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Path Dependent Inefficiency in the Corporate Contract: The Uncertain Case with Less Certain Implications

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PATH DEPENDENT INEFFICIENCY
IN THE CORPORATE CONTRACT:
THE UNCERTAIN CASE
WITH LESS CERTAIN IMPLICATIONS

BY FREDERICK W. LAMBERT*

Abstract

The author examines path dependence as a potential "new economics" having possible general implications for the normative basis of the corporation as a nexus of contracts. He introduces the discussion by reviewing the parallel scholarship of contracts and corporate law as they utilize efficiency to reshape theory. He then addresses the concept of path dependent lock-in to suboptimal remediable results built on the phenomenon of increasing returns. The sharp deviation from neoclassical economics evinced by path dependence prompts an analysis of

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The author owes a substantial debt to several sources for this article. The ideas originated in conversations with Deborah DeMott when the author was a visiting faculty member at Duke University School of Law in 1993. She also gave helpful comments on recent drafts. The ideas were also shaped by the Symposium on Default Rules and Contractual Consent at the University of Southern California and comments during presentations at a Duke Faculty Workshop and at Hastings College of the Law. The author was seeking to develop a theory of penalty defaults for the interpretation of bondholder disputes such as arose in connection with the leveraged buyout of RJR Nabisco. After a hiatus occasioned by another project, the author came upon the emerging law and economics scholarship of path dependence in the corporate contract, principally authored by Marcel Kahan and Michael Klausner. Path dependence presented a significant potential for bringing into question the presumptions of efficiency underlying much of the scholarship of the corporation as a nexus of contracts. Accordingly, the author doubted it could be ignored in any theory of interpretation of disputes between corporate issuers and bondholders. Thus, a preliminary draft made a semi-strong case for penalty default standards of interpretation as an antidote to path dependent bond indenture inefficiency. The author's colleague, Bill Wang, made a number of thoughtful observations on this theory. His comments caused the author to alter the direction of earlier drafts toward a conclusion previously reached, quite apart from his comments, that path dependence and penalty default rules may have only marginal normative significance to the resolution of bondholder disputes. However, there still seemed to be some merit to analyzing the intersection of path dependence, contract theory, and the corporation as a nexus of contracts. In shaping the current version of the article, in addition to others previously mentioned, the author owes a substantial debt of appreciation to Ash Bhagwat, Bill Bratton, Jim Cox, Bill Dodge, Merritt Fox, Mike Klausner, Richard Painter, Roger Park, Reuel Schiller, Norman Siebrasse, and Bob Thompson. The author's long-time friend, Tom Rowe, provided encouragement and sources of ideas as he has over the years. Gitanjali Mohindra, Sheryl Salmons, and Daniel Schwartz provided excellent research assistance.

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scholarly criticism suggesting the highly unlikely occurrence of remediable suboptimality. Using the critical literature as a point of departure, the author assesses the validity of path dependence to the contracting process, first generally, and then in connection with the literature that has focused specifically on the bond indenture. The article suggests that the case has not been made for the general application of path dependence to the contracting process, but unique attributes of certain contracts, such as the corporate bond indenture, may exist in a unique environment conducive to path dependent suboptimality. Evaluating the normative implications of path dependence that follow from potential contractual inefficiency, the author turns to penalty default rules of interpretation as an antidote to inefficiency. The article speculates as to whether courts should adopt a passive remedial stance — in essence a penalty default rule — to encourage ex ante adoption of optimal terms, thus conserving ex post public judicial resources. To test the vitality of penalty defaults, the author considers three prominent bondholder disputes. The analysis of the cases leads to the tentative conclusion that the effect of judicial decisions on the adoption of indenture provisions is indeterminate and at most secondary to the pricing mechanism of the bond market, which accords relatively little importance to bond covenants other than interest rate, maturity and call provisions. The author concludes that, even in an environment susceptible to adoption of inefficient indenture terms, courts will likely have a small role to play in encouraging efficiency in the development of indenture terms.
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A similar phenomenon [increasing returns] occurs even in individual learning, where again successes reinforce some courses of actions and inhibit others, thereby causing the first to be sampled more intensively, and so forth. There are in all of these models opposing tendencies, some toward achieving an optimum, some toward locking in on inefficient forms of behavior.

Kenneth J. Arrow

I. INTRODUCTION

In the era of law and economic analysis, one does not dwell on arcane linguistic interpretations of the permitted behavior of the corporate debtor as opposed to the reasonable protection of the creditor bondholder. Rather, one focuses an inquiry into whether the debenture, or more accurately, the indenture, consists of an aggregate of efficient contract terms or, conversely, whether the terms comprising the heart of the

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2A debenture is an instrument entitling the holder to be paid money that has been lent to a corporation. Debentures historically have constituted unsecured corporate obligations, while the more common term "bond" has denoted a debt obligation secured by corporate property. The distinction has lost its significance and the term "bond" is used interchangeably to refer to evidence of corporate debt obligations held by the public. Private issuances of corporate debt obligations generally are referred to as Notes. This article treats the legal issues arising from the contractual relationships with public bondholders.

3An indenture is an agreement between the issuer of publicly-held debt and an independent entity, typically, a financial institution, which undertakes the capacity of indenture trustee. The indenture agreement contains obligations concerning the payment of the debentures the most important of which are principal, interest rate, and maturity date. The indenture agreement also contains covenants limiting the financial and business activities of the corporate borrower which covenants are designed to enhance the ability of the corporate borrower to meet its payment obligations. It also may contain provisions permitting early redemption of the bonds. In general, it confines on the indenture trustee monitoring obligations on behalf of the bondholders. Accordingly, the corporate issuer of publicly held bonds must report periodically to the indenture trustee concerning its compliance with the terms of the indenture. In the case of default, the indenture trustee is authorized and required to take action on behalf of the bondholders to enforce the debt obligations reflected in the instruments called debentures or bonds. See supra note 2.


5The interplay between efficiency and contract doctrine is examined in Jason Scott Johnston, Strategic Bargaining and the Economic Theory of Contract Default Rules, 100 YALE L.J. 615 (1990). The Kaldor-Hicks definition of efficiency is assumed throughout this article.
publicly-held debt instrument reflect inefficiency similar to that argued to exist in the QWERTY typewriter keyboard. The answer to these questions is important, at least in part, for the continuing vitality of the rendition of the corporation as an optimal aggregation of nexuses of contract. Specifically, if there exist important provisions of the basic agreement governing the corporate debt relationship that are merely inefficient historical relics, like the purportedly inefficient QWERTY keyboard, that are utilized by lawyers and investment bankers, then perhaps other contractual components of the corporate web of relationships also suffer from correctable suboptimality or "lock in." More important, if the debt contract exhibits inefficient locked-in provisions, then the economic phenomenon of path dependence may exist, prompting a reconsideration of normative arguments that follow from the general assumption of efficiency in the various nexuses of the corporate contract. Specifically,

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Is the standard typewriter keyboard, the one used every day by tens of millions of people, a cruelly inferior design that we're stuck with only because its popularity prevents people from switching to something better? . . . . For economists, . . . [the question] bears on some of the critical issues of the day, such as whether free markets always make the best choices.

Id.


7As should be evident, the article addresses issues arising from the relationship between public holders of corporate debt obligations as distinguished from privately placed debt and commercial lending relationships. The term "corporate debt" is thus limited throughout the discussion.


9As discussed in greater detail, see infra Part III and accompanying note 190, the term "lock in" refers to the adoption of a term or technology that is inferior to a discoverable alternative but that nevertheless remains the choice of adopters.

10Depending upon the ultimate empirical validation of suboptimality in the corporate contract, there may emerge a "new contractarian" approach to issues of corporate law. These are grandiose possibilities, but the power of path dependence as a "new economics" contains such potential because it questions efficiency and the basic tenets of neoclassical economics. There are, of course, differences in the degree of acceptance of the corporation as a nexus of contract. See Lucian Arye Bebchuk, The Debate on Contractual Freedom in Corporate Law, 89 Colum. L. Rev. 1395, 1399 (1989) (suggesting that the "debate on contractual freedom in corporate law should be viewed as two debates, not one"); Robert C. Clark, Contracts, Elites, and Traditions in the Making of Corporate Law, 89 Colum. L. Rev. 1703, 1705-06 (1989) (discussing corporate theory). But see Easterbrook & Fischel, supra note 6 (discussing the corporation as a
there may be new doctrinal considerations for courts faced with deciding cases involving the assertion of the breach of indenture covenants such as arose in Metropolitan Life Insurance Co. v. RJR Nabisco, Inc., Sharon Steel Corp. v. Chase Manhattan Bank, N.A., and Katz v. Oak Industries, Inc. It is the purpose of this article to trace and analyze the importation of the economics of path dependence into the corporate contract by focusing on the corporate bond indenture. The ultimate goal is to compare the usefulness of traditional doctrines of interpretation employed in resolving bondholder-issuer disputes with possible alternatives, such as penalty default rules of interpretation.

This article takes legal and economic scholarship as a point of departure and explores and amplifies the criticisms of path dependent suboptimality in the context of the corporate bond indenture. It seeks to enhance an understanding of if, when, and how these concepts may have normative significance. The analysis leads to an inquiry into the efficiency of indenture terms and whether courts' interpretive approaches may contribute to or detract from the adoption of optimal terms. Although the bond indenture is only one of the various contractual components of the corporation, it is one of the most purely contractual in nature and therefore serves as a useful reference point to test the vitality of path dependence to the corporation. Moreover, the bond indenture invokes several threads of scholarship involving law and economics, the development of which is necessary to understand the claims that path dependence may make on both normative and positive issues of indenture interpretation.

Although the debt relationship framed by the bond indenture is quite narrow and technical, there exists a considerable recent body of literature collection of efficient nexuses of contract).


13691 F.2d 1039 (2d Cir. 1982). See infra notes 273-316 and accompanying text.

14508 A.2d 873 (Del. Ch. 1986).

15Those familiar with the literature of path dependence and its critics may wish, after the Introduction, to skip to Parts III.D-E and Part IV for the development of the normative implications for bondholder disputes.

on the relationship of the bondholder to the corporation. In the 1980s and early 1990s, there emerged a range of viewpoints concerning the rights and duties of issuers to the holders of debt. Much of the inquiry derived from the consequences of public takeovers when the incurrence of massive debt caused downgrades and loss of market value of public bondholders. Arguably, a leveraged buyout shifted wealth from bondholders to shareholders who were cashed out at a premium with debt that reduced the value of previously-outstanding bonds. Some of the scholarship emphasized arguments for extra-contractual protection of bondholders in a modified form of fiduciary duty somewhat similar to that due to the shareholders of the corporation. Cases such as those discussed in Part IV generally were resolved, however, by resort to the conventional contract

13 An important focus of the literature analyzes whether or not the contract monitoring the bond/issuer relationship, the indenture, should give rise to a higher, quasi-fiduciary duty on the part of the issuing corporation or should be interpreted simply as another form of arms-length agreement between a corporation and one class of its creditors. For comments arguing the advisability of a higher duty, see, e.g., Albert H. Barkey, The Financial Articulation of a Fiduciary Duty to Bondholders with Fiduciary Duties to Stockholders of the Corporation, 20 CREIGHTON L. REV. 47, 74-84 (1986) (arguing for a new fiduciary duty and evaluating this new duty in terms of fairness); Victor Brudney, Corporate Bondholders and Debtor Opportunism: In Bad Times and Good, 105 HARV. L. REV. 1821, 1836-39 (1992) (describing problems with existing fiduciary duty doctrine); Morey W. McDaniel, Bondholders and Corporate Governance, 41 BUS. LAW. 413, 456 (1986) [hereinafter Bondholders I] (concluding that "directors should have fiduciary duties to bondholders as well as to stockholders"); Morey W. McDaniel, Bondholders and Stockholders, 13 J. CORP. L. 205, 309 (1988) [hereinafter Bondholders II] (stating that the duty to maximize firm value should replace the duty to maximize shareholder wealth and such a "recast" of duties is consistent, inter alia, with modern finance theory); Lawrence E. Mitchell, The Fairness Rights of Corporate Bondholders, 65 N.Y.U. L. REV. 1165, 1228-29 (1990) (arguing for expanding duties to bondholders); Martin Riger, The Trust Indenture as Bargained Contract: The Persistence of Myth, 16 J. CORP. L. 211, 243 (1991) (stating that a bondholder is treated "fairly" if he or she receives what was bargained for). For sources advocating traditional neoclassical contract analysis of the bondholder relationship, see, e.g., William W. Bratton, Jr., Corporate Debt Relationships: Legal Theory in a Time of Restructuring, 1989 DUKE L.J. 92, 101 (stating that corporate debtor-creditor doctrine integrates "the traditional legal model of the corporation"); William W. Bratton, Jr., The Economics and Jurisprudence of Convertible Bonds, 1984 WIS. L. REV. 667, 672 (posing whether "the doctrinal dichotomy — corporate law for stockholders and contract law for bondholders — continues to be justified"); William W. Bratton, Jr., The Interpretation of Contracts Governing Corporate Debt Relationships, 5 CARDOZO L. REV. 371 (1984); Thomas R. Hurst & Larry J. McGuinness, The Corporation, the Bondholder and Fiduciary Duties, 10 J.L. & COM. 187, 211 (1991) (concluding that "the creation of a fiduciary duty in favor of bondholders seems both unnecessary and unwise"); Hideki Kanda, Debtholders and Equityholders, 21 J. LEGAL STUD. 431, 432 (1992) (arguing that the creation of a fiduciary duty between managers and debtholders or between managers and preferred equity holders could prove problematic). See also Kenneth Lehane & Annette Poulsen, Contractual Resolution of Bondholder-Stockholder Conflicts in Leveraged Buyouts, 34 J.L. & ECON. 645, 671 (1991) (considering ways in which bondholders can protect themselves from losses in the event of corporate control changes).

14 Brudney, supra note 17, at 1838.
doctrine of the implied covenant of good faith and fair dealing. No attention was paid to the effect of such doctrines on the shifting of private *ex ante* contracting costs to the expenditure of public *ex post* judicial resources. Concepts of law and economics were limited to observations of the necessity for uniform understanding of bond terms in the financial markets.

