impossible. Defaults do, however, tend to be clustered in one of two situations. The first are the situations in which the software does not perform up to the user's expectations.¹⁵⁵ When the user doesn't want the software, the threat of termination obviously rings somewhat hollowly.¹⁵⁶ Responding to that concern, sophisticated software lessors try to focus their vendor programs on vendors that have two characteristics: their software solves a "mission-critical" problem; and their track record supports a reputation for providing first-rate solutions to their customers.¹⁵⁷ The second situation is the situation in which the user's business has failed entirely. If the user has closed its doors and no longer is operating, turning off the software can not harm the user.¹⁵⁸

¹⁵⁴ Bazrod Interview, *supra* note 6 (transcript at 8); *see* McAuley Interview, *supra* note 7 (transcript at 14) ("[S]omething as simple as [recognizing the lender's right to terminate] would give the teeth necessary to have a very successful licensed finance program."); Software-Developer Counsel Interview, *supra* note 106 (suggesting that experience with exercising the remedy with regard to her company's software is limited, or perhaps nonexistent, because the software is too "crucial" for end-users to chance termination); Wetzel Interview, *supra* note 10 (transcript at 4) (explaining that the right to terminate provides "negative leverage – there is no collateral from a remarketing standpoint, but there is collateral from a negative leverage standpoint").

¹⁵⁵ A related problem – which does not seem to have arisen substantially to date – would arise if the *licensor* became insolvent. Because the quality of maintenance and upgrades would be likely to deteriorate with the insolvency of the licensor, the incidence of defaults should rise at that time.

¹⁵⁶ *See* Ciulla Interview, *supra* note 107 (transcript at 11-12) (describing a default in such a situation). To protect against that problem, software financiers typically obtain the right to pursue the licensor for breach of any representations or warranties in the license. *See* William S. Veatch, *Software Financing: The Perplexities of a Program Agreement*, J. EQUIPMENT LEASE FINANCING, Fall 1997, at 3, 4.

¹⁵⁷ *See* Hayden Interview, *supra* note 6 (transcript at 2-3) (explaining the process by which one software lessor selects vendors with whom it will deal); Supplemental Technology-Bank Software-Lessor Interview, *supra* note 131 (transcript at 1) (describing preference for vendor-finance programs with vendors that have "mission critical" software); Veatch, *supra* note 156, at 3 (describing the importance of a determination that financed software is "mission-critical"). As one lender put it, by focusing on mission-critical software "you are going to have the end user want to pay that as timely as they would pay their heat [or] electrical bill." Supplemental Technology-Bank Software-Lessor Interview, *supra* note 131 (transcript at 8).

¹⁵⁸ *See* Ciulla Interview, *supra* note 107 (transcript at 12) (acknowledging defaults by bankrupt borrowers); Hayden Interview, *supra* note 6 (transcript at 8) (acknowledging that defaults occur when "you've got companies that just flat can't pay anybody – even the electric company – and they are going to have their electricity and their phone shut off and they are also not going to pay

To be sure, self-help (and electronic self-help in particular)¹⁵⁹ affords the lender a considerable opportunity for destructive opportunistic behavior. Moreover, termination of an important software system could cause serious harm to third parties (most obviously, the customers of the borrower). Those concerns certainly undermine the net value of the remedy to the transaction, but they cannot obscure the potential for such a remedy to be effective if properly designed and limited. And the beauty of the remedy in this context is that the lender has quite a small incentive for opportunistic behavior: the lender gets even less out of a vindictive termination of the software than the automobile lender gets out of a vindictive repossession of a used car.¹⁶⁰

For example, one lender to whom I spoke suggested that he always would obtain a court order rather than trying to force a resistant borrower to cease use of the software.¹⁶¹ Although that sounds like a more expensive course of action than the typical secured creditor's remedy (see *Repo Man*), the cost of the lawsuit did not trouble him. His transactions, typical of the market, are relatively large (averaging in the low six-figure range), and the lawsuit for nonpayment should be simple.¹⁶² Moreover, in his experience, the ruin borrowers would face upon termination makes the likelihood that he would be forced to sue so small that he is willing to bear the costs of suit in the rare case in which payment is not voluntarily forthcoming.¹⁶³

us"); Wetzel Interview, *supra* note 10 (transcript at 5) (software lessor stating that all of his defaults have occurred in transactions in which the borrower was closing its business).

¹⁵⁹ Electronic self-help is a process by which the end-user's software is terminated remotely through some action by the software vendor (or lender) that accesses the software of the defaulting user. I located a number of software financiers who report arrangements that provide for electronic self-help, but none who said that they ever had used that remedy. See Hayden Interview, *supra* note 6 (transcript at 4); Wetzel Interview, *supra* note 10 (transcript at 5-6).

¹⁶⁰ For a general and theoretical discussion of the benefits and burdens of remedies that rely on the kind of *in terrorem* effect at issue here, see Mann, *Verification Institutions*, *supra* note 4 (Part I).

¹⁶¹ See Bazrod Interview, *supra* note 6 (transcript at 12).

¹⁶² See Bazrod Interview, *supra* note 6 (transcript at 3).

¹⁶³ See Bazrod Interview, *supra* note 6 (transcript at 16) (stating that he would be reluctant to use self-help to terminate use of software by one of his borrowers); see also Supplemental Technology-Bank Software-Lessor Interview, *supra* note 131 (transcript at 10-11) (statement of bank officer specializing in software leasing that he would be reluctant to rely on electronic self help without up-front judicial validation). Although the first of those lenders closes hundreds of transactions each year, he has never had to file suit. See also Wetzel Interview, *supra* note 10 (transcript at 5) (software lessor stating that he has never exercised remedies because all of his defaults have occurred in

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The overall picture reflects the same story as the discussion of software-development financing. In this arena as in that one, the absence of any realistic possibility of liquidation has not prevented software purchasers from obtaining funding for their large acquisitions. The remedy of termination of use is every bit as effective as, and perhaps more effective than, the conventional secured creditor's remedy of repossession and foreclosure.

B. Law Reform and Software Financing

Because the arrangements that businesses have developed to facilitate software-acquisition financing rely on a contractual remedy against the purchaser, the legal treatment of that remedy is important to the effectiveness of the arrangement. This section of the article analyzes two separate sets of potentially important legal rules: the provisions related to financiers in the proposed UCC Article 2B, and the Bankruptcy Code provisions that govern the treatment of software lenders when their borrowers seek refuge in bankruptcy. The legal rules consistently use a distinction between transactions in which the lender has a security interest in collateral and those in which the lender does not. Essentially, the law classifies creditors into two groups—the “secured” creditors and the “unsecured” creditors—and then provides special benefits to those creditors that fall within the “secured” classification. It should be clear from the evidence presented above that any such classification of software-financing transactions rests on fortuities rather than substantial aspects of the transactions. Thus, use of that classifying scheme can bring affirmative harm to those transactions even when the law is designed to foster lending transactions generally.

1. Protections for “Financiers” in Article 2B

The current version of the Uniform Commercial Code says little that is relevant to software financing,¹⁶⁴ and nothing directed at such transactions

transactions in which the borrower was closing its business). The first of those lenders described the closest confrontation as follows: “We had an experience where the person was very slow in payment and finally, after a number of broken promises, we said we are coming in to take it—to take that software—and then the lessee paid up.” Bazrod Interview, *supra* note 6 (transcript at 8).

¹⁶⁴ Provisions in Article 2 and Article 2A do not apply because those Articles are limited to transactions in goods. See UCC §§ 2-102 (limiting the scope of Article 2 to transactions in “goods”); 2A-102 (limiting the scope of Article 2A to transactions involving a “lease”); 2A-103(j) (limiting “lease” to transactions that involve “goods”). Although Article 9 does apply to transactions that involve software, none of the provisions in the old Article 9 referred to software specifically or addressed issues specific to software lending transactions.

specifically. Nevertheless, it was inevitable that the topic should arise in the course of work on the proposed UCC Article 2B, a project designed to provide uniform rules for transactions involving software and other forms of information.¹⁶⁵

Consistent with the tradition of the UCC, the drafters' principal goal has been to identify areas where clarification of the law can facilitate transactions that otherwise might face difficulties arising out of vague or uncertain legal rules.¹⁶⁶ With respect to lending transactions involving software, the drafters adopted a standard device for providing those benefits, to define the software lender as a "financier" and then to include several provisions that offer benefits to the software "financier." The first step was the definition of a "financier" as "a person ... which provides a financial accommodation to a licensor or licensee in a transaction otherwise governed by Article 9 or 2A and which obtains an interest in the license or related contract right of the party to which the financial accommodation is provided."¹⁶⁷ The second step was to apply that definition in a variety of contexts in which it was thought that a specific uniform rule would facilitate transactions. After considerable debate, those provisions were removed after a meeting in November 1998.¹⁶⁸ Although different parties

¹⁶⁵ See UCC Article 2B *Preface: Information Age in Contracts* ("Article 2B deals with transactions in information; it focuses on a subgroup of transactions ... associated with transactions involving software, on-line and internet commerce in information and licenses involving data, text, images and similar information."). The current schedule calls for presentation of Article 2B Licensing to the National Conference of Commissioners on Uniform State Laws (NCCUSL) at its annual meeting in the summer of 1999. It is not, however, at all clear that the statute will join the Uniform Commercial Code. For links to numerous documents taking positions on the various issues involved, go to <http://www.2bguide.com>

¹⁶⁶ See UCC Article 2B *Preface: Information Age in Contracts* ("Th[e] intention is to assure that if a given transaction ... is initiated, it shall have a specified result.' ... Uniform contract laws do not regulate practice. They support and facilitate it.") (quoting Grant Gilmore, *On the Difficulties of Codifying Commercial Law*, 57 YALE L.J. 1341, 1341 (1948)).

¹⁶⁷ Proposed UCC § 2B-102(21). The reference to transactions that otherwise would be covered by Article 2A and 9 is quite odd. The statute apparently is designed to extend coverage to transactions that would be covered by Article 2A and 9 except for the fact that they involve software instead of goods. The statute does not literally say that, however, because it refers to transactions that "otherwise" would be covered by those statutes, which suggests a reference to transactions that would be covered by Articles 2A and 9 except for the existence of § 2B-102(21). Because nothing in § 2B-102(21) provides a substantive rule that excludes the applicability of those other Articles, a literal interpretation of the provision is quite obscure.

¹⁶⁸ The draft removing those provisions is the December 1998 ALI Council Draft. I understand that the Drafting Committee voted at a February 1999 meeting to return those provisions to the draft in a modified form, but the revised draft has not yet been promulgated. Thus, it remains to be seen whether the draft will resolve the difficulties noted here. Given the high likelihood of further

to the project might attribute the removal of those provisions to different causes, it is safe to say that it was relevant to the failure that the financing provisions—ostensibly designed for the benefit of the lending community—never gained the full support of that community.

The fundamental error of the proposed approach can be illustrated adequately by detailed analysis of two of the most prominent applications of the approach: independence of the licensor's and borrower's obligations; and the lender's right to terminate a license upon default by its borrower.

(A) INDEPENDENCE OF OBLIGATIONS

The first example deals with the relation between the borrower's obligation to pay the lender and the obligations that other parties have to the borrower in the same transaction (such as the licensor's obligation to provide software that performs as required by the licensor's contract with the borrower). From the lender's perspective, the ideal rule always would be that the borrower's obligation to pay is independent of any party's failure to perform its obligations to the borrower. Conversely, from the borrower's perspective, it is advantageous if the borrower can assert such a failure as a defense to the borrower's obligation to pay.