The quite specialized academic literature on bonds evolved in parallel with the broader categories of law and economics scholarship addressing, first, the corporation as a nexus of contracts and, second, contract theory in general. They reflect the ascendency of law and economics as the touchstone for analyzing both corporate and contract issues. The distinct but overlapping threads of scholarship of contract and the corporate entity contain a central unifying theme: efficiency. Largely without question, this underlying notion of efficiency employed concepts of neoclassical economics. For the strong adherents of free markets, the invocation of neoclassical theory posits that private atomistic contracting will result in an equilibrium reflecting the most efficient allocation of goods and resources. And, of course, contracts similarly would tend to

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19There are at least three distinct lines of inquiry that are important to a discussion of path dependence that have developed over the past decade. First, a debate emerged as to whether the state-supplied terms governing the internal affairs of the corporation (i.e., the corporation codes) should exist merely as off-the-rack terms which promoters or existing shareholders should be free to modify without limitation. This so-called "enabling" view of the corporate contract attracted criticism from those seeing the corporate contract supplied by the state as suffused with issues of public policy concerning the protection of minority shareholders for which terms should be "mandatory" and not waivable. John C. Coffee, Jr., *The Mandatory/Enabling Balance in Corporate Law: An Essay on the Judicial Role*, 89 COLUM. L. REV. 1618 (1989). Second, the scholarship of pure contract addressed the advisability of reframing, at least to some degree, doctrines of breach and remedy in terms of efficiency rather than reliance and expectation. If previous decades saw the devolution of consideration into reliance, law and economics commentators suggested that contractual remedies be redirected toward encouraging relationship-specific investment with contracts for unique goods and services and risk-allocation in connection with contracts for fungible commodities. Richard Craswell, *Contract Remedies, Renegotiation, and the Theory of Efficient Breach*, 61 S. CAL. L. REV. 629 (1988). Third, there appeared a body of scholarship exploring default rules and standards — applicable both to judicial interpretation of gaps in incomplete private contracts and to the proper content of public regulatory schemes such as the corporations codes. *See infra* note 35. These three separate strains of scholarship reflect considerable overlap because they develop concepts from law and economics applicable to contract law that readily applies in the corporate context once the corporation is seen as a creature of contract.

20Craswell, *supra* note 19.

21*See Johnston, supra* note 4.

22*See Bratton, Corporate Debt Relationships, supra* note 17, at 132.
evolve so as to discard inefficient terms and incorporate only those terms that were efficient.\textsuperscript{23}

The free market paradigm of the corporation as an evolving combination of contracts proceeds on several assumptions. Summarized briefly, off-the-rack terms such as the corporation code should be designed as default provisions that most parties would want.\textsuperscript{24} In absence of agreement to the contrary, such terms would apply in all cases and thereby absolve the majority of users from having to incur transaction costs. These are known as majoritarian default provisions having application beyond the context of the corporation.\textsuperscript{25} For example, the remedy for incomplete contracts should reflect a similar majoritarian default in the form of what the parties would have wanted had they bargained costlessly.\textsuperscript{26} Some, however, questioned the universal application of majoritarian default provisions.\textsuperscript{27} An alternative to the majoritarian remedy would create rules designed with a punitive edge, thereby encouraging information disclosure between asymmetrically situated parties, resulting in bargaining on explicit issues.

Again, the unifying theme of conventional law and economics is to promote efficiency through free market forces that neoclassical economics postulates result in equilibrium.\textsuperscript{28} Efficiency exists as the touchstone for every issue running from the mandatory-enabling debate in the corporate entity context to the creation of doctrines of pure contract advocating deviations from reliance-based remedies and the invocation of punitive default schemes to fill gaps in incomplete contracts.\textsuperscript{29}

\textsuperscript{23}Easterbrook & Fischel, supra note 6, at 1-39.

\textsuperscript{24}Id.

\textsuperscript{25}Ian Ayres & Robert Gertner, Filling Gaps in Incomplete Contracts: An Economic Theory of Default Rules, 99 Yale L.J. 87, 90 (1989) (quoting Frank Easterbrook and Daniel Fischel for the proposition that "corporate law should contain the [defaults] people would have negotiated, were the costs of negotiating at arms-length for every contingency sufficiently low").

\textsuperscript{26}Id.

\textsuperscript{27}Id. at 89-90 (detailing scholarship evaluating default provisions). For an earlier article examining insightfully the issues of default provisions represented by standard form contracts, see Charles J. Goetz & Robert E. Scott, The Limits of Expanded Choice: An Analysis of the Interactions Between Express and Implied Contract Terms, 73 Cal. L. Rev. 261, 264 (1985) (suggesting that the effort to utilize default provisions "create hitherto overlooked barriers to innovative forms of contractual agreement"). For a recent article analyzing standard forms and incentives to bargain efficiently in the context of the revision of the Uniform Commercial Code, see Victor P. Goldberg, The "Battle of the Forms": Fairness, Efficiency, and the Best-Shot Rule, 76 Or. L. Rev. 155, 157 (1997).

\textsuperscript{28}Craswell, supra note 19, at 630-31.

\textsuperscript{29}Id. at 653-68.
Until recently law and economics scholars encountered criticism in at least two respects. First, efficiency-based doctrines contain their own built in limitations. As Alan Schwartz points out, the remedial scheme of relationship-specific contracts suffers from real problems of verifiability of optimal investment by a fact finder. In addition, filling gaps in incomplete contracts by resort to law and economics remedies built on encouraging risk allocation fails to produce a rule or standard applicable to heterogeneous contract settings.

Second, opponents of the efficiency norm — even with the agreement of strong law and economics proponents — can make the case for contractual settings where values, norms and public goods exist on a higher level than efficiency. Adoption of children may be most efficiently administered by lottery, but politically it is not acceptable. Neither of these criticisms question the theoretical basis for law and economics-based solutions to contract law. Path dependence does raise such issues because it questions whether atomistic contracting results in the adoption of efficient terms. In short, it questions the validity of the neoclassical model of decreasing returns and single equilibrium.

Recent legal scholarship incorporates concepts of path dependence from the adoption of rapidly developing technological products into the process of framing corporate contracts. Professors Michael Klausner and Marcel Kahan have initiated a ground-breaking inquiry in recent articles

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30ALAN SCHWARTZ, THE LAW AND ECONOMICS APPROACH TO CONTRACT THEORY 14 (The Center for Law and Economic Studies, Columbia University School of Law, Working Paper No. 123) (on file with the Delaware Journal of Corporate Law). Specifically, Professor Schwartz notes the difficulty of framing remedies that deter over-investment: This remedy is theoretically attractive but seldom could be applied. In order to determine the socially optimal level of investment, the court would have to know the probability that the seller's costs would turn out to exceed the buyer's valuation. The court would also have to know the buyer's "production function" — the incremental profit associated with each incremental reliance investment. Such data commonly is inaccessible to courts. This is because the cost to the parties of learning and then proving the buyer's valuation, the seller's possible range of costs and the buyer's production function would exceed the amount involved in the typical breach of contract case.

Id.

31Id. at 17, 22-23.

32EASTERBROOK & FISCHEL, supra note 6, at 1-39; Craswell, supra note 19, at 668-70; Goldberg, supra note 27, at 157; Johnston, supra note 4, at 623-26.

33See infra Part II.

focusing on the applicability of increasing returns to the corporate contract. Heinitz Professor Klausner initiates a comprehensive inquiry into network and learning externalities found in contracts. He speculates about the implications for the corporate contractual paradigm by making the "central point . . . that the [contractarian] paradigm fails to take account of network externalities, a type of market failure that may be uncommon in product markets." He is then joined by Professor Kahan in an article studying the empirical evidence of learning and network externalities in the narrow context of event risk covenants of the bond indenture. Accordingly, the Klausner-Kahan work serves as the touchstone for analyzing concepts of increasing returns with respect to contracts generally and the bond indenture in particular.

The Klausner-Kahan examination seeks to determine the existence of suboptimal contractual terms based upon an application of the economic theory of path dependence. The theoretical basis for path dependence rests upon the initial uncontroversial proposition that economic success can be influenced by historically sensitive conditions. A product or process, arbitrarily or otherwise, enjoys a temporal head start against competitors: as the product or process gains adherents — adopters, customers, users — network benefits accrue in the form of increasing returns. Thus, simply by virtue of early adoption, subsequent users are induced to use the product because of the benefits of its general acceptance. Network benefits imply a momentum of acceptance driven by value creation external to the actual benefits of the product. Particular examples are discussed in what follows, but it is enough to state here that the theory postulates that economic decision-making can be based on matters external to the inherent beneficial qualities of a product or service. Something more, however, is involved

36Klausner, supra note 35.
37Id. at 771.
39Id. at 936-50.
40Kahan & Klausner, supra note 35; Klausner, supra note 35.
41Mark J. Roe, Chaos and Evolution in Law and Economics, 109 Harv. L. Rev. 641, 642 (1996) (discussing the science of chaos and its application to bankruptcy and corporate structures and stating that initial conditions of a given system determine outcome and small, often minor, changes in a system's initial conditions can lead to often highly unpredictable outcomes).
than simply fad or habit: there is an incentive to purchase or adopt based simply on the increasing value generated by the number of previous adopters and the prediction that the product will become an industry standard. Finally, path dependence suggests that product selection built on external value results in the emergence of suboptimal products. The efficiency-based model of the corporation-as-contract comes into question when the adoption of suboptimal products is equated with the adoption of potentially suboptimal contract terms. Prior work has attempted to validate the equation, thus transporting concepts of product inefficiency into the context of contract suboptimality. In making this considerable conceptual jump, much has been ignored in the work of economists who defend the neoclassical model and dispute the likelihood of suboptimal adoption of products. Thus, it is important to test the general argument of path dependent suboptimality. The transferability of such a theory to the abstract environment of the corporate contract thus needs consideration, and for this test, the bond indenture serves as a good vehicle. Yet, even if a plausible or tentative case can be made for path dependence in the bond indenture, it is important to address the question of whether courts may reduce the propensity for suboptimality by modifying traditional doctrines of contract interpretation. The above issue implicates a reconsideration of the Sharon Steel, RJR Nabisco, and Katz cases.

Part II traces the development of the economic scholarship asserting the existence of path dependence arising from increasing returns and network benefits. Because a wholehearted acceptance of path dependence as an economic phenomenon flies directly in the face of generally accepted concepts of decreasing returns and single equilibria, the author examines, in some detail, the work of economists who skeptically view path dependence as unproved and highly unlikely to exist except under the most

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42 It is not controversial to recognize the benefits that derive from products that have gained acceptance by virtue of historical fortuity and network benefits conferred by early adoption. What is controversial is whether truly inferior products or services become the locked-in choices of subsequent purchasers or adopters without regard to the efficiency of the product. And if suboptimality from increasing returns and network benefits can be established with product adoption, the important and controversial question arises: do path dependence, increasing returns and network benefit have any positive or normative place in the analysis of the corporate contract? Note that the general question does not necessarily focus on the bond indenture. The bond indenture, however, may have attributes that make it more susceptible to suboptimal terms. See infra Part III.

43 Klausner, supra note 35, at 764-65.

44 See generally Ayres & Gertner, supra note 25 (examining default rules and penalty default rules).

45 Klausner & Kahan, supra note 35, at 730 n.41.
stringent assumptions. Much depends upon which theory bears the burden of proof. The author concludes that some degree of path dependence, particularly in the context of rapidly developing and changing technology, almost certainly exists. This by no means, however, results in the wholesale rejection of neoclassical economic principles, which remain descriptively valid.

Part III examines the transferability of path dependence theory from product technology to the contracting process. After a general analysis, Part III focuses specifically on the bond indenture as a component of the corporation as a nexus of contracts. This necessarily entails a critical examination and evaluation of recent theoretical and empirical literature. Professors Michael Klausner and Marcel Kahan tentatively validate remediable suboptimality in the narrow context of event risk covenants of the bond indenture. The author analyzes this work and concludes that their empirical validation of learning externalities and network benefits may not be valid in general. This conclusion rests in part on essential differences between the process of contract creation, on the one hand, and the rapid development of technology, on the other, where path dependence finds its most compelling empirical foundation. The author also concludes that the case may be strong for an environment of path dependence with respect to certain specialized contracts that (1) do not involve typical bilateral negotiation, (2) are repetitive, and (3) draw upon highly developed standard provisions. This constitutes a limited recognition of the potential for path dependent suboptimality in the corporate debt relationship. Specifically, because the corporate bond indenture reflects each of these unique elements of standardization and repetition, it therefore is susceptible to being framed with suboptimal provisions where better provisions exist or could be created.

Part IV explores the normative implications of Parts II and III. It seeks to answer the question of whether courts can mitigate the potential for indenture suboptimality. The author considers the law and economics literature of contract theory addressing penalty default rules which seeks to focus resources on ex ante contracting. Penalty defaults have been presented as an alternative to neoclassical majoritarian default rules that seek to fill gaps in incomplete contracts by inquiring as to what parties to

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46 Arthur, supra note 1, at 1-32.
47 See generally Kahan & Klausner, supra note 34 (concluding in part that even if an alternative term would be superior to another, it is possible that another contract term will be more widely adopted); Kahan & Klausner, supra note 35 (investigating event risk covenants with an empirical analysis).
a contract would have agreed to if they had addressed the contractual gap.\textsuperscript{48} In contrast, penalty default theory recommends a background rule of what the parties would not have wanted.\textsuperscript{49} Employing the penalty default theory, one response to contract incompleteness is judicial passivity or nonenforcement, thus leaving the parties where they stand. Penalty default theory seeks to deter contracting parties from the shifting \textit{ex ante} private contracting costs to \textit{ex post} judicial resources.\textsuperscript{50} The environment of path dependence in the bond indenture posited in Part III introduces this question: would adoption by courts of a penalty default doctrine result in more efficient \textit{ex ante} indenture drafting? To answer this question, the author analyzes three prominent bond-dispute cases applying existing doctrines and asks whether a modified penalty default approach would minimize the potential for suboptimality confirmed in Parts II and III. The author concludes that judicial doctrines play a minor role in the shifting of costs from \textit{ex ante} contracting to the arguably less efficient \textit{ex post} expenditure of public goods by courts.