Nothing about the independent-obligation problem is unique to software licensing. Rather, it is a traditional problem of the commercial lender, of particular importance whenever the parties to the original transaction contemplate that the borrower's payment obligation will be owed (or transferred) to a third-party lender. In contexts in which such an arrangement is common, the lender gains by the insulation of its right to collect payment from defenses arising out of misconduct of other parties. Among other things, that insulation can save money by limiting the lender's need to evaluate the likelihood that the borrower would have a legitimate defense to payment.¹⁶⁹ Of course, such a rule is not without difficulty, because it also increases the likelihood that the borrower may be called upon to pay notwithstanding the

significant changes in the next few months, I have chosen to refer in this article to the August 1998 draft, which the drafters submitted as substantially final in the fall of 1998.

¹⁶⁹ See Ronald J. Mann, *Searching for Negotiability in Payment and Credit Systems*, 44 UCLA L. REV. 951, 958-59 (1997) [hereinafter Mann, *Searching for Negotiability*] (discussing how lowering costs of possible defenses theoretically can enhance the liquidity of payment obligations and thus lower the cost of credit).

existence of a valid claim against some party to the transaction in which the borrower's obligation to pay arose.¹⁷⁰

Given the general prominence of the independent-obligation problem, it is not surprising that lenders commonly worry about the enforceability of clauses that resolve that problem in their favor. For example, a software-acquisition lender might have the borrower explicitly agree that neither the lender nor any assignee of the lender bears any responsibility for any claim the borrower might have against the software vendor. Unfortunately, cases in other areas (especially those involving negotiable instruments) frequently have ignored those kinds of arrangements and imposed liability on lenders in a variety of vague and difficult-to-predict circumstances.¹⁷¹

The existing UCC responds to that concern in several contexts. The general approach is to distinguish between consumer and business transactions. In transactions that involve consumers, the statute usually does not address the enforceability of a waiver of defenses, leaving the question to case-law development. In business transactions, however, the UCC generally permits the parties to contract for complete independence of the payment obligation from the substantive aspects of the underlying transaction. For example, the provisions of Article 3 make it easy to strip away most of the borrower's defenses in the rare situations¹⁷² in which it is practical for the parties to use a negotiable instrument.¹⁷³ Along the same lines, Article 9 generally has permitted the enforcement of similar agreements in a variety of non-consumer contexts.¹⁷⁴

¹⁷⁰ Those difficulties have limited the availability of such arrangements in a number of contexts. See Mann, *Searching for Negotiability*, *supra* note 169, at 966-68 (discussing legal prohibitions of negotiability in consumer transactions).

¹⁷¹ See, e.g., RONALD J. MANN, PAYMENT SYSTEMS AND OTHER FINANCIAL TRANSACTIONS 433-34 (1999) (discussing case-law limitations on holder-in-due-course status); WHITE & SUMMERS, *supra* note 28, §§ 14-6 & -7 (extended discussion of "good faith" and "notice" requirements for holder-in-due-course status).

¹⁷² For a discussion of the rarity of negotiable instruments in modern transactions, see Mann, *Searching for Negotiability*, *supra* note 169, *passim*.

¹⁷³ See RONALD J. MANN, *supra* note 171, at 397-408 (discussing requirements for negotiability). As mentioned above, any certainty promised by those rules has been undermined by judicial hostility in cases involving consumers. See *supra* note 171.

¹⁷⁴ See Old UCC §§ 9-206 (installment contracts for the purchase or lease of goods), 9-318(1) (accounts receivable).

“not subject to cancellation, termination, modification, repudiation, excuse, or substitution without the consent of the party to whom the promise runs”).

¹⁷⁹ Proposed UCC § 2B-619(d).

from somebody other than the financier.¹⁸⁰ Thus, a software company could not take advantage of that provision to limit its own responsibility if the software was defective.

The second was a new provision designed to foster a secondary market in software-financing obligations.¹⁸¹ That provision made the obligations independent upon “the licensee’s adoption of the terms of the license and the transfer to a third party of the contract between the licensee and the financier.”¹⁸² That provision effectively created a type of holder-in-due-course protection for a party that purchases the borrower’s obligation to make payments under a software-financing contract.

It is easy to see why the drafters of Article 2B looked to Article 2A for a template from which to draft the relevant provisions. As explained above, software financing probably resembles equipment leasing more closely than any other prominent form of existing financing.¹⁸³ But what the drafters did not do was examine the range of current transacting practices and adapt the Article 2A model to reflect the differences between equipment leasing and software leasing. As the discussion of the software-acquisition lending transaction illustrates, many lenders in the field will not satisfy the definition of financier in Article 2B. They will not insert themselves into the chain of software-usage rights in a way that would fall within any conventional understanding of the concept of a lease.¹⁸⁴ Also, in many cases they will not even purport to take a security interest.¹⁸⁵ Thus, the hell-and-high-water protection proffered to the software “financier” defined to include only lessors and secured lenders excludes a large portion of the marketplace.

Because of that exclusion, Article 2B provides no validation for hell-and-high-water provisions in unsecured financing arrangements. A reporter’s note suggests that validation “is not needed where the financier never acquires a

¹⁸⁰ Proposed UCC § 2B-619(d)(1).

¹⁸¹ See *supra* text accompanying notes 131-132 (discussing the nascent market for securitized software-financing obligations).

¹⁸² Proposed UCC § 2B-619(d)(2).

¹⁸³ See *supra* notes 117-118 and accompanying text.

¹⁸⁴ See *supra* notes 121-122 and accompanying text.

¹⁸⁵ See *supra* note 150 and accompanying text.

position as licensor/licensee, but is helpful in the three party context.”¹⁸⁶ It is difficult to see, however, how that suggestion explains the actual structure of the provision. After all, the conventional secured party does not acquire any status as licensor or licensee, except in the technical sense that the secured party obtains a collateral assignment of the licensee’s interest in the license. Thus, even without the provision, the lender’s concerns about liability relating to the license or the licensed property would not be all that serious. The only circumstance in which the secured party would acquire obligations under the license would be if it took over the licensee’s position, and in that case the secured party would not be in the position of licensor to the borrower. The fact is, *pace* the drafters, the secured software lender and unsecured software lender have precisely the same basis for concern.

Unfortunately, notwithstanding the limited basis for concern on the part of the secured creditor, the drafters decided to grant protection to the secured creditor, for the obvious reason that any increase in the certainty of enforceability adds some protection to the financing arrangement. But if that protection is useful for the secured creditor, it should be every bit as useful for the unsecured creditor. Indeed, the specific omission of unsecured financing arrangements from the definition of “financier” – despite the repeated requests for inclusion by those who engage in that type of lending¹⁸⁷ – lends support to an argument that the statute renders hell-and-high-water clauses in unsecured lending agreements unenforceable.

That argument is bolstered by another curious difference between the provisions of Article 2A and Article 2B. The hell-and-high-water provisions in Article 2A include a paragraph that expressly countermands any negative inference regarding the enforceability of hell-and-high-water provisions not validated by Article 2A.¹⁸⁸ Coupled with the disparity of treatment of secured

¹⁸⁶ Proposed UCC § 2B-619 reporter’s note 4.

¹⁸⁷ See, e.g., 3/97 Vora Memorandum 1, *supra* note 150, at 1 (requesting that Drafting Committee grant financier status to unsecured software lenders); Memorandum to Article 2B Drafting Committee from Leianne Crittenden 1 (Sept. 19, 1997), available at <http://www.2bguide.com/docs/leior.html> (requesting inclusion of unsecured financing in financing provisions); ELA Subcommittee, Comments to September Draft of UCC Article 2B 1 (Nov. 3, 1997), available at <http://www.2bguide.com/docs/ela97.html> (same); Memorandum to UCC Article 2B Drafting Committee from Equipment Leasing Association Article 2B Subcommittee 3 (June 3, 1998), available at <http://www.2bguide.com/docs/ela11.html> (proposed revision of “financier” definition that would include unsecured financiers)

¹⁸⁸ “This section does not affect the validity under any other law of a covenant in any lease contract making the lessee’s promises irrevocable and independent upon the lessee’s acceptance of the goods.” UCC § 2A-407(3); see UCC § 2A-407 comment 6 (underscoring the point). Because Article 2A’s validation of hell-and-high-water provisions is limited to nonconsumer finance leases (and

and unsecured lenders, the omission of such a provision from UCC Article 2B would have made the enforceability of the unvalidated clauses in unsecured financing agreements considerably *more* dubious after the enactment of Article 2B than it was before.

Thus, in the end, a provision offered as a boon to the software lender had two principal effects, neither of which was supported by any articulated policy: to undercut the enforceability of the contracts in one major sector of the market; and to provide a differential benefit to another sector of the market. At first glance, the statute's unwillingness to extend its benefits to the unsecured lender might seem willfully perverse, but that would be an unfair assessment of the process.¹⁸⁹ The problem is a deeper one, emblematic of the difficulties of law reform in commercial transactions.

The real source of the difficulty is the perspective of the drafters, who are simply trying to add provisions for software lending that solve the problems the drafters expect software lenders to have, based on a strictly logical explication of the problems other types of lenders face in apparently analogous situations. That type of approach, however, is antithetical to what is best in the American commercial-law tradition: a desire to start the law-reform process by understanding the transactions that appear in commerce, and then to build a statute that responds to difficulties that the parties actually face in those transactions.¹⁹⁰

(B) THE LENDER'S RIGHT TO TERMINATE

The failure of the drafters to draft a helpful provision related to independence of obligations could be dismissed as a small matter. Lending transactions proceed now without such a statute. Given the limited basis a

thus excludes consumer leases and nonfinance leases), the validation provision without that disclaimer could have undermined the enforceability of hell-and-high-water provisions in the excluded types of leases.

¹⁸⁹ More than one reader suggested that the drafters might have been "captured" by secured lenders participating in the drafting process. Although it is difficult to disprove such a possibility, my impression based on the activity that I have observed (including the absence of any significant participation by secured lenders on the drafting committee) is that the more benign explanation proffered in the text is more plausible.

¹⁹⁰ The distinction between the two drafting methods has an eerie similarity to the typical anecdotal explanation (offered to me by Neil Cohen) for why American commercial-law delegations (relying on their transaction-based approaches) have difficulty in developing transnational commercial-law conventions with European delegations that rely on a more logic-based deductive approach to designing commercial legal rules.

borrower would have for arguing that the borrower's obligation to pay the financier in fact is dependent on performance by the licensor, it is difficult to believe that serious harm would have resulted even if Article 2B's proposed provisions on that topic had been enacted.

Article 2B's treatment of the lender's right to terminate for nonpayment was more reprehensible. As discussed above, the lender's right to terminate is a crucial remedy, central to the success of the software-leasing market (whether secured or unsecured).¹⁹¹ Thus, a transaction-facilitating approach to commercial-law reform in the area would attempt to identify ways to facilitate the availability of that remedy in a fair and limited way. For example, such an approach would respond to the difficulty that software lenders face in determining whether they have the right to terminate their borrower's use of software without the consent of the licensor.¹⁹² As one software executive explained, licensors are reluctant absent some provision in the license agreement¹⁹³ to recognize a termination by the lender. The licensor's perspective is that it might seem unfair for the licensor to honor termination of a license before the end of the term when the licensor has received full payment for the entire term.¹⁹⁴

Given the uncertainty of the existing rules in that area, and the absence of any serious concern licensors have about financiers exercising a termination right, it would be beneficial to enact a provision confirming the financier's right to terminate. A moderate provision might state that a lender that funded the purchase of a software program would have the right to terminate the borrower's

¹⁹¹ See *supra* pp. 44-47.

¹⁹² See Bazrod Interview, *supra* note 6 (transcript at 8); McAuley Interview, *supra* note 7 (transcript at 8) (describing discussions between Microsoft and major lenders regarding lender's right to terminate use by licensees upon nonpayment).