Part V concludes that path dependence has limited theoretical potential for the theory of the corporation as a nexus of contracts. Although it raises fundamental questions about assumptions of efficiency in the context of product development and particularly that of high technology, nevertheless, the applicability and provability of this new economic theory to contracts generally and to the corporate contract, and even the corporate bond indenture specifically, remain uncertain. Furthermore, the normative implications for courts addressing bond disputes are limited and do not justify dramatic revision.

\section*{II. Path Dependence}

Two roads diverged in a yellow wood,
And sorry I could not travel both
And be one traveler, long I stood
And looked down one as far as I could
To where it bent in the undergrowth;

Then took the other, as just as fair,

\textsuperscript{48} Ayres & Gertner, \textit{supra} note 25, at 91.
\textsuperscript{49} Id.
\textsuperscript{50} Id.; Ian Ayres, \textit{Preliminary Thoughts on Optimal Tailoring of Contractual Rules}, 3 S. CAL. INTERDISC. L.J. 1 (1993).
And having perhaps the better claim,
Because it was grassy and wanted wear;

* * *

And that has made all the difference.\textsuperscript{31}

A. Anecdotal Path Dependence\textsuperscript{32}

The existence of a generalized and familiar form of anecdotal path dependence is readily observable and permeates everyday activity. We are creatures of both habit and conditioning. For example, we style our hair, drive our cars, walk among certain destinations at home and work, undertake tasks in certain repetitive order such as readying ourselves for work or play, and engage in ritual, patterned communication governed by politeness and social convention. The origins of these habits and customs, paths of behavior, including language itself, frequently originate in distant and sometimes isolated historical events or learning. When the surrounding environment changes, frequently we pursue without much thought our previous paths and patterns of behavior. A new stairway is added to the house, yet we still take the long way around until we realize the efficiency of the new physical configuration. A computer technology allows us to pay our bills by computer or trade stocks, yet we still use paper checks or calls to a broker each at a higher cost.\textsuperscript{33} We update forms of memoranda containing institutional directives even though the bureaucratic setting sometimes operates largely by reference to alternative independent patterns of behavior. In addition, there are path dependent attitudes toward legal institutions such as law firms. In the past, they have been described as if they were families with traditions largely irrelevant to money.\textsuperscript{34} Economic forces, however, operate beneath the surface,

\textsuperscript{31}ROBERT FROST, The Road Not Taken, in ROBERT FROST'S POEMS 223 (1971) (emphasis added).

\textsuperscript{32}Those familiar with the work of W. Brian Arthur and the criticisms of it by S. J. Liebowitz and Stephen Margolis may wish to skip to Part III, which focuses upon path dependence in the corporate contract.

\textsuperscript{33}The learning costs of switching to new forms of more efficient behavior should not be ignored. These costs may take the form not only of money and time but also of psychological resistance to change.

\textsuperscript{34}Frederick W. Lambert, Preliminary Inquiry into the Transcendence of Value Creation, 74 ORE. L. REV. 121, 124 (1995); infra note 55.
reflecting a thinly-capitalized entity heavily dependent on positive cash flow with enormous consequences to the lawyer participants.55

We do respond to change. Competitive forces jar our notions of tradition, and we are forced to abandon illusions or just recognize smarter, cheaper, or more generally efficient ways of functioning. But some paths of habit, conditioning, and convention survive from seemingly insignificant historical events or happenstance. They remain unchanged because of the costs, both economic and psychological, of altering developed patterns of behavior.56 Mark Roe's vivid example of the influence of early trappers' routes on our present highway system comes to mind,57 but there are myriad examples of a more personal nature if we just look carefully at what we do and how we came to do it.

These forms of path dependence may be termed anecdotal. They stand as examples of conduct based upon distant and sometimes insignificant historical events; standing alone, however, except, perhaps, for the highway example,58 they do not exhibit all of the elements of path dependence that comprise the newly framed economic theory that commentators assert has relevance to legal doctrine.59 The anecdotal examples generally lack the element of increasing returns, discussed in Part II.C. This concept is introduced by a discussion of conventional neoclassical economics, the foundation of much of the theory of law and economics.60

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56See supra note 53 and accompanying text.

57Roe, supra note 41, at 643-44. Professor Roe develops the concepts of weak, semi-strong, and strong forms of path dependence that correspond to the Liebowitz-Margolis critique of path dependence as portrayed by Brian Arthur. See infra Part II.D.

58Roe, supra note 41, at 651. Professor Roe notes that a situation in which it would be cost-effective to tear up and rebuild the highway, but the decision to rebuild is not made, constitutes strong-form path dependence. Id. This is not, of course, anecdotal path dependence but rather the equivalent of third-degree path dependence that Liebowitz and Margolis assert is highly unlikely. See infra Part II.D.

59The repeated use of form contracts may represent another form of reliance on habit. It represents only anecdotal path dependence unless such forms are out of date and inconsistent with the legal objectives of the parties using them.

60See, e.g., Easterbrook & Fischel, supra note 6, at 8-15.
B. Neoclassical Economic Theory Based Upon Decreasing Returns

Neoclassical economic theory holds that in a competitive economy increasing production will generate decreasing returns by virtue of the twin effects of increasing costs of production and competitive development of less expensive alternative resources and products. One example is competition between hydroelectric power and coal-fired production of electricity. Under the hypothesis, hydroelectric power initially produces a cheap form of electric power and gains market share. As the number of attractive sites for dams declines and new sites are exploited at greater expense, however, coal as an alternative source of power generation becomes more cost-attractive and eventually takes up some of the market share. The increasing demand and consequent increased cost of coal diminishes the marginal attractiveness of coal-fired electricity and hydroelectric power gains market share, and so on, in a process that results in efficient equilibrium.

Neoclassical theory argues that competition results in decreasing returns to the market participants. The decreasing returns brought about by competitive forces and resource allocation tend toward a single efficient equilibrium. These functional relationships may be plotted graphically and quantified numerically. They exhibit linear properties. Their mathematical relationships reduce to visual properties in the form of lines, areas, and volumes. Under the neoclassical paradigm, decreasing returns describe a reality in which countervailing and reinforcing economic elements may be represented, mapped, and reduced to mathematical models. Thus, neoclassical economics posits predictable sequences of competitive events leading to a static result or narrow range of results.

The structure and rationality of the neoclassical model relies on certain assumptions and premises that the literature of path dependence questions. One premise that dominates neoclassical economics articulates

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61 ARTHUR, supra note 1, evaluates neoclassical theory and provides relevant examples.
62 See ARTHUR, supra note 1, at 2.
63 Id.
64 Id.
65 See id.
66 ARTHUR, supra note 1, at 1.
67 Id.
68 Id. at 2-5.
69 See generally S.J. Liebowitz & Stephen E. Margolis, Path Dependence, Lock-In, and History, 11 J.L. ECON. & Org. 205 (1995) (examining path dependence, providing three different forms of path dependence, and analyzing the terms as applied to market error and lock-in).
the existence of a single equilibrium to which all economic conduct tends to approach. According to the renowned economist Joseph A. Schumpeter:

"Multiple equilibria" are not necessarily useless, but from the standpoint of any exact science the existence of a uniquely determined equilibrium is, of course, of the utmost importance, even if proof has to be purchased at the price of very restrictive assumptions; without any possibility of proving the existence of [a] uniquely determined equilibrium — or at all events, of a small number of possible equilibria — at however high a level of abstraction, a field of phenomena is really a chaos that is not under analytical control.  

The tenet of neoclassical economics that decreasing returns cause economic activity to approach a determinable equilibrium approximating an efficient result constitutes the bedrock of conventional theory. Thus, when it is asserted that some economic conduct exhibits increasing returns and value creation that is determined apart from the competitive merits of a product, the underpinnings of the single equilibrium model come under direct attack. Stated a little differently, if the case can be made that some forms of economic conduct depend on random historical events that generate increasing returns and result in locked-in adoption of inefficient products, then some of the explanatory power and normative conclusions of neoclassical economics invite serious reconsideration. This is precisely the argument that is asserted with respect to the QWERTY configuration of the standard typewriter keyboard. It is reasserted currently in the attack on Microsoft by its opponents who say, "Microsoft's head start and market penetration allowed its MS-DOS operating system to become the ... standard despite ... the superiority of Apple Computer

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70 Arthur, supra note 1, at 4 (quoting Joseph A. Schumpeter).

71 Id. at 1.

72 There are, of course, exceptions to neoclassical theory. It reserves special treatment for at least two obvious deviations from decreasing returns. Those are the cases of monopoly and returns based upon economies of scale. Here, market power allows the extraction of increasing returns. The monopoly exception in neoclassical theory from decreasing returns should not concern us because the claims of path dependent theorists assert that neoclassical theory fails to explain a range of conduct far beyond monopoly. Economics of scale may raise different issues from the case of monopoly. Industries with high barriers of entry may generate increasing returns after initial investment and product development. It is unlikely that issues involving economies of scale bear on the central issue of this article, which seeks to analyze the vitality of path dependence to the corporate contract. See infra Part III.

73 Gomes, supra note 5, at B1.
Inc.'s Macintosh system."74 These arguments and counter arguments contain important implications and raise topical questions for proponents of a law and economics analysis of the corporation.

The application of economic principles to legal phenomenon, particularly the contractual nexuses of the corporation is built on neoclassical principles. Thus, a significant part of the foundation of the normative and descriptive power of the theories articulated in The Economic Structure of Corporate Law by Easterbrook and Fischel rests on the foregoing principles.75 Terms of corporate charters and indentures, for example, compete in a marketplace of users and legislators of corporate codes and result in an efficient equilibrium. Following from the strong form of the contractarian description76 of the corporation, norms of noninterference—schemes enabling free contracting—emerge as the basis for optimally efficient business relationships. What is important to understand here is the general underlying neoclassical basis for the law and economics argument. With these fundamentals in mind, the claims of path dependence and the implications for its theoretical assumptions and conclusions are better understood as are the extensions of path dependence into the realm of the corporate contract. Specifically, an analysis can be made of the relevance of path dependence to specific subjects such as the efficiency of the provisions of the corporate bond indenture, which is the goal of Parts III and IV. First, however, path dependence as a general description of economic reality must be set forth.

C. A Theory of Path Dependence Based Upon Increasing Returns

For roughly the past fifteen years, theorists, principally W. Brian Arthur,77 have built on observations dating back to the turn of the century and earlier of evidence of increasing returns as an economic phenomenon at odds with the neoclassical model. The theory of increasing returns questions the fundamental tenet of neoclassical economics that competitive economies produce an ultimate singular equilibrium. There are several

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74 Id.
75 Easterbrook & Fischel, supra note 6, at 1-39.
76Coffee, supra note 19, at 1619.
distinct elements to the theory. It postulates that historically sensitive conditions create initial advantages to competitors and products.\textsuperscript{78} It further suggests that positive network externalities exogenous to the product arise as the result of early and continued adoption by purchasers of a product.\textsuperscript{79} Thus, random historical advantage followed by rapid consumer adoption creates network benefits that enhance the value of the product to future adopters and make it attractive for reasons that transcend the merits and efficiency of its direct competitors.\textsuperscript{80} This results in the potential for lock-in to inefficient products and processes.

Brian Arthur's work questions the reality of decreasing returns as follows:

The problems in economics that interested me . . . involved competition among objects whose "market success" was cumulative or self-reinforcing. I discovered that wherever I found such problems, they tended to have similar properties. There was typically more than one long-run equilibrium outcome. The one arrived at was not predictable in advance; it tended to get locked in; it was not necessarily the most efficient; and its "selection" tended to be subject to historical events. If the problem was symmetrical in formulation, the outcome was typically asymmetrical.

In individual problems, some of these properties (especially the possibility of nonefficiency) had been noticed before. But there did not seem to be an awareness that they were generic to increasing returns problems and that they might form a framework for discussion and dissection of such problems. Further, it seemed that these properties had counterparts in condensed-matter physics. What I was calling multiple equilibria, nonpredictability, lock-in, inefficiency, historical dependence, and asymmetry, physicists were calling multiple metastable states, nonpredictability, phase or mode locking, high energy ground states, nonergodicity, and symmetry breaking.

\textsuperscript{78} ARTHUR, supra note 1, at 1-32.
\textsuperscript{79} Id.
\textsuperscript{80} Id.
I became convinced that the key obstacle for economics in dealing with increasing returns was the indeterminacy introduced by the possibility of multiple equilibria.\textsuperscript{81}

Arthur's vision of increasing returns rejects the sequential linear neoclassical model that utilizes graphic properties of lines and areas. Rather, Arthur embraces a stochastic paradigm that emphasizes the importance of random events that become self-reinforcing.\textsuperscript{82} Probability theory, therefore, replaces conventional graphical techniques, revealing the existence of multiple equilibria. Instead of a sequence of competitive actions and reactions, increasing returns and path dependency theory reflect a world in which historical conditions and network effects exogenous to the inherent value of a product influence, but do not necessarily determine, an outcome.\textsuperscript{83}

Thus, in place of the orderly dynamics associated with the neoclassical model, there exists an unpredictable, indeterminate series of possible outcomes depending on the operation of chance variables and random effects of self-reinforced increasing value that do not reflect inherent product worth.\textsuperscript{84} This, however, is not the "chaos" that Schumpeter feared in the absence of single equilibria.\textsuperscript{85} Rather it is an economic environment influenced by randomness and reinforcement that tends toward a result explainable by mathematical probability theory.\textsuperscript{85}

The mathematical model suggested as representative of path dependent conditions draws on the probability theory of George Polya.\textsuperscript{87} The model is best explained by reference to a concrete experiment. Consider an urn of infinite capacity.\textsuperscript{88} Let the starting condition exist with the urn containing one red ball and one white ball.\textsuperscript{89} A ball is randomly

\textsuperscript{81}ARTHUR, supra note 1, at xiv-xv (emphasis added). The existence of more than one "long run equilibrium" would not seem to be either controversial or directly relevant to establishing the case for increasing returns. If one defines a long enough period, economic development could proceed through several interim periods of singular equilibrium and still exhibit properties entirely consistent with decreasing returns posited by the traditional neoclassical model.

\textsuperscript{82}Id. at 185-201.

\textsuperscript{83}Id. at 1-32.