¹⁹³ As far as I can tell, provisions recognizing a lender's right to cancel are not common, although some licensors seem to be considering adding them. See McAuley Interview, *supra* note 7 (transcript at 9-10) (discussing a transaction in which the licensor issued a generally nontransferable license jointly to the lender and the end-user, with the understanding that the license would be transferred to the end-user upon completion of payments); *id* (transcript at 14-15) (discussing possibility of adding such provisions). They are not, however, unheard of. See *supra* note 134 (citing interviews with software financier who have obtained permission from their vendors to terminate licenses for nonpayment).

¹⁹⁴ See McAuley Interview, *supra* note 7 (transcript at 7-8) (statement of Microsoft executive).

use of the program in the event that the borrower failed to pay for the software program as agreed.¹⁹⁵

Article 2B, however, took a directly contrary approach. Indeed, the proposed financing provisions of Article 2B went out of their way to cast doubt on the legitimacy of the termination remedy,¹⁹⁶ by expressly prohibiting the financier from canceling the licensee's rights under the license, even if the licensee fails to pay for the software.¹⁹⁷ Although that provision did not by its terms apply to unsecured software lenders (because they were not "fin under Article 2B), it is safe to assume that the provision would have been applied to have the same effect upon their activities.¹⁹⁸

To be sure, the lender could argue that it is not canceling the license, only terminating the borrower's right to use the software under the license.¹⁹⁹ I doubt, however, that such a distinction would prove persuasive to most judges considering such cases. If the only thing the license grants is a right to use the software on certain conditions, then action to terminate any right to use the software is in every practical sense an action to terminate the license. Thus, if enacted, the statute would have cast serious doubt on the lender's right to terminate use. The only arrangements in which the right to terminate would be

¹⁹⁵ For further discussion of that proposal, see *infra* pp. 62-65. A more cautious transactional approach might require a financier that desires a termination right to agree to indemnify the licensor from any losses attributable to claims by the licensee alleging complicity in wrongful termination. See Wetzel Interview, *supra* note 10 (transcript at 6) (describing agreements between vendors and financiers that include such an indemnity). By absolving licensors from such responsibility directly, a statutory provision like the one in the text would solve that problem more cleanly than the parties could by agreement among themselves.

¹⁹⁶ For a portion of the drafting period, the statute did validate financier termination rights, including electronic self-help in limited circumstances. See Proposed UCC § 2B-716 (February 1998 draft) (permitting self-help if the financier obtains the licensee's agreement to self-help as a remedy and gives advance notice before exercising self-help). Even those provisions, however, offered no benefits to the unsecured lender, because that lender never qualified as an Article 2B "financier."

¹⁹⁷ See Proposed UCC § 2B-619(f)(1) ("On material breach by the accommodated licensee of the agreement between the financier and the licensee, the financier may [exercise remedies under its agreement with the licensee] but may not cancel the license.").

¹⁹⁸ *But see* Software-Developer Counsel Interview, *supra* note 106 (asserting that the exclusion of the unsecured lender from the definition of "financier" meant that unsecured software lenders would remain free to enforce their contractual termination rights).

¹⁹⁹ See Software-Developer Counsel Interview, *supra* note 106 (advancing that argument).

assured would be those in which the licensor agreed in the license to permit termination.²⁰⁰

As with the hell-and-high-water provisions, the general effect of the proposals was to hinder the transactions that occur in the current marketplace, not in furtherance of any overt policy goal, but simply out of a failure to observe the nature of that marketplace. Because of the normative difficulties that many scholars discern in the practice of secured credit,²⁰¹ it is particularly perverse that the adverse burdens of the reform effort fall most heavily on unsecured lenders, whom the unbiased observer would expect to be favored by law reformers. The overall result reflects a sad outcome for a project undertaken under the venerable auspices of the American Law Institute and the National Conference of Commissioners on Uniform State Laws.

2. *Secured and Unsecured Software Lenders in Bankruptcy*

In light of the critical tone the preceding section took with respect to the efforts of the state-law reformers modernizing the UCC, it is only fair to assess the provisions of the federal Bankruptcy Code that relate to software financing. Although those provisions are not in flux in the same way that the UCC provisions are, they exhibit much of the same difficulty.

The principal bankruptcy-related concern for the software lender is the trustee's strong-arm power under Bankruptcy Code § 544.²⁰² That provision reflects the same formal classification of creditor's interests into "secured" and "unsecured" categories. Here, the test for whether a claim is secured is whether the claim to a particular asset is one that could be defeated by a hypothetical creditor that obtained a judgment lien as of the date of bankruptcy.²⁰³ A secured claim — one that could not be so defeated — is protected in

²⁰⁰ The difficulty might be remedied in the long run if sophisticated licensors included general provisions validating any termination rights that lenders might obtain. As discussed above, *see supra* note 193, some licensors are considering adopting such provisions. But surely it would be better to refrain from adopting a statute that forces such a response.

²⁰¹ *See generally* Symposium, *The Priority of Secured Debt*, 82 CORNELL L. REV. 1279 (1997) (collection of pieces debating the propriety of untrammelled priority for secured lenders).

²⁰² 11 U.S.C. § 544(a)(1).

²⁰³ *See, e.g.*, DAVID G. EPSTEIN, STEVE H. NICKLES & JAMES J. WHITE, *BANKRUPTCY* § 6-61, AT 390-93 (1993) [hereinafter EPSTEIN, NICKLES & WHITE].

the bankruptcy proceeding.²⁰⁴ An unsecured claim — one that could be so defeated — is inferior to the rights of the bankruptcy trustee, so that the creditor has no substantial claim in the bankruptcy proceeding.²⁰⁵

Given the limited likelihood that anybody — secured creditor, unsecured creditor, *or* bankruptcy trustee — will be able to liquidate the software for a substantial monetary recovery,²⁰⁶ it would be natural to ask why a creditor would worry about the possibility that its interest might be classified in bankruptcy as “unsecured.” The answer is that lenders are interested in the classification question not because they want to preserve the classic secured creditor’s right to the liquidation value of the collateral, but because they want to preserve an entitlement to the enterprise value that the software carries with it.²⁰⁷ If the lender has a perfected security interest in all of the borrower’s assets *except for* the software, then the bankruptcy court might allow other claimants to capture a

²⁰⁴ See, e.g., EPSTEIN, NICKLES & WHITE, *supra* note 203, at 391-92 (“[T]he third person’s interest is unaffected by Section 544(a) if, under state law, her interest primes the trustee’s claim as lien creditor.”).