\textsuperscript{84}Roe, supra note 41, at 663.

\textsuperscript{85}ARTHUR, supra note 1, at 4 (quoting Joseph A. Schumpeter).

\textsuperscript{86}Id. at 36-45.

\textsuperscript{87}Id.

\textsuperscript{88}Id. at 36.

\textsuperscript{89}ARTHUR, supra note 1, at 36.
drawn from the urn.90 If the drawn ball is white, a white ball is added to the urn and the urn now contains two whites and one red.91 Continue the process infinitely to the nth iteration. What is the proportion of the red and white balls at the nth iteration of the process? Is it fixed? Polya proved that the proportion of red balls, or white balls, after infinite drawing and replacing approached a fixed proportion, call it X.92 X represents a fixed proportion, which in the infinite drawing has a probability of 1.93 At some point the numerosity of the balls in the urn reaches a stable proportion so that the probability of drawing a red or white ball and replacing it does not result in a material change in the proportion of red to white balls in the urn.94 Stated another way, after an infinite number of transactions with the balls in the urn, there is a probability of 1 of drawing according to some fixed proportion of red to white balls, X, that has been reached during the series of drawing and replacing transactions. The process of drawing and replacing results in a settling down to a proportion that becomes fixed and does not deviate subsequently. The actual proportion, X, however, is not predictable.95 It depends on the random events of early selection and replacement of the red and white balls. Polya established the mathematical proof that "X is a random variable [distributed evenly] between 0 and 1"; X in the sequence of drawings becomes fixed at some point, say 36.578 or 78.213.96 The actual proportion, however, cannot be prospectively known. The sequence of early drawing and replacing of balls results in a fixed and unpredictable limit proportion that undeviatingly follows the time line. This is a highly abstract example of increasing returns.

Arthur asserts that this model, with its built in feedback system, more accurately describes the economic reality of increasing returns and sensitivity to random historical events and sequence.97 At some point the proportion of red to white balls becomes fixed, locked in, through the momentum of the earlier events.

Arthur summarizes the implications of the mathematical model to the unique role of history in the economic theory of increasing returns as follows:

90Id. Note the element of self-reinforcement, analogous to increasing returns.
91Id.
92Id.
93Arthur, supra note 1, at 38-40 (representing the results of the urn experiment graphically).
94Id. at 38.
95Id. at 36.
96Id.
97Arthur, supra note 1, at 33-48.
The argument . . . suggests that the interpretation of economic history should be different . . . Under constant and diminishing returns, the evolution of the market is ergodic — ultimate market shares are built in a priori to the endowments, preferences, and transformation possibilities that describe the economy and small events cannot sway the outcome. Here the dynamics of the market reveal the superior choice. But while this is comforting, it reduces history to the status of mere carrier — the deliverer of the inevitable. Under increasing returns, by contrast, the process becomes path-dependent. It is nonergodic — many outcomes are possible, and heterogeneities, small indivisibilities, or chance meetings become magnified by positive feedbacks to "tip" the system into the actual outcome "selected." History becomes all-important.93

Arthur cites two examples of historical sensitivity to initial conditions leading to increasing returns from early adoption and subsequent market dominance of an inefficient product.99 The universal acceptance of the QWERTY typewriter keyboard configuration and the ultimate dominance of VHS over Beta videocassette technology each recur as examples of locked-in inefficiency.100 The Dvorak keyboard arguably represents a more efficient, easily-learnable, alternative to the traditional QWERTY configuration, according to the path dependence advocates.101 Despite this advantage, QWERTY remains the standard because of the externalized network benefits that arose through early adoption.102 Brian Arthur recites the random sequence of innovation and adoption of VHS as the principal cause of its displacement of Beta Videocassettes.103 Widespread customer adoption occurred through a momentum based upon customer prediction of the system that would ultimately prevail, not the perceived actual benefits of Beta versus VHS. Thus, unrelated to product attributes and in spite of perceivable better features in the Beta device, VHS prevailed, according to the thesis advanced by Arthur.104 As the critics point out, however, one must speculate about whether the switching costs

93Id. at 27.
99Id. at 2, 24-25.
100Id. at 2, 24-25.
101ARTHUR, supra note 1, at 25.
102See generally Gomes, supra note 5 (mentioning briefly the history of QWERTY).
103ARTHUR, supra note 1, at 2.
104Id.
in either example exceeded the benefits to be derived from the alternative product.\textsuperscript{105} If such costs did exceed the benefits, then the argument disappears that an efficient alternative exists.

Both the theoretical analysis and the asserted forgoing examples of path dependent outcomes provoked the critique of traditional neoclassical scholars.\textsuperscript{106} Nevertheless, even as strong of an advocate as Brian Arthur does not argue for path dependence as a theory of universal application.\textsuperscript{107} His work emphasizes positive feedback, increasing returns and lock-in the context of knowledge-based parts of the economy involving rapid innovation of technologies. Arthur, however, recognizes the validity of neoclassical decreasing returns theory to important segments of the economy as follows:

I would update [Alfred] Marshall's insight [of limited application of special instances of increasing returns] by observing that the parts of the economy that are resource-based (agriculture, bulk-goods production, mining) are still for the most part subject to diminishing returns. Here conventional economics rightly holds sway. The parts of the economy that are knowledge-based, on the other hand, are largely subject to increasing returns. Products such as computers, pharmaceuticals, missiles, aircraft, automobiles, software, telecommunications equipment, or fiber optics are complicated to design and to manufacture.

\ldots

Not only do the costs of producing high-technology products fall as a company makes more of them, but the benefits of using them increase. Many items such as computers or telecommunications equipment work in networks that require compatibility; when one brand gains a significant market share, people have a strong incentive to buy more of the same product so as to be able to exchange information with those using it already.\textsuperscript{108}

\textsuperscript{105}See infra Part II.D.
\textsuperscript{106}See id.
\textsuperscript{107}Arthur states that "[w]e should not conclude that every case of competing technology shows tendencies toward dynamic lock-in." ARTHUR, supra note 1, at 25.
\textsuperscript{108}Id. at 3-4 (emphasis added). The second paragraph recognizes the phenomenon of economies of scale as an exception to decreasing returns as a component of neoclassical theory.
Accordingly, we observe a conscious limitation, even on the part of an outspoken advocate of path dependence, with respect to the scope of applicability of path dependence as reflective of a "new economics" and an exception to neoclassical decreasing returns theory.

One may, however, ask whether the claims for path dependence have vitality even in the limited realm in which they are asserted to apply. If they do, is the theory transportable into the arena of corporate contracting? If certain components of the corporate contract, such as the corporate bond indenture, are susceptible to locked-in inefficiency, what implications arise with respect to the prevailing doctrines of contract interpretation? Broadly speaking, if applicable in the context of the corporate contract, path dependence should cause a reconsideration of some of the conclusions of law and economics scholarship of the corporation, particularly those based upon free market principles.\textsuperscript{109}

The legal scholarship addressing path dependence has accepted without much analysis the underlying tenets of path dependence and inefficient lock-in. Professors Kahan and Klausner adopt a definition of suboptimality that is identical to that of two economists that question whether path dependence exists at all.\textsuperscript{110} Accordingly, Part D considers the work of those economists who have expressed skepticism about the power of path dependence theory.

D. Criticisms of Path Dependence — Knowledge, Temporality, and Remediability

The fundamental conflict of path dependence with market efficiency not surprisingly evokes skepticism from neoclassical economic scholars. They do not, however, attack the existence or influence of historically sensitive conditions on economic behavior; indeed, they recognize the existence of a generalized form of path dependence.\textsuperscript{111} Rather, they question the claim that path dependence built on increasing returns inexorably results in market failure.\textsuperscript{112} Reminiscent of defenders of the

\textsuperscript{109}EASTERBROOK & FISCHER, supra note 6, at 1-39. The claim of path dependence that externalities unrelated to the inherent value of a contractual term nevertheless influence its adoption undermines the claim of competition and resulting efficiency of the corporate contract.

\textsuperscript{110}Kahan & Klausner, supra note 35; Klausner, supra note 35.

\textsuperscript{111}Liebowitz & Margolis, supra note 69.

\textsuperscript{112}Id. at 212.
efficient capital market hypothesis, S.J. Liebowitz and Stephen Margolis posit that path dependence must be dissected into subcategories or degrees. They then subject each degree to further analysis from the standpoint of efficiency. They state:

In this article we identify three distinct forms of path dependence. Two of these forms — which we define as first-degree and second-degree path dependence — are commonplace, and they offer little in the way of an objection to the neoclassical paradigm. Only the third and strongest form of path dependence significantly challenges the neoclassical paradigm, and as we show, the theoretical arguments for this form require important restrictions on prices, institutions, or foresight.

... 

The error [of conflating the various degrees of path dependence] lies in transferring the plausibility of the empirical and logical support for the two weaker forms of path dependence (first- and second-degree) to the strongest implications of third-degree path dependence. In fact, although it is fairly easy to identify allocations, technologies, or institutions that are path dependent in some form, it is very difficult to establish the theoretical case or empirical grounding for path dependent inefficiency.

Liebowitz and Margolis differentiate among their three classifications of path dependence based upon the existence of the properties of (1) ex ante knowledge, (2) intertemporal effects leading to error and suboptimality, and (3) ex post remediability, the existence of a cost-efficient alternative. Thus, first degree path dependence arises

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114 Liebowitz & Margolis, supra note 69, at 207-08.
115 Id. at 206 (emphasis added).
116 Id. at 206-07.
117 Id. at 207.
118 Liebowitz & Margolis, supra note 69, at 207.
from a historically insignificant choice, such as parting one's hair, or other personal behavior that has no ultimate material economic influence on efficiency. Indeed, some of the examples of what have been termed anecdotal path dependence in Part II.A seem to fall into this category. The first degree category also applies to more conventional economic activity: a choice of machinery, manufacturing process, location of production, or marketing plan. These initial choices may influence profoundly the development of a business over time, but they are known to the actor and taken fully into account. First degree path dependence, therefore, simply reflects the influence of ex ante decisions and the limitations they place on future economic conduct.

Second degree path dependence introduces the concept of "regrettable choice." A decision is made with imperfect ex ante knowledge that has influence over time and results in an ex post undesirable result that is costly to change. Because the ultimate inferiority of the decision cannot be known at the initial point the decision is made, however, and because the "switching costs" exceed the benefit from the change, the result is not inefficient. It is, of course, suboptimal in hindsight; a wrong decision has been made owing to imperfect information. One is reminded of the business judgment rule in corporate law absolving directors from liability for wrong business decisions. The rule may be seen as an efficient means of maximizing the wealth of the business entity by creating incentives for a director to exercise prospective judgment without the fear of being held liable in hindsight. A board of directors decision could exhibit the elements of historical sensitivity to initial conditions, increasing returns, and lock-in to an undesirable result. Yet this would consist only of second degree path dependence if the costs to modify the results of the decision exceeded the benefits. The critics would conclude that remediable suboptimality, third degree path dependence, does not result unless a cost justifiable alternative is available and not chosen.

119 Id.
120 Id.
121 Id.
122 Compare Kamin v. American Express Co., 383 N.Y.S.2d 807, 812 (N.Y. App. Div.) ("That they may be mistaken, that other courses of action might have differing consequences, or that their action might benefit some shareholders more than others presents no basis for the superimposition of judicial judgment."). , aff'd, 387 N.Y.S.2d 993 (N.Y. 1976) with Smith v. Van Gorkom, 488 A.2d 858, 874 (Del. 1985) (holding that the decision to accept tender offer at more than $55 per share above market price for share constituted gross negligence because of failure to comply with duty of careful decision making).
The critique isolates third-degree path dependence as the only possible valid deviation from decreasing returns and the single equilibrium model in neoclassical economics.\textsuperscript{123} The commentators suggest that "[i]n third-degree path dependence, sensitive dependence on initial conditions leads to an outcome that is inefficient — but in this case the outcome is also remediable."	extsuperscript{124} In short, to qualify as a genuine form of path dependence there must have been a decision (1) at a point of historical sensitivity that (2) was influenced by intertemporal events, possibly including random events, such as increasing returns and network externalities and that (3) resulted in an inefficient but remediable result.\textsuperscript{125} The critique would in each case place upon the proponent of third degree path dependence the burden of establishing the existence a feasible cost-efficient alternative to locked-in suboptimality.\textsuperscript{126} Of course, if the effect of increasing returns from network externalities has extinguished competitors, there may be no feasible alternative. A proponent of third degree path dependence, however, according to the critics, must still establish that at some time during the adoption of the competing products there was a feasible efficient alternative that was rejected.\textsuperscript{127} They assert that the proof of this is highly unlikely.\textsuperscript{128}

Liebowitz and Margolis discuss a hypothetical competition between two technologies, A and B.\textsuperscript{129} A develops an early lead in the competition, but B creates a better product.\textsuperscript{130} Yet, the momentum of widespread adoption creates a network effect in the form of anticipated acceptance by present adopters, which is a source of value not directly related to the

\textsuperscript{123} Liebowitz & Margolis, supra note 69, at 207.

\textsuperscript{124} Id. (footnote omitted).

\textsuperscript{125} Id. at 206-07.

\textsuperscript{126} Id. at 207.

\textsuperscript{127} Liebowitz & Margolis, supra note 69, at 208-09. The authors analyze the example of competition between Beta and VHS video recorders. They contrast second and third degree path dependence as follows:

That is to say, during the time that VHS came to dominate the market it was not known that Beta would be better in the future. After the fact, it may appear that choosing VHS was a mistake, although it was not a mistake given the information that was available at the time. This is second-degree path dependence. . . . Alternatively, if it were widely understood today that switching to Beta has a benefit greater than the cost, but we remain mired in the VHS standard, we would have another instance of third-degree path dependence.

\textit{Id.}

\textsuperscript{128} Id. at 207-08.

\textsuperscript{129} Id. at 214. The discussion is based on an earlier example described by Brian Arthur.

\textit{Arthur, supra note 1, at 19-24.}

\textsuperscript{130} Liebowitz & Margolis, supra note 69, at 215.
qualities of technology A. In short, consumers adopt technology A because they believe others will in the future and A will become the industry standard; indeed, this occurs. A becomes the industry standard to the exclusion of B, the putatively better product. This appears to be third degree path dependence because at least at some points in the competition B existed as a feasible, efficient alternative to A. Increasing returns in the form of widespread adoption of A, however, drove B from the market for reasons unrelated to the relative merits of the A and B technologies.