²⁰⁵ See, e.g., EPSTEIN, NICKLES & WHITE, *supra* note 203, at 391. As Steve Harris has pointed out to me, the textual discussion may be a bit too pessimistic about the bankruptcy treatment of the lender with a right to terminate. There is some support for the notion that a licensor with a right to prevent a transfer of a licensee’s interest in the license can enforce its rights in bankruptcy. See *Chicago Board of Trade v. Johnson*, 264 U.S. 1 (1924). Although it seems unlikely to me, that line of reasoning plausibly could be extended to this context.

Also, it might be possible to structure a transaction so that the lender’s arrangement qualified as an executory contract. For example, in a back-to-back license/sublicense arrangement, the sublicense from the lender to the borrower might be an executory contract, on the theory that the borrower owed continuing monetary performance and the lender owed a continuing duty to permit use of the software. If the arrangement did qualify as an executory contract, the lender would get the functional equivalent of secured status, because the borrower would be obligated to perform as agreed or permit cancellation of the agreement. See *generally* EPSTEIN, NICKLES & WHITE, *supra* note 203, §§ 5-5, 5-7 (general discussion of executory contracts in bankruptcy). That possibility, however, does not strike me as all that significant given the considerable resistance lenders have shown to the back-to-back license/sublicense structure. See *supra* notes 121-122 (discussing decreasing use of that structure).

²⁰⁶ See *supra* Part I.

²⁰⁷ Cf. *Associates Commercial Corporation v. Rash*, 117 S. Ct. 1879 (1997) (holding that when a borrower retains collateral in a nonliquidation bankruptcy proceeding, the creditor is entitled to the value of the collateral in place (the going-concern value) rather than the liquidation value of the collateral).

substantial portion of the value of the enterprise based on the claim that the business would be substantially less valuable without the software.²⁰⁸

To avoid that obstacle, the lender has a strong interest in structuring a transaction that bankruptcy courts will classify as “secured.” Because of the difficulties explained above, efforts to structure the transaction as secured are in some sense a sham, because (at least in cases in which the licensor does not or will not consent), those efforts will not result in a legal right to obtain the collateral. Nevertheless, the desire to obtain the favored status in bankruptcy currently leads some lenders to go through the motions of obtaining a security agreement and filing a financing statement even in transactions in which they know that they have no right to liquidate the collateral.²⁰⁹

Indeed, the revised version of Article 9 itself goes so far as to encourage those pseudo-secured transactions. As discussed above, UCC § 9-408 resolves the tension between licensor and lender interests by stating expressly that the security interest attaches to the collateral for purposes of Article 9, even though the lender cannot enforce the interest against the collateral.²¹⁰ But a security interest that carries with it no liquidation right has little or no state-law significance. And the Article 9 drafters plainly recognize what they are doing. Comment 7 to UCC § 9-408 explains that the provision is designed only to serve the interest described above: to ensure that the lender would receive any proceeds from a sale of the debtor’s software in bankruptcy.²¹¹

Thus, we now have an elegant example of a complete disjunction between the formal purpose of the secured transaction — to secure for the lender a right to liquidate specific assets — and its functional use — to obtain favored

²⁰⁸ For the same reasons that the lender’s right to terminate use of the software is such a powerful remedy, it is entirely reasonable for a court to view the business without the software as much less valuable than the business with the software.

²⁰⁹ See Bazrod Interview, *supra* note 6 (transcript at 15) (acknowledging the absence of a liquidation right for a security interest taken without licensor consent, but nevertheless asserting its importance for bankruptcy-planning purposes); McAuley Interview, *supra* note 7 (transcript at 10) (discussing the “false sense of collateral” lenders obtain when they have no right to remarket the underlying software); see also *supra* notes 148-149 (reporting interviews with lenders stating that they formally take security interests while understanding that they have no right to repossess or liquidate the collateral).

²¹⁰ See *supra* pp. 18-20.

²¹¹ “Under this section ... the security interest would attach to the [collateral]. As a result, the security interest would attach to the proceeds of any sale of the [collateral] while the bankruptcy is pending.” UCC § 9-408 comment 7 (Example 4).

treatment in a business reorganization of the borrower. Such a result directly calls into question the distinction in Section 544(a) between the favored secured claims and the unfavored unsecured claims.

Recognizing that the distinction is fundamental to the bankruptcy system, it is difficult to understand as a theoretical matter why the line should be drawn between secured and unsecured claims. One response might be that the Takings Clause requires protection for secured creditors because their interests constitute “property” protected by the Constitution. It seems unlikely to me, however, that the current Court would find that the Constitution limited Congress’s ability to impose mild restrictions on the recovery of secured creditors in bankruptcy.²¹² Moreover, nobody could dispute the constitutionality of a provision that elevated other creditors to the favored treatment currently offered secured creditors. More generally, the same line of reasoning convinces me that arguments about “fairness” to creditors are unlikely to provide a useful basis for determining which creditor remedies should be recognized in bankruptcy.²¹³

A more functional response might be that the current bankruptcy favoritism for secured creditors mirrors the results that would occur in a state-court liquidation. Designing a bankruptcy system that mirrors those results as closely as possible enhances the incentives of creditors to exercise the forethought to protect themselves in the state-law system.²¹⁴ But that

²¹² See James Steven Rogers, *The Impairment of Secured Creditors’ Rights in Reorganization: A Study of the Relationship Between the Fifth Amendment and the Bankruptcy Clause*, 96 HARV. L. REV. 973, 977-97 (1983) (explaining why it is implausible to interpret the Takings Clause to prohibit impairment of the rights of secured creditors in bankruptcy). Rogers argues that any constitutional limits derive from the Bankruptcy Clause, Art. I, § 8. Although there is little precedent addressing the limits that Clause might impose on prospective legislation, I find it implausible to suggest that the Bankruptcy Clause requires Congress to draw the line it currently draws in favor of interests protected against state judgment lienholders. Surely that Clause would permit Congress to draw lines distinguishing between creditors on bases reasonably related to the practicalities of the creditors’ situations. See *id.* at 998-1005 (analyzing the cases interpreting the Clause).