Liebowitz and Margolis attack this apparent case of third-degree path dependence by analyzing the assumed knowledge of the adopters of the respective technologies. Recall the asserted distinction between second- and third-degree path dependence. In the former, the actor with imperfect information makes a choice that turns out to be suboptimal but irremediable. In the latter case, a choice is made which, either when made or at some later point, is suboptimal but a feasible alternative exists. Remediable lock-in thus requires that someone knows of the superiority of the losing technology B and still chooses A. This strikes Liebowitz and Margolis as highly unlikely to occur for the following reasons:

Remediable lock-in to the wrong technology, or third-degree path dependence, requires that some agent(s) in the economy have, or could obtain, the information required to make a correct choice. And even where that occurs, third-degree lock-in is not assured, since the knowledgeable party(ies) might coordinate the choice of technology, especially since it should be profitable to do so. One likely strategy for such a party would be to acquire the technology at a price that reflects the prevailing expectations and appropriate some of the gain from such coordination.

Thus, in order for third-degree lock-in to occur, there must be agents who know enough to make correct choices but who fail to take advantage of the implied profit opportunities,

\[\text{\textsuperscript{114}}\text{Jd. at 215-16.}\]
\[\text{\textsuperscript{115}}\text{Jd.}\]
\[\text{\textsuperscript{116}}\text{Jd.}\]
\[\text{\textsuperscript{117}}\text{Liebowitz & Margolis, supra note 69, at 215-16.}\]
\[\text{\textsuperscript{118}}\text{Jd. at 206-07.}\]
\[\text{\textsuperscript{119}}\text{Jd. at 207.}\]
\[\text{\textsuperscript{120}}\text{Jd.}\]
and at the same time, adopters who generally know nothing more than the payoff going to the next adopter. These are very restrictive conditions.\textsuperscript{138}

The critique of path dependence places considerable reliance on the availability and completeness of information. It also assumes the capability of market participants to translate such information into conclusions about feasible alternatives. These are fairly significant limiting assumptions. The critique leaves undisputed the potential dependence of economic outcomes on the fortuity of historical condition.\textsuperscript{139} It does not attack the dynamic stochastic elements postulated by the mathematical models that suggest a picture of reality at odds with the decreasing returns theory of the neoclassical model.

Thus, the Liebowitz-Margolis critique boils down to the following: they simply cannot accept the proposition that superior products will not be exploited by those with knowledge of such superiority.\textsuperscript{140} If such knowledge does not exist and adopters make decisions on the basis of anticipated adoption that results in acceptance of an inferior product, then this simply manifests second-degree path dependence — regrettable error, but not evidence of inefficiency.

In short, the assumptions underlying remediability, the knowledge of the existence of an efficient alternative, cause Liebowitz and Margolis to be skeptical that markets will fail to induce profitable exploitation of efficient alternatives.\textsuperscript{141} By relying on this narrow point in defending neoclassical economics, the authors leave uncontroverted much of the Arthurian description of reality based upon historical sensitivity to condition and probability theory.\textsuperscript{142} As will be seen in Part III, this has considerable importance when concepts of path dependence are transported into the realm of the corporate contract.\textsuperscript{143}

\textsuperscript{138}Liebowitz & Margolis, supra note 69, at 216 (emphasis added).
\textsuperscript{139}Id. at 223; Roe, supra note 41, at 647-52.
\textsuperscript{140}See generally Liebowitz & Margolis, supra note 69 (questioning various forms of path dependency).
\textsuperscript{141}Id. at 224.
\textsuperscript{142}See ARTHUR, supra note 1, at 1-29.
\textsuperscript{143}See infra Part III.
E. Observations and Tentative Conclusions

Which is it? Does the bulk of economic reality reflect a series of historical events that become self-reinforcing thus resulting in unpredictable Polya-like multiple equilibria that may or may not be efficient economic phenomena? What about the existence of remediable suboptimality — an inefficient product that attracts customers in spite of a cost-effective alternative? Does this state require such a restrictive set of assumptions about knowledge of rational actors that third-degree path dependence may be treated as an infrequent mutation that does not refute the conventional view that competition results in efficient equilibrium driven by free market interaction? In short, are the adoptions of QWERTY and the VHS videocassette systems quirks? There are several problems with wholehearted acceptance or rejection of path dependence and the implications of the mathematical models from which it draws a considerable part of its explanatory power.

First, to prove that path dependence results in inefficient lock-in, one frequently must prove the unknowable.\textsuperscript{144} Take the case of automobile development. At the turn of the century, the gas powered car was chosen over the steam and electric-powered alternatives.\textsuperscript{145} To hypothesize that the steam or electric vehicles would have resulted in a more efficient mode of transportation, as some have done, one must establish the unknowable — the development of superior technologies through the investment of resources that would have resulted in better batteries or steam propulsion systems.\textsuperscript{146}

Second, a contrasting burden of proof issue for the neoclassicists: those embracing the Liebowitz-Margolis critique must prove that knowledge of a superior product by even a small number of market participants will always lead to opportunistic profit-driven coordination to exploit the perceived advantages of a less popular, but arguably, more efficient product.\textsuperscript{147} Economies of scale and early historical advantage, however, may so dominate a market for a product that even those with concrete information about a superior alternative will be discouraged from investing or coordinating investment. In addition, the time frame for competitive development may be short and they may be risk averse. Furthermore, their profit motives may lie elsewhere in realms of perceived

\textsuperscript{144}Liebowitz & Margolis, supra note 69, at 211 n.10 (using the phrase "knowing the unknowable").
\textsuperscript{145}Id.
\textsuperscript{146}Id.
\textsuperscript{147}Id. at 224.
higher net present value; or their investment sources may be intimidated by the uncertainty of overcoming momentum acceptance of the apparently less efficient product. Much depends upon the perception of cost and risk, which may not be quantifiable. In short, if the burden is on the neoclassical adherents, it is difficult if not impossible, as a theoretical matter, for them to separate mere irremediable suboptimality resulting from historical sensitivity to condition (second-degree path dependence) from truly remediable inefficient economic outcomes.

Third, both the proponents of path dependence, in the Arthur mode, and the defenders of the neoclassical paradigm are plagued by problems similar to those facing law and economic scholars when they address the normative issues of contract. We are told by the path dependence theorists that inferior technology may be adopted by the increasing returns generated by externalities such as network, learning, and otherwise. How does one, however, quantify or verify lock-in to inefficient results? The possibility usually exists that even demonstrated inefficiency may only reflect merely a transitory state evolving toward an efficient equilibrium. The neoclassicists face an equally daunting task of verifying the difference between the concepts of regrettable error as distinguished from third-degree path dependence.

Fourth, and finally, whether one accepts the "new economics" of path dependence or the linear concepts built upon the neoclassical paradigm, it is impossible to avoid the conclusion that economic activity constitutes an ongoing process that at one time may exhibit properties of either system. What is lock-in today to a perceived, but unverifiable, state of inefficiency may simply be a temporary anomaly. It may exist as simply an interim stage exhibiting the incomplete resolution of economic forces to be reordered by the next innovation thus moving product development and resource allocation to a new neoclassical equilibrium. The conflicting realities of increasing returns and neoclassical economics depend for their veracity upon the bearer of the burden of proof of the underlying assumptions of each.

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The law and economics contract theorists invoke the norm of efficiency. Contract rules that encourage optimal investment and risk allocation constitute a superior remedial scheme than common law neoclassical contract doctrines invoking fairness. As Alan Schwartz has demonstrated, however, the problem of translating those economic-based rules into doctrine falters in the face of the inherent unverifiability before a neutral fact finder of such quantitative issues as over-investment. SCHWARTZ, supra note 30, at 14-15.

ARTHUR, supra note 1, at 13-28.
In summary, much like the mandatory-enabling debate\textsuperscript{159} seen through the metaphor of Professor Coffee as a glass half full or half empty,\textsuperscript{151} the power of path dependence (or its weakness) depends upon the context of the inquiry. In the context of rapidly changing computer technology, one can intuitively perceive interim adoptions of seemingly inferior products simply by the force of the momentum of adoption by others: a classic case of network externality. Microsoft's network browser may exhibit the power of a product driven by network benefits in the form of rapid adoption through early promotion.\textsuperscript{152} A better browser may exist. Yet, even if one assumes the superiority of the Netscape competitor, does this establish path dependence as a valid analytical scheme supplanting neoclassical theory? The answer would seem to be no.

Market failure in itself does not refute neoclassical theory. Recall that Brian Arthur recognizes the continuing validity of the neoclassical paradigm to resource-based industries.\textsuperscript{153} Moreover, the economic concept of increasing returns to scale does not in itself refute the neoclassical paradigm.\textsuperscript{154} If there is no convincing winner in the debate between conventional economists and the advocates of path dependence, there may still be important applications of path dependent theory if its validity can be established generally or in specific elements of the corporate contract. If analogues of the QWERTY keyboard may be found in, for example, the corporate bond indenture, then perhaps there are doctrinal implications for courts that address disputes between corporate issuers and bondholders.

\textsuperscript{159}Supra note 19 (setting forth articles describing the various views).

\textsuperscript{151}Coffee, supra note 19, at 1618-19. Coffee compares the structure of American corporate law to the description of a half-filled glass of water as either half-empty or half-full. \textit{Id}. Depending on the viewpoint of the commentator, American corporate law can be viewed as either mandatory or enabling. \textit{Id}. at 1618.

\textsuperscript{152}David Bank, \textit{Why Software and Antitrust Law Make an Uneasy Mix}, \textit{Wall St. J.}, Oct. 22, 1997 at B1 ("A new discipline called 'increasing return' economies argues that the value of creating a technology standard is so great that companies can afford to give away some products indefinitely. A corollary is that customers will encourage monopolies if they provide standards.").

\textsuperscript{153}Arthur, supra note 1, at 3.

\textsuperscript{154}See supra note 10 and accompanying text.
III. PATH DEPENDENCE AND THE CORPORATE CONTRACT

A. Increasing Returns and the Corporate Contract:
   Three Propositions

Both the descriptive and normative power of the contractarian paradigm of the corporation build on a foundation of efficiency in the contracting process and the resulting components constituting the business entity. Accordingly, in order to sustain the theoretical vitality of a free market approach to normative issues, law and economics scholars defending the contractual paradigm must address any theory that asserts the existence of locked-in suboptimal contractual terms if better terms are adoptable without associated costs that outweigh the benefits of adoption.

Increasing returns and path dependence raise questions about the efficiency of the corporate contract, even if they find their genesis in tangible products developed in the context of rapid technological innovation. The concession of Brian Arthur, that neoclassical concepts of singular equilibrium, rather than increasing returns, retain descriptive power in resource-based industries, has little relevance to the analysis of the corporate contract. The intangible nature of contract terminology falls more into the category of the knowledge-based industries for which increasing returns arguably have applicability.

Two related issues arise: does path dependence have application at all in the context of the corporation as contractual nexus? If the answer is affirmative, then the question arises whether the analysis of Liebowitz and Margolis applies to limit the scope of path dependence to its lesser degrees, thus arguably preserving the contractarian paradigm. Stating the question differently, may it be argued persuasively that third-degree path dependence, as described in Part II.D, exists so marginally that the efficiency-based explanation of the corporation still validly describes the vast majority of primary economic activity?

Professors Klausner and Kahan have initiated a ground-breaking inquiry in recent articles focusing on the applicability of increasing returns

155EASTERBROOK & FISCHER, supra note 6, at 1-39.
156Kahan & Klausner, supra note 35, at 727-29.
157See ARTHUR, supra note 1, at 3.
158See supra notes 114-29 and accompanying text.
159Those familiar with the work of Professors Klausner and Kahan may wish to skip to Part III.B.
to the corporate contract.\textsuperscript{160} Professor Klausner first explores network and learning externalities found in contracts.\textsuperscript{161} He speculates about the implications for the corporate contractual paradigm by making the "central point . . . that the [contractarian] paradigm fails to take account of network externalities, a type of market failure that may be uncommon in product markets."\textsuperscript{162} He is then joined by Professor Kahan in an article studying empirical evidence of learning and network externalities in the narrow context of event risk covenants of the bond indenture.\textsuperscript{163} Accordingly, the Klausner-Kahan work serves as the touchstone for analyzing concepts of increasing returns with respect to contracts generally and the bond indenture in particular.\textsuperscript{164}

The assumptions underlying the Klausner-Kahan work, much like those of Brian Arthur, lead to progressively stronger claims of suboptimality of the corporate contractual paradigm.\textsuperscript{165} It is important to test these assumptions, which may be broken down into three basic propositions that advance increasingly stronger arguments for increasing returns and suboptimality in the corporate contract. Each proposition is followed by an analysis of its validity.

\textit{Proposition One.} Although not a technology or product, the components of the corporate contract create networks reflecting increasing returns from externalities.\textsuperscript{166} Value may be generated exogenously beyond the inherent value of the contract terms adopted by the atomistically contracting parties. The network externalities consist of learning benefits and network benefits, each with different properties.\textsuperscript{167} Learning benefits derive from past events, experience, and judicial decisions that flow to the present user of a contract term.\textsuperscript{168} Network benefits add value external to the inherent worth of the contract term based upon the frequency of use in

\textsuperscript{160}Klausner, \textit{supra} note 35; Kahan & Klausner, \textit{supra} note 34; Kahan & Klausner, \textit{supra} note 35.
\textsuperscript{161}Klausner, \textit{supra} note 35.
\textsuperscript{162}\textit{Id.} at 771.
\textsuperscript{163}Kahan & Klausner, \textit{supra} note 35. An earlier article by the authors explored event risk covenants from the standpoint of their effect on firm value and entrenchment of management. Kahan & Klausner, \textit{supra} note 38.
\textsuperscript{164}See \textit{supra} notes 160-63 and accompanying text.
\textsuperscript{165}It should be noted, however, that they expressly leave open the question of the propriety of mandatory state-imposed solutions. Kahan & Klausner, \textit{supra} note 35, at 730 n.41.
\textsuperscript{166}Kahan & Klausner, \textit{supra} note 34, at 350; Kahan & Klausner, \textit{supra} note 35, at 718.
\textsuperscript{167}See generally Kahan & Klausner, \textit{supra} note 35 (discussing network externalities and learning and network benefits).
\textsuperscript{168}\textit{Id.} at 719-20.
past and perceived frequency of adoption in the future.\textsuperscript{169} Much like the manner in which adoption of a technology creates increasing returns external to the product, so too does the use of contractual provisions influence future use and thus create benefits for past users. The analysis of perceived payoffs may be different because of the nature of the contractual relationship. The binding effect of a long-term contract precludes adoption of alternative terms by the original contracting parties without mutual consent. They are bound by the provisions of the contract whether or not the term adopted is optimal. For the original parties to a contract, there is less freedom to choose alternative terms than the adopters of products. This, however, does not negate the existence of externalities at the point of contracting. Nor does it necessarily weaken the argument for increasing returns in the adoption of contract terms; it may indeed strengthen it.

\textit{Proposition Two.} The existence of learning and network externalities may result in the adoption of suboptimal contract terms.\textsuperscript{170} This claim constitutes a semi-strong challenge to the efficiency of the corporate contract. First, learning based upon judicial precedents and prior usage may induce adoption of terms that are no longer optimal.\textsuperscript{171} This somewhat distorts the concept of learning "benefits" because the external effect of prior usage induces the use of a suboptimal, indeed, less beneficial, term. This, of course, is consistent with the theory of increasing returns as a phenomenon that creates perceived value not inherent in a product or contractual provision. Second, perceived network benefits induce adoption of terms that may not be optimal based upon the perception of future adoption.\textsuperscript{172} Klausner and Kahan point out that innovations, such as changes in event risk covenants of the late 1990s in bond indentures, may be adopted based principally upon predicted future adoption by others.\textsuperscript{173} They may not, however, be the best terms.

\textit{Proposition Three.} The concluding and strongest claim invokes remediable inefficiency in the contracting process.\textsuperscript{174} The Klausner-Kahan definition of suboptimality specifically adopts\textsuperscript{175} the definition of third-

\textsuperscript{169}Id. at 725-26.
\textsuperscript{170}Id. at 736.
\textsuperscript{171}Kahan & Klausner, supra note 35, at 730-33.
\textsuperscript{172}Id. at 734.
\textsuperscript{173}Id. at 743-46.
\textsuperscript{174}Id. at 730 n.41.
\textsuperscript{175}Kahan & Klausner, supra note 35, at 730 n.41. In footnote 41, the authors set forth their definition of optimality. A contractual term is optimal if no reformulation of the term (presumably adoption of an alternative term) would yield an increase in social wealth by increasing the aggregate value of the firm. Id. Optimality is evaluated prospectively. One cannot rewrite the contract. Id. The question becomes: What is the best term for a given
degree, remediable path dependence in the Liebowitz-Margolis model. Recall that the Liebowitz-Margolis critique asserts that the assumptions of knowledge of suboptimality necessary for third-degree path dependence are so restrictive as to make its existence highly unlikely.\textsuperscript{176}

Each of the foregoing propositions constitutes a necessary part of the foundation of a general theory of possible suboptimality with respect to the contractual nexuses of the corporation. The argument posits that the adoption of standardized terms may create suboptimal uniformity among heterogeneous firms.\textsuperscript{177} Conversely, learning externalities may induce suboptimal diversity of terms where standardization would be optimal.\textsuperscript{178} Bond covenants are the focus of the empirical work supporting the theory. Specifically, event risk\textsuperscript{179} covenants in the bond indenture exhibit evidence of the learning externalities, network externalities, and switching costs that led to suboptimal contracts.\textsuperscript{180} According to Klausner and Kahan:

Where increasing returns are present, atomistic contracting may lead to the adoption of suboptimal corporate contracts in the following ways: (a) a suboptimal term may become widely adopted and may inhibit innovation; (b) contract terms may be too standardized; or (c) contract terms may be insufficiently standardized. To be sure, the problems resulting from atomistic contracting can, in theory, be

situation, based upon available knowledge? Professors Kahan and Klausner expressly correspond their definition of suboptimality with the Liebowitz-Margolis "concept of 'third-degree path dependence' in that the inefficient outcome is 'remediable.'" \textit{Id.} Because the Liebowitz-Margolis critique, see \textit{supra} notes 114-29 and accompanying text, contains very restrictive assumptions, one might have expected the authors to reconcile with greater specificity their express adoption of a definition of optimality/efficiency put forth by one of the more skeptical analyses of path dependence. This is particularly true because, as this article explains, the adaptation of even the optimistic Arthurian form of path dependence to the context of the corporate contract raises very serious questions. These are set forth, \textit{infra} Part III.B.

\textsuperscript{176}See \textit{supra} text accompanying note 138.

\textsuperscript{177}Kahan & Klausner, \textit{supra} note 35, at 730.

\textsuperscript{178}\textit{Id.}

\textsuperscript{179}An event risk covenant creates in the holder of a bond or debenture the right to compel the issuing corporation to redeem the debt obligation at its face value plus accrued interest upon the happening of certain events. \textit{Id.} at 741-42. Event risk covenants came into being in the late 1980s as a means of protecting bondholders from the effects of leveraged buyouts that included substantial decreases in the market value corporate debt caused by the incurrence of new debt that financed the transactions. \textit{Id.} at 740. Leveraged buyouts gave rise to several cases in which bondholders argued that corporate issuers had violated the terms of indentures covering the debt outstanding prior to the transactions. \textit{Id.} at 740-41. The case resulting from the leveraged buyout of RJR Nabisco is discussed \textit{infra} Part IV.

\textsuperscript{180}Kahan & Klausner, \textit{supra} note 35, at 760.
overcome through proper coordination and cross-subsidy. *There is, however, no reason to believe that market forces will produce an optimal system of coordination and cross-subsidies. In short, when increasing returns are present, survival over time does not imply optimality.*\(^{181}\)

Professors Kahan and Klausner thus import the theory of increasing returns from which path dependence derives into the realm of the corporate contract. They study the emergence of event risk covenants to conclude that network and learning effects result in suboptimal terms in the corporate indenture.\(^{182}\)

Two preliminary observations are in order about the remarkably innovative application of increasing returns to the economic analysis of corporate law. Professors Klausner and Kahan state a qualified case for suboptimality of contractual terms.\(^{183}\) They stop short of concluding that market failure necessarily results from the existence of learning and network externalities. In addition, they forthrightly admit that definitive proof of corporate contractual suboptimality involves considerable subjectivity and intuition.\(^{184}\) Nevertheless, Professor Klausner's sophisticated graphic and mathematical models\(^{185}\) state the case for more than just isolated instances of possible market failure of the corporate contractual paradigm.

Each of the foregoing propositions is addressed to test the progressively stronger claims for increasing return in the context of corporate contracting. This serves to introduce an inquiry into the potential usefulness of increasing returns for reshaping contractual doctrines utilized by courts in resolving disputes between bondholders and corporate issuers of publicly-held bonds.

**B. Proposition One: Contracts, Products, and Increasing Returns**

Both the proponents and the critics of path dependent lock-in to remediable suboptimality agree that industries and products may exhibit

\(^{181}\) *Id.* at 761 (emphasis added).

\(^{182}\) *Id.* at 740-60.

\(^{183}\) *Id.* at 750; Klausner, *supra* note 35, at 814, 816. Yet, in contrast, an earlier passage makes a fairly strong claim for the pervasiveness of suboptimality in contract terms. *Id.* at 771. This is ascribed to the introductory context of the statement.


\(^{185}\) *Id.* at 799-811.
increasing returns. 186 There is little dispute that the universal adoption of QWERTY and VHS was influenced by historical, perhaps even random, events. 187 Accordingly, the existence of network and learning externalities, the existence of benefits beyond the inherent value of the product, seems hard to deny. Do the components of Brian Arthur's general theoretical arguments for increasing returns, however, have application outside of technology and, specifically, in the realm of the corporate contract?

Several observations may be made about corporate contracting in general and the framing of corporate debt relationships specifically. First, the adoption of a technology involves unilateral self-interested decision making. The decision may have many different individual and institutional inputs. It may be a corporate decision with the advice and consent of divisions, committees, etc., but it is essentially the outcome of the consideration of competing qualities of products in the context of self-interested unitary objectives. Network and learning externalities may have considerable influence on the overall decision.

The contracting process, however, differs significantly from product purchase or technology adoption. Contracting generally involves bilateral or multi-lateral negotiation; a contractor does not choose a contractual provision in the same sense that a purchaser expends money for the perceived utility of a product. Substantive terms of a contract generally emerge from a bipartisan exchange of bargaining points. 188 The adoption of contractual terms takes place in the context of bargaining for alternative semantic formulations of mutual promises. 189 The representatives of the opposing parties lack the latitude of choice that exists in unilateral product selection. For example, the lawyer on one side may prefer a general term to advance her client's interests; the opposing side may want specificity. Drafting results in compromise; substantive terms of a transaction and the language reflecting it result from the interaction of the parties to the exchange and their representatives.

Lawyers and other professionals may bring to bear the influence of learning externalities and network benefits, but they are largely captive of the supervening economic forces of the transaction. The more limited power of choice, i.e., the adoption of a contract term, frequently results from a linguistic compromise among a competing menu of terms, which

186 See supra Part II.
187 Comes, supra note 5, at B1; Liebowitz & Margolis, supra note 69, at 213.
188 See RESTATEMENT (SECOND) OF CONTRACTS § 17 (1992) (stating that "the formation of a contract requires a bargain in which there is a manifestation of mutual assent to the exchange").
189 Id.
reflects the multiple economic objectives of the contractors. Accordingly, contracting parties are less directly influenced by learning and network externalities that underlie the theory of increasing returns and path dependence. Externalities play a subordinate role.

Undeniably, however, learning benefits and, to a lesser extent, network externalities exist in the backdrop of the negotiated transaction and they will influence even if they do not determine the actual adoption of contractual provisions. This is so because the collective learning externalities and benefits derived from past transactions and future expected value of terms exist as the basis on which the professional adds value to the transaction.

Professor Gilson has amply demonstrated this generally in the context of business acquisitions. There are other examples. The provisions of a complex corporate Delaware charter document with multiple series of preferred stocks draws upon the learning benefits of past transactions, knowledge of the Delaware Corporation Code and the anticipation of trends in judicial decision-making related to the law of corporate finance. As another example, the planning for a hostile takeover will bring to bear the collective historical learning of the professional advisors who will advocate the adoption of contractual terms based upon the usefulness of the particular menu of terms, but also upon the external benefits (learning and network) perceived from their past incidence of use and expected future use and judicial interpretation. Thus, if the power of increasing returns is less determinative of the adoption of contract terms than product adoption, it is undeniably present at least to some extent. This does not seem particularly important because there are no necessary implications about the effect of these externalities on the adoption of suboptimal contract terms.

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190 Kahan and Klausner conclude that their empirical findings moderately support the hypothesis that learning and/or network externalities are present in contract terms. Kahan & Klausner, supra note 35, at 743. They admit, however, that alternative explanations may exist for the patterns that lead to this conclusion. Id. But, at the very least, learning or network externalities influence the adoption of contract terms. Id.

C. Proposition Two: Evidence of Suboptimality from Learning and Network Influences

Recognition of the validity of Proposition One neither confirms nor refutes the effects of learning and network externalities on the adoption of suboptimal contractual terms. There exists the hypothetical situation in which both sides of a negotiated contract could be induced by such externalities to frame a contract consisting of suboptimal terms. For example, the representatives of both parties might each simply refer to a menu of outdated terms. This seems highly unlikely but possible. Professors Kahan and Klausner admit that their study of event risk covenants requires intuition and subjectivity to augment empirical data when it comes to establishing suboptimality. If the burden of proof of suboptimality falls on the proponent of path dependence, empirical verifiability of the suboptimality of bilateral negotiated contracts as a general proposition seems difficult. Any attempt to establish efficiency would be difficult as well.

The problem of proving suboptimality generally does not necessarily result in the conclusion that Proposition Two is invalid. There may be classes of contracts the characteristics of which heighten the possibility for adoption of suboptimal terms. For example, certain species of contracts that do not arise from typical multilateral adversary bargaining may be more likely to reflect suboptimal terms influenced by externalities. Contracts of adhesion such as those created in the insurance industry contain terms that do not arise from the tensions of bargaining and are, therefore, subject to the adoption of path dependent, suboptimal terms.

For example, insurance companies used standard terms governing general and comprehensive liability polices even when there was evidence of financial exposure to environmental liability. Presumably this was a reflection of learning benefits and the perceived network benefits of continued adoption of standard terms by other insurers. Apparently there was a period of inattention to the exposure of the insurers to massive cleanup costs that would be asserted by the insured corporations. This has

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192It could, for example, result from instructions from clients to lawyers to sharply limit costs. It could also result from time constraints. These are, however, marginal cases.

193Kahan & Klausner, supra note 35, at 750. This, of course, is not to state that their exhaustive empirical study event risk covenants in bond indentures rests entirely upon subjective notions. It simply reflects that the intangible nature of a contract is harder to evaluate from the standpoint of efficiency.

194This problem of verifiability permeates the law and economics literature. See generally SCHWARTZ, supra note 30 (examining efficiency vis-à-vis law and economics literature).
spawned massive litigation between corporations facing cleanup costs that assert insurance coverage. It has resulted in the adoption of specific exclusions in newer policies.\textsuperscript{195}

In the realm of the corporate nexus of contracts, the bond indenture has unique attributes that differ from typical multilateral contracting. The indenture agreement protecting the bondholder from financial conduct inimical to the payment of principal and interest does not arise from direct bargaining between the purchasers of bonds and the issuing corporation.\textsuperscript{196} Bond offerings are packaged by underwriters who summarize the terms of the indenture and look to lawyers for technical drafting and advisory skills.\textsuperscript{197} The underwriters technically act on behalf of the bond-issuing corporation, but their role is multifaceted. They undertake to sell the bonds, so they are deeply interested in the provisions that the market will find acceptable. There is no formal negotiation with the ultimate bondholder. This is quite unlike typical multilateral contracting.