²¹³ For a more detailed analysis of that problem, see Ronald J. Mann, *Bankruptcy and the Entitlements of the Government Whose Money Is It Anyway?*, 70 N.Y.U. L. REV. 993, 1038-53 (1995).

²¹⁴ For example, Douglas Baird argues:

Legal rights should turn as little as possible on the forum in which one person or another seeks to vindicate them. Whenever we must have a legal rule to distribute losses in bankruptcy, we must also have a legal rule that distribute the same loss outside of bankruptcy. All Jackson and I advocate is that these two rules be the same.

distinction cannot justify the hypothetical-lien-creditor distinction either. As should be clear from the first two parts of this article, the creditor that relies on a security interest to obtain repayment of its software loan is the foolish one; the wise one relies on a right to force payment through a threat of termination of the borrower's right to use the software. Thus, the unsecured creditor with a right to terminate has done every bit as much to protect itself in a practical sense as the conventional secured creditor.²¹⁵

Thus, for me the normative justification for recognition of creditors' rights in bankruptcy is neither a concern for fairness to creditors²¹⁶ nor an invariable desire to replicate the results of the state-law system. I prefer context-specific determinations of the value that the financing system as a whole gains from protection of the device in question. Hence, I am inclined to support a liquidation preference for secured creditors to the extent (and only to the extent) that such a preference lowers the overall costs of financing transactions.²¹⁷

Recognizing that the available empirical information is limited, I nevertheless am persuaded that the bankruptcy system should respect the software lender's termination right, at least with respect to software for which that lender provided purchase money. The discussion in the opening pages of this part shows that the termination right is an effective and relatively low-cost remedy. That remedy facilitates a substantial amount of financing that otherwise apparently would not be available. Also, recognition of that remedy in

Douglas G. Baird, *Loss Distribution, Forum Shopping, and Bankruptcy: A Reply to Warren*, 54 U. CHI. L. REV. 815, 822 (1987); see Robert K. Rasmussen & David A. Skeel, Jr., *The Economic Analysis of Corporate Bankruptcy Law*, 3 AM. BANKR. INST. L. REV. 85, 86-87 (1995).

²¹⁵ I do not treat the unsecured creditor as *more* protected because I assume that the perfected secured creditor probably has a right to terminate the borrower's right to use the software under the general provisions of Article 9 permitting the lender to disable the collateral as a remedy for nonpayment. That is not, however, entirely obvious, because the provision granting that right is by its terms limited to tangible collateral. See UCC § 9-609(d)(1) ("Without removal, a secured party ... may render equipment unusable.").

²¹⁶ On that point, it bears noting that the transactions examined in this article involve relatively sophisticated businesses.

²¹⁷ My previous work suggests several reasons to believe that secured credit does lower those costs. See Mann, *The Pattern of Secured Credit*, *supra* note 2, at 638-58. What is not clear, however, is the extent to which those benefits are offset by costs externalized to other creditors or the extent to which the benefits are attributable to the liquidation priority. I have argued elsewhere that in some contexts the liquidation priority plays only a small role in obtaining the benefit of secured transactions. See Mann, *Small-Business Secured Credit*, *supra* note 4, at 11-26; Mann, *Verification Institutions*, *supra* note 4 (subpart II(A)).

bankruptcy appears to be relatively important to the system, both in the sense that transacting parties seem to be concerned about that point *ex ante*, and in the sense that the remedy in question plainly is central to the success of the transaction.²¹⁸

My views are influenced significantly by my sense that the adverse effects on third parties are relatively limited. To be sure, the right of termination would pose a prospect of significant dislocation to third-party customers of the borrower if the termination right were exercised injudiciously – termination of an airline reservation system would harm third parties just as²¹⁹ – but that has not occurred to date, apparently because of the just concerns lenders have that precipitous use of the remedy might leave them exposed to liability.²²⁰

I also am troubled by the possibility that recognition of the unfiled interest of the software lender would impose costs on third-party lenders unable to discover the claim of the software lender.²²¹ The optimal response probably would be to condition bankruptcy recognition of the software lender’s termination right on a public filing giving notice of its interest. Current

²¹⁸ In both respects, that analysis suggests that bankruptcy recognition is *more* important in this context than it is for general secured creditors, not less. For one thing, as I noted *supra* in note 217, it is not at all clear that the liquidation priority preserved in bankruptcy is central to the success of secured credit. Moreover, anecdotal evidence makes me skeptical that the bankruptcy liquidation priority is of central importance to the parties considering a secured transaction. *See* Mann, *Strategy and Force*, *supra* note 60, at 237-43.

²¹⁹ I thank Jay Westbrook for the example.

²²⁰ *See supra* note 163. I doubt that bankruptcy recognition of the lender’s right to terminate would make lenders significantly more hasty in exercising their remedies before a bankruptcy filing. The automatic stay in 11 U.S.C. § 362(a) should police hasty actions that might occur after such a filing. In any event, those concerns also could be minimized by a codification of the apparent industry practice of giving advance notice and opportunity to cure or, perhaps, judicial pre-approval of termination. *Cf. supra* note 196 (discussing provisions of proposed Article 2B that require licensors to give notice before exercising their right of self-help). My primary concern would be that in the absence of any evidence of a significant rate of improper termination, a requirement of judicial pre-approval would impose delay and transaction costs to no purpose.