Bonds are priced by reference to three principal terms: interest rate, maturity, and call provisions allowing early redemption or requiring sinking funds payments.\textsuperscript{198} These central terms respond directly to market forces.\textsuperscript{199} They reflect creditworthiness of the issuer and payment terms in similar intermediate and long term corporate bonds. While the terms of payment of interest and principal simply reflect rates and dates, the detailed and densely worded indenture contains a vast array of substantive terms governing the financial conduct of the issuer. Some of the terms recur in virtually every indenture; they are called boilerplate.\textsuperscript{200} Other covenants

\textsuperscript{195}The suboptimal result hypothesized by the example would be problematic for economists such as Liebowitz & Margolis, supra note 69. They would likely characterize this form of suboptimality as second-degree path dependence because it is based upon regrettable error and does not involve suboptimality where an efficient alternative is ignored.

\textsuperscript{196}For a comprehensive description of unique characteristics of the issuance of bonds, see Marcel Kahan, The Qualified Case Against Mandatory Terms in Bonds, 89 NW. U. L. REV. 565, 571-601 (1995). The author analyzes the contractual terminology for bonds from the standpoint of the mandatory-enabling debate. See supra note 19. As the title indicates, he concludes that the case has not been made for state-imposed terms in bonds. In Kahan & Klausner, supra note 35, at 730 n.41, the question is left open as to whether suboptimality in the corporate contract should be remedied by state intervention.

\textsuperscript{197}The author provides his own definitions and discussion on bonds, debentures, and indentures in the note that precedes footnote one. One may also refer to Kahan's work as cited in the previous note. See generally Kahan, supra note 196 (providing an in-depth survey regarding bonds and the unique characteristics of issuance).

\textsuperscript{198}Id. (discussing pricing of bonds).

\textsuperscript{199}Id.

\textsuperscript{200}Boilerplate is defined as "language which is used commonly in documents having a definite meaning in the same context without variation." BLACK'S LAW DICTIONARY 175 (6th ed. 1990).
address issues specific to the particular issuer and they are negotiated between the underwriters and the issuer. Even with negotiated terms, however, there is considerable reliance on precedents from other transactions. Lawyers depend on firm expertise, documents from previous transactions and the voluminous Commentaries on the Model Debenture Indenture for guidance on the variety of covenants that may be appropriate for a given transaction. The bodies of knowledge contained in these sources are drawn upon and reflected in the indenture agreement largely without the type of negotiation associated with a bilateral contract. Uniformity and standardization are important to the marketplace where bonds are bought by initial purchasers not involved in the framing of the indenture. Thus, the bond indenture comes into being under the influence of external forces that have greater influence than those exerted in typical contract creation. From this it can be inferred that there is a higher potential for the retention of obsolete terms, particularly when the market places primary importance on credit rating, interest rate and maturity. Empirical results are consistent with the validity of Proposition Two in the limited context of the bond indenture. Furthermore, many investors

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201 Kahan & Klausner, supra note 35, at 718-27. The authors discuss standardized provisions, learning and network benefits. The discussion suggests the unique attributes of environments conducive to adoption of suboptimal terms.

Another contextual factor adds to an environment encouraging adoption of suboptimal terms. The existence of voluminous standardized provisions in the Commentaries on the Indenture, which was published in 1967 and remains with one exception unmodified, invites adherence to standardized contractual terminology without regard to changed conditions. Indeed, the modifications embodied in the Simplified Model Indenture do not address some of the contemporary issues of financing. The availability of historically determined terminology exhibits learning and network externalities that inhibit the adoption of innovative deviations from standardized terms. While there is some evidence of coordination among underwriters (but not law firms) in connection with event risk covenants, this may be aberrational in terms of the pattern of adoption of indenture terms. Evidence from a case to be discussed infra Part IV points in this direction with respect to the adoption of debt limitation covenants.

202 See generally Kahan, supra note 196 (describing various characteristics of bonds).

203 Id. at 575 (explaining Leland Crabbe, Event Risk: An Analysis of Losses to Bondholders and "Super Poison Put" Bond Covenants, 46 J. Fint. 689 (1991)). Certain event risk covenants were valued by the market as reducing the price of bonds by .24%, less than one quarter of one cent of the interest rate. Id.

204 Kahan & Klausner, supra note 35, at 742.

205 There are general attributes of the long-term contract in general and the bond indenture in particular that contribute to the validation of Proposition Two. The terms of most extended binding relationships (other than index and requirements contracts) and of a bond indenture must be chosen to anticipate an ever-changing financial and economic environment over a period of many years. There exists inherent uncertainty about the future, but a necessity to choose binding limitations on the financial conduct of a bond issuer that will protect payment capability on behalf of the bondholders. Yet those terms must not unduly restrict the flexibility of the issuer to generate revenue and profit. This, of course, enhances the probability that the
create diversified portfolios of bonds to lessen the risk of default or opportunistic conduct by any single issuer. Because the incidence of default and bondholder-issuer disputes is quite infrequent, individual investors and even institutions may accord less importance to covenant protection for industry-wide risks such as leveraged buyouts.

D. Proposition Three: The Elusiveness of Remediable Suboptimality

The validation of Propositions One and Two, limited to the indenture as a species of corporate contract susceptible to suboptimality, constitutes only the less controversial form of second-degree path dependence observed by Liebowitz and Margolis.206 To establish the case for Proposition Three, one must make the case that suboptimal bond provisions are adopted when at the same time the existence of better alternatives are known and ignored. This would establish third-degree path dependence in the bond indenture, an important component of the corporation as a nexus of contracts. Kahan and Klausner present empirical evidence that event risk covenants exhibit third-degree path dependence caused by learning and network externalities.207

There are two reasons to doubt that the argument, even if made out in the limited context of event risk covenants, has application to the choice of indenture terms in hindsight may be deemed erroneous. In the Liebowitz-Margolis critique, this simply constitutes a regrettable ex post condition attributable to lack of omniscience. See supra text accompanying note 119. This is second degree path dependence; there is no efficient remediable alternative available. But the context of choice points to reliance both on history (learning effects of past adoption) and anticipation of increasing returns by future adoption (network externalities). See supra text accompanying notes 166-69. The rating agencies may encourage undue uniformity and adoption of standardized terms even when coordination among underwriters reflects the need for innovation. Issuers, too, may favor historical boilerplate if they believe that it may present more room to avoid restriction on novel financial transactions that favor the equity holders over the holders of debt. Accordingly, what may result is the adoption of terms that increase the agency costs of debt and lower the overall value of the firm.

206Professor Roe terms this semi-strong path dependence. Interestingly, he points to the QWERTY typewriter keyboard as an example because it caused the typing of common letters with the generally weaker hand, thus slowing the typist and avoiding the jamming of the closely-placed mechanical arms that struck the letters onto the page. What was deemed an advantage then is a disadvantage now. Because switching costs now exceed benefits, this has not resulted in remediable suboptimality, his strong-form path dependence. Arthur would disagree. Compare Roe, supra note 41, at 648 (commenting that "we wish things were different but it is inefficient to do anything major about it now") with ARTHUR, supra note 1, at 118-19 (discussing how an economic system that is locked into an inferior local equilibrium can "exit" or escape into a superior one).

207Kahan & Klausner, supra note 35, at 742-47.
indenture generally. First, the detailed empirical study relies, as noted earlier, to a considerable extent on the authors' subjective judgment as to the optimality of the formulation of terms. Kahan and Klausner remark:

Our data provide some support for the hypothesis that learning or network externalities led to suboptimal standardization. Modesty demands that we preface this claim with a caveat. We have no choice but to rely on our own judgment in arguing that a particular formulation of the event risk covenant is suboptimal, and that judgment will appear by its nature to be inconsistent with the judgment of those who adopted the covenants.

This is not in itself fatal to the validity of Proposition Three. A second challenge exists in studies establishing the general efficiency of the pricing of bonds initially offered to the public. These studies, however, do not isolate specifically whether the legal provisions of bonds are priced accurately or whether some of the terms are priced at all.

How then does one make or break the argument for Proposition Three and its claims of remediable suboptimality? There is evidence that even in the face of changes in economic climate and innovations in financial transactions, such as leveraged buyouts, underwriters and lawyers are slow to respond in creating contractual provisions addressing changed conditions. Klausner and Kahan make the case for suboptimality in the evolution of event risk covenants, but perhaps a stronger, more generalized

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209 Id. at 750.

210 Id. (emphasis added) (footnote omitted).

211 The studies and conclusion are set forth in Kahan, supra note 196, at 579 (stating that "[t]he few studies that have examined the pricing of legal terms contain features that may make it inappropriate to generalize their results"). See, e.g., Louis H. Edelwein, The Yield Spread on New Issues of Corporate Bonds, 29 J. Fin. 1531 (1974) (examining the reasons for the yield spread of corporate bonds and fluctuations over time); W.K.H. Fung & Andrew Rudd, Pricing New Corporate Bond Issues: An Analysis of Issue Cost and Seasoning Effects, 41 J. Fin. 633 (1986) (focusing on the seasoning effects and cost of underwriting with respect to pricing of new corporate bond issues); John R. Lindvall, New Issue Corporate Bonds, Seasoned Market Efficiency and Yield Spreads, 32 J. Fin. 1057, 1065 (1977) (applying statistics to ultimately find that "seasoned yields adjust to the yields of new issues"); Mark I. Weinert, The Seasoning Process of New Corporate Bond Issues, 33 J. Fin. 1343 (1978) (ultimately finding some underpricing to be somewhat inconsistent with the efficient market hypothesis). The studies do not confirm pricing efficiency in the secondary bond market or in the initial issuance of common stock. Kahan, supra note 196, at 579; Weinert, supra, at 1354.

212 Kahan, supra note 196, at 579 (suggesting the potential for generalized and inaccurate results).
case can be made from the absence of the adoption of protections for
bondholders during the early and mid 1980s.\textsuperscript{213}

In fact, the brief appearance of event risk covenants occurred near
the end of the takeover period previous to which there was early general
knowledge of the potential for bondholder harm from leveraged
acquisitions. This delay in the adoption of protective covenants suggests
that bonds were issued for a considerable period of time when the risk of
takeovers and associated diminution in the market value of bonds was
known to a largely sophisticated community of purchasers consisting of
insurance companies and mutual funds. Although data does not appear to
be available for this period, and the data for the period commencing with
the introduction of event risk covenants concludes that the presence of such
protection reduced the interest rate by between twenty-four and thirty-two
basis points.\textsuperscript{214} Arguably, bond buyers before the inception of the event
risk covenants were under-compensated for the risk of takeovers that would
depress the prices of their bonds.\textsuperscript{215} The obvious difficulty of isolating and
quantifying the pricing variable points out the inherent difficulty of either
proving or disproving remediable suboptimality, thus establishing third-
degree path dependence. The availability of protective covenants was
known, but the failure to adopt them until late in the decade of the 1980s
does not establish conclusively the existence of inefficiency in the bond
indenture.\textsuperscript{216} Again, the tendency of investors, particularly the institutions
that dominate the bond market, to diversify portfolios minimizes the
attention to covenants governing such events as leveraged acquisitions.\textsuperscript{217}

\textsuperscript{213}\textit{See infra Part IV.}

\textsuperscript{214} Kahan, \textit{supra} note 196, at 575-76 (citing Crabbe, \textit{supra} note 203). The Crabbe study
covers event risk covenants in bonds issued between November 1988 and December 1989. \textit{Id.}
at 575. This was immediately after the RJR Nabisco transaction dramatized the potential harm
to bondholder from leveraged buy outs. \textit{See infra} Part IV.

\textsuperscript{215}\textit{See infra} Part IV.

\textsuperscript{216}\textit{Infra} Part IV discusses the similarly elusive effect of judicial decisions on the
adoption of optimal indenture covenants. Briefly stated, there is an argument that the doctrine
reflected in one of the cases discussed creates incentives to adopt inefficient indenture terms.
Specifically, when courts invoke a default standard of "what the parties would have wanted,"
they entertain an \textit{ex post} inquiry into what, with \textit{ex ante} knowledge, the parties would have
wanted if they had bargained without transaction costs. \textit{See, e.g.,} Ayres & Gertner, \textit{supra} note
25, at 90 (using term "would have wanted"). The learning effects generated by this approach to
resolving bondholder disputes contributes to an environment of adoption of suboptimal indenture
provisions. If courts are likely to inquire \textit{ex post} as to the most efficient term that the parties
would have adopted, the result is a shifting of \textit{ex ante} contracting costs to arguably less efficient
and costly \textit{ex post} judicial inquiry. Specifically, indenture terms may be adopted that
insufficiently address contingencies that could have been resolved by covenant protection for
bondholders. \textit{See infra} Part IV.

\textsuperscript{217}\textit{Id.}
E. Summary and Conclusion

Is the case made for pervasive third degree path dependence in the general realm of contracts and specifically with respect to the corporate contractual paradigm? For the vast array of contracts where multilateral negotiation results in agreed-upon exchange, the nature of the contracting process seems sufficiently different from tangible product development to suggest a negative answer. Nevertheless, there are species of noncorporate contracts, such as insurance, and unique corporate contracts, such as the indenture, where strong evidence exists for an environment conducive to the adoption of suboptimal terms where efficient alternatives could be developed. Empirical proof of third-degree path dependence in the indenture, however, is hampered by the necessity to make subjective judgments about the relative optimality of terms.\(^\text{218}\) In each case, one must look back to determine at the time the indenture was framed not only (a) whether a better known term existed, but also (b) whether the arguably less efficient term adopted was, nevertheless, efficiently priced by the bond market.

Studies suggesting efficiency of the market for the initial offering of bonds do not specifically address the pricing of legal terms in the indenture.\(^\text{219}\) Third-degree path dependence, in tandem with the normative issues arising from the corporation as a nexus of contracts, remains unproved. But neither is it disproved.\(^\text{220}\) Moreover, the collective work of Professors Kahan and Klausner,\(^\text{221}\) and their empirical study of event risk covenants, strongly suggest the potentiality for adoption of inefficient contract terms influenced by the same externalities influencing adoption of suboptimal technologies. The authors suggest an agenda for further research,\(^\text{222}\) which includes "the role of judicial interpretation [which] should be to promote the functions of standard terms . . . while allowing firms to opt out of those standards and customize their own terms."\(^\text{223}\) This is the subject of Part IV.

\(^\text{218}\) Kahan & Klausner, supra note 35, at 749-50.
\(^\text{219}\) Fung & Rudd, supra note 211, at 643-44.
\(^\text{220}\) Kahan & Klausner, supra note 35, at 760.
\(^\text{221}\) Id.
\(^\text{222}\) Id. at 764-765.
IV. THE UNCERTAIN IMPLICATIONS OF PATH DEPENDENCE TO THE RESOLUTION OF BONDHOLDER DISPUTES

The foregoing discussion concludes that the case for path dependent suboptimality in the vast majority of contractual settings has not been made by commentators who have sought to import increasing returns from technological product development. Nevertheless, unique characteristics of the bond indenture invite the adoption and replication of terms that may reflect learning and network externalities that result in inefficient uniform provisions or the absence of tailored provisions governing specific potential problems in the corporate debt relationship. One of the questions raised by the susceptibility of the bond indenture to inefficient drafting relates to the manner in which courts adjudicate disputes that arise between bondholders and corporate issuers. Specifically, do doctrines employed by courts enhance or minimize incentives for the creation of optimal indenture terms? The question implicates the judicial approach to gap-filling in the situation where contracts are incomplete either by design or inadvertence.223 Presumably, indenture ambiguity or incompleteness may be traceable to the influence on drafters of learning externalities of which judicial decisions may be an important part. It is important, therefore, to explore the effects of judicial decision-making to determine whether a normative argument exists for altering existing doctrine. This is best accomplished in the context of specific transactions that have given rise to prominent court decisions.224

Subpart A describes the leveraged buyout as a unique transactional innovation of the 1980s giving rise to lawsuits between bondholders and issuing corporations. The absence of indenture protections for bondholders in leveraged buyouts is an arguable instance of inefficient corporate contracting influenced at least in part by a variant of path dependence that Professors Klausner and Kahan established with respect to event risk covenants.225 The question framed by the susceptibility of indentures to suboptimality is whether traditional interpretive doctrine sufficiently takes into account the need to create incentives toward more complete contracting. This implicates a discussion of the law and economics

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223 See Restatement (Second) of Contracts § 204 (1992) (setting forth that "[w]hen the parties to a bargain sufficiently defined to be a contract have not agreed with respect to a term which is essential to a determination of their rights and duties, a term which is reasonable in the circumstances supplied by the court") (emphasis added).

224 See infra Part IV.B.

225 Kahan & Klausner, supra note 35, at 740-49.
literature advocating theories of penalty default rules and standards as means of addressing contractual incompleteness. This, in turn, lays the groundwork for a discussion of specific cases in Subpart B, which speculates on whether the existing doctrine could be improved to minimize the resort to courts as *ex post* public resources for curing contractual inefficiency.

A. Contractual Incompleteness and Default Rules

1. The Problem of Corporate Opportunism and Indenture Incompleteness

In general, bondholders allege that corporate issuers undertake transactions that result in benefits to equity participants at the expense of bondholders in the form of decreased market values for the bonds. The simplest example is the leveraged buyout or takeover, which uses the security of the assets and creditworthiness of the target company as a means of borrowing money to finance the acquisition. This sounds counterintuitive. How does the buyer use the assets of the target to borrow money to buy the target? It is a novel transaction where the acquiring

226. The perceived vulnerability of bondholders to the strategic activities of management on behalf of shareholders caused some commentators to argue for heightened duties to bondholders from corporate issuers. *Bondholders I*, supra note 17, at 442-50; *Bondholders II*, supra note 17, at 206; see generally Brudney, supra note 17 (suggesting throughout the article a heightened need to protect bondholders). Others such as Brudney view the relationship as purely contractual. *Id.*

227. There are several steps in the transaction and they are important in order to understand the novelty of the acquisition and how bondholders of the target suffer a decline in the value of their bonds. The buyer makes a public tender offer through a wholly-owned shell corporation that has borrowed the money and pledged the target stock as security until the second stage of the transaction. The buyer, having acquired a supermajority of the stock of the target, causes the target to merge with the wholly-owned shell corporation. In the merger, all the stock of the target is canceled and the remaining minority shareholders are cashed out at the same price as the public tender offer. The merger burdens the target with debt incurred by the buyers through the shell corporation. The surviving corporation is in all respects the same as the target from a financial and operational standpoint, except that it now has much more debt. The former equity holders of the target are gone, having tendered their stock or having been cashed out in the merger. The former creditors of the target company, however, remain, including the bondholders. The bondholders typically suffer a decline in the market price for their bonds reflecting the added debt burden and lesser creditworthiness of the leveraged entity. *See Infra* note 228.
party borrows money in a shell entity and then merges it into the target, which then is liable for the debt.228

This essentially is the story of the RJR Nabisco takeover and the factual scenario giving rise to one of the cases analyzed in Part IV.B. Of course, the transaction is not possible if the bondholders' indentures contain a simple limitation on incurring additional debt. Nevertheless, the bondholders as bystanders absorbing the reduction in market value of their bonds assert that the intent of the bond indenture had been violated such that a court should step in to supply a contractual term that the parties would have asked for if they had thought about it. In the case of the leveraged buyout, the term to be supplied is a limitation on additional indebtedness, unless there is prior consent or redemption at par of the pre-existing bondholders. There are other patterns, but each has a common element: the assertion of opportunistic conduct by the issuing corporation against its bondholders and the assertion of incompleteness in the indenture instrument.

There are several possible approaches a court may take in resolving this kind of dispute.229 First, it may find the indenture to be a complete statement of the terms of the corporate debt relationship and reject both the claims of opportunism and the incompleteness. This was the holding of the court that adjudicated the RJR Nabisco litigation.230 Second, although the court may find that the indenture is a complete statement of the intended relationship, the conduct of the issuing corporation constitutes fraudulent conduct. There are very few such cases.231

A third possibility reflects the approach of courts in many of the bond dispute cases.232 The alleged wrongful conduct of the bond issuer is

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228 See Bondholders I, supra note 17, at 452-55; Bondholders II, supra note 17, at 304-07; Brudney, supra note 17, at 1876-68.
229 Incomplete contracts are said to have "gaps" that arise from incomplete contracting by the parties, which may derive from the avoidance of costs or strategic conduct thought at the time of the contract to be beneficial to a party leaving a material issue unaddressed. RESTATEMENT (SECOND) OF CONTRACTS § 208 (1992) (suggesting language of unconscionability). The RESTATEMENT (SECOND) OF CONTRACTS § 204 (1992) adopts a standard requiring the gap to be filled by a "term which is reasonable in the circumstances."
230 The court that adjudicated RJR Nabisco was the United States District Court for the Southern District of New York.
231 In Harff v. Kerkorian, 324 A.2d 215 (Del. Ch. 1974), rev'd 347 A.2d 133 (Del. 1975), the court addressed the legality of an extraordinary dividend that was not prohibited by the indenture which contained no limitations on distributions to shareholders. Both the trial court and the Supreme Court rejected the existence of a fiduciary duty to bondholders, but the Delaware Supreme Court holding permitted the case to go forward on the theory of fraudulent conduct of the issuer in spite of the clarity of the indenture provisions. Harff, 347 A.2d at 134.
232 See infra Part IV.B (discussing judicial interpretation in an environment of network externality).
not specifically prohibited by the indenture. Yet, the court still undertakes an analysis of whether the express terms of the indenture raise an inference that the parties would have agreed to proscribe the conduct if they had focused on it. Frequently the analysis of alleged opportunistic conduct by the bond issuer proceeds under the doctrinal rubric of whether there has been a breach of the implied covenant of good faith and fair dealing. The traditional concept of good faith and fair dealing has a parallel in the literature analyzing how courts fill gaps in contracts. In the academic literature, this inquiry invokes the theory of default rules and standards, which encompass the broad subject of legislative and judicial mandates that apply in absence of contrary agreement by parties. With incomplete contracts, default rules provide a background set of principles to assist a court in ordering or withholding relief when a dispute arises about an issue not addressed by the formal agreement of the parties. Default theory, on the one hand, and the doctrine of implied covenant of good faith and fair dealing, on the other, seek, respectively, (a) to reduce contracting costs and (b) enforce the spirit of an otherwise complete contract. Tied closely, the application of each is the question of whether the parties intended to omit the provision that one party asserts should be supplied by the court.

233 Id.
234 Id.
235 Good faith is read into contracts. RESTATEMENT (SECOND) OF CONTRACTS § 205 (1992).
236 See generally Steven J. Burton, Default Principles, Legitimacy, and the Authority of Contract, 3 So. Calif. Interdisciplinary L.J. 115, 130 (1993) (discussing, inter alia, implications for default principles). The scholarship is wide-ranging. One commentator disputes the validity of the concept. W. David Stawson, The Futility Search for Principles for Default Rules, 3 So. Calif. Interdisciplinary L.J. 29, 29 (1993) (stating that "[d]efault rule analysts have contributed nothing new to the subject except the new word they have coined for it"). Another commentator approaches the issue of default rules from a philosophical standpoint and argues that default rules lack legitimacy. Burton, supra, at 117 (stating that "I argue, default rules based on efficiency principles, communitarian values, and relational contract norms either lack a legitimating basis or fail to respect the authority of the contract"). Ian Ayres extends his earlier work with Robert Gertner to consider "tailored" default rules that draw on concepts of rules versus standards. Ian Ayres, Preliminary Thoughts on Optimal Tailoring of Contractual Rules, 3 So. Calif. Interdisciplinary L.J. 1, 2 (1994) (stating that "[t]he rather minimal thesis of this paper is that the ability of private parties to contract around rules or standards affects their optimal level of precision").
2. Majoritarian Default Rules

Until the late 1980s, the law and economics literature was virtually unanimous in advocating an overall theory of default rules based upon what the parties to a given contract would have bargained for in a costless setting.\textsuperscript{239} Thus, in framing corporate codes containing general provisions, the legislature should reduce transaction costs by providing applicable off-the-rack provisions that parties usually would choose.\textsuperscript{240} These provisions, of course, would be optional and could be modified in any given circumstance.\textsuperscript{241} According to the law and economics proponents of enabling systems of corporate governance, default rules should have two characteristics. They should be (1) majoritarian, reflecting what most contracting parties would want, and they should be (2) mutable, that is, tailorable to the specific needs of specific situations.\textsuperscript{242} Mutable, majoritarian default theory seeks to reduce the costs of contracting and thus promote optimality in the various components of the corporate contract through the operation of free market forces. Easterbrook and Fischel observe:

The normative thesis of the book is that corporate law should contain the terms people \textit{would have negotiated}, were the costs of negotiating at arm's length for every contingency sufficiently low. The positive thesis is that corporate law almost always conforms to this model. It is enabling rather than directive.

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All the terms in corporate governance are contractual in the sense that they are fully priced in transactions among the

\textsuperscript{239}RICHARD POSNER, \textit{ECONOMIC ANALYSIS OF LAW} 81 (3d ed. 1986); Douglas G. Baird & Thomas H. Jackson, \textit{Fraudulent Conveyance Law and Its Proper Domain}, 38 \textit{VAND. L. REV.} 829, 835-36 (1985) (stating that default rule in debtor-creditor relationship should provide parties with "the type of contract that they would have agreed . . . [upon] if they had had the time and money to bargain over all aspects of their deal"); Charles J. Goetz & Robert E. Scott, \textit{The Mitigation Principle: Toward a General Theory of Contractual Obligation}, 69 \textit{VA. L. REV.} 967, 971 (1983) (writing that "[i]deally, the preformulated rules supplied by the state should mimic the agreements contracting parties would reach were they costlessly to bargain out each detail of the transaction").

\textsuperscript{240}See Goetz & Scott, supra note 239, at 971 (providing standardized, off-the-rack provisions would eliminate the cost of negotiating every detail of the proposed arrangements).

\textsuperscript{241}\textit{Id.} (remaining free to bargain for customized provisions).

\textsuperscript{242}Ayres & Gertner, supra note 25, at 91.
interested parties. They are thereafter tested for desirable properties; the firms that pick the wrong terms will fail in competition with other firms competing for capital. *It is unimportant that they may not be "negotiated"; the pricing and testing mechanisms are all that matter*, as long as there are no effects on third parties. This should come as no shock to anyone familiar with the Coase Theorem.243

Accordingly, the shorthand term "what the parties would have wanted"244 describes the general approach of law and economics to both filling gaps in incomplete contracts and legislatively framing the off-the-rack terms that create the nexus of contracts of the corporation unless parties otherwise agree. Recent contract scholarship, however, introduces the concept that default rules may promote optimality in contracting by consisting of legislative provisions and rules *contrary* to what the parties would have wanted.245 These are called penalty defaults.246

They have potential significance to path dependence in the corporate indenture because they are designed to cause parties to expend *ex ante* resources to avoid contractual incompleteness and thus minimize the potential for expenditure of *ex post* judicial resources. Stated a little differently, if bond indentures contain inefficient terms or inefficiently omit terms, a penalty default regime might plausibly operate to grant or withhold relief so as to create an *ex ante* incentive to allocate risk with specificity.

3. Penalty Defaults

In promoting the discussion of penalty defaults, commentators have suggested a novel deviation from the majoritarian default regime. They seek to avoid the *ex post* costs of judicial inquiry into what contracting parties would have bargained for costlessly. Ayres and Gertner describe the basis for penalty defaults as follows:

We suggest that efficient defaults would take a variety of forms that at times would diverge from the "what the parties

243EASTERBROOK & FISCHER, supra note 6, at 15, 17 (emphasis added).
244Ayres & Gertner, supra note 25, at 89-91.
245See supra note 27 and accompanying text.
246Ayres & Gertner, supra note 25, at 91 (stating that "penalty defaults give . . . one party to the contract an incentive to contract around the default rule").
would have contracted for" principle. To this end, we introduce the concept of "penalty defaults." Penalty defaults are designed to give a least one party to the contract an incentive to contract around the default rule and therefore to choose affirmatively the contract provision they prefer. In contrast to the received wisdom, penalty defaults are purposefully set at what the parties would not want — in order to encourage the parties to reveal information to each other or to third parties (especially the courts