²²¹ That concern motivated the American Bar Association to oppose validation of self-help for unsecured software financiers during the Article 2B process. *See* Memorandum to National Conference of Uniform Law Commissioners from American Bar Association Subcommittee on Software Contracting 2 (Apr. 7, 1997), available at <http://www.2bguide.com/docs/abafin.html> (recommending against inclusion of provisions protecting unsecured financiers because of that problem); *see also* E-mail from Mark S. Bazrod, President, LPI Software Funding Group, Inc. to Ronald J. Mann (Feb. 17, 1998) (arguing that “from the standpoint of other creditors of the licensee, I think non-filing and security interest status is unacceptable and also unfair”).

technology should make it easy to design a filing system in which the cost of filing would be quite low and in which competing creditors could discover the lender's interest easily, quickly, and without undue expense.

But it is highly unrealistic to expect a software-financing filing system in the foreseeable future. As a state-law matter, UCC Article 9 has just been through a lengthy revision process; further revisions to its filing provisions cannot be expected for decades. Moreover, it is not perfectly clear that a state-law filing system would be effective.²²² And any suggestion that Congress might upgrade the reprehensibly execrable state of the intellectual-property filing systems must acknowledge the glacial pace at which Congress responds to such concerns.

The harder question is whether it is appropriate to recognize the lender's termination right in a legal system in which such filings are not made. I think that it is. For one thing, it is not uncommon to elevate the rights of unfiled creditors over the rights of filed commercial lenders. Two instances provide close parallels to the situation at hand.

First, the claim of a filed secured creditor will be subordinate to the later claim of a purchase-money lender on equipment, even if the equipment lender provides no notice to the first-in-time filed secured creditor.²²³ That provision cannot plausibly rest on the notion that the first-in-time lender will conduct periodic UCC searches to discover the purchase-money lender. Rather, it must rest on the functional justification that protection for the equipment lender will not do undue harm to the transactions in which the first-in-time lender is likely to engage.²²⁴

²²² It should be permissible to include such filings in a state-law system. Because the lender claims no right to use or resell the software, it should not fall afoul of the federal-preemption problem discussed *supra* at pages 18-20. The lack of clarity of the preemption analysis, however, suggests that federal statutory validation of a state-law filing system would be important.

²²³ See UCC § 9-324(a); see also UCC § 9-324(b) (conditioning purchase-money priority of inventory lender on advance notice to existing filed lender).

²²⁴ Of course, the purchase-money equipment lender cannot retain priority over later lenders unless it perfects by filing. UCC § 9-322(a). But that does not undermine my point: that the system readily accommodates a situation in which a first-in-time filed lender can lose to a later-in-time lender even if the filed lender has no notice of the later lender. As the next paragraphs show, some unfiled interests also prevail over later filed lenders.

Similarly, the claims of equipment lessors are respected in bankruptcy even though they provide no public notice of their interest.²²⁵ That is true notwithstanding the long-standing and prominent academic arguments that the equipment lessor so closely resembles a secured creditor that its priority should be conditioned on public notice of its interest.²²⁶ The justification, of course, is a general sense that continued protection of equipment lessors provides more benefits by facilitating equipment leasing than it does in harming the interests of the general all-assets lenders that tend to be harmed by the rule.²²⁷

From the perspective of an existing lender with a filed security interest, the software-acquisition lender plays a role quite similar to the equipment lender or equipment lessor. The software-acquisition lender directly funds the borrower's purchase of assets used in the operation of the borrower's business and seeks a claim against the funded asset. Because the existing lender has not advanced funds to acquire the new asset, it does not harm the existing lender unduly to allow the new lender to have priority in the new asset.²²⁸ The same analysis suggests that it is not inappropriate to recognize the rights of the software lender.

In sum, the benefits of bankruptcy recognition of the termination right of the purchase-money software lender seem to be significant. The harms to third parties seem to be manageable, particularly by comparison to the closely analogous contexts in which the law validates non-filed interests. Thus, the bankruptcy system should recognize the validity of the lender's termination right.

²²⁵ See Charles W. Mooney, Jr., *The Mystery and Myth of "Ostensible Own Article 9 Filing: A Critique of Proposal To Extend Filing Requirements to Leases*, 39 ALA. L. REV. 683, 694-96 (1988).

²²⁶ E.g., Douglas G. Baird & Thomas H. Jackson, *Possession and Ownership: An Examination of the Scope of Article 9*, 35 STAN. L. REV. 175 (1983).

²²⁷ For a thorough analysis of the question, justifying the existing treatment, see Mooney, *supra* note 225.

²²⁸ A considerable literature examines the propriety of the priority generally granted to purchase-money lenders. Compare, e.g., Hideki Kanda & Saul Levmore, *Explaining Creditor Priorities*, 80 VA. L. REV. 2103, 2138-41 (1994) (defending the priority); Paul M. Shupack, *Defending Purchase Money Security Interests Under Article 9 of the U.C.C. from Professor Buckley*, 22 IND. L. REV. 777, 783-97 (1989) (same), with F.H. Buckley, *The Bankruptcy Priority Puzzle*, 72 VA. L. REV. 1393, 1461-70 (1986) (criticizing the priority).

IV. CONCLUSION

Commercial-law reform is a daunting task, because it requires an understanding not only of the successes and failures of the existing legal rules as a logical system—Where are the rules clear and unclear? Where do they fail to fit together coherently?—but also of the transactional background against which those rules operate. And that task is doubly difficult when it focuses on an area in which technological developments lead to transactions that change in design as quickly as they do in the software industry.

When the UCC originally was promulgated, the drafters tried to develop legal rules that responded to the felt needs of the transactions in which businesses actually were engaged at the time.²²⁹ The software-financing industry presents a new challenge to the commercial-law draftsmen: asset-based transactions in which there are no assets to liquidate. In my view, the law should act to validate those transactions. Of course, it would be plausible to object that it is just too soon to institutionalize a legal response that validates those first efforts in a newly created and still developing field. But surely the evidence presented here justifies refraining from the adoption of rules that would stifle this nascent industry. I hope that the story provides a model for similar efforts in other contexts.

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²²⁹ See, e.g., Grant Gilmore, *On the Difficulties of Codifying Commercial Law*, 57 YALE L.J. 1341, 1341 (1948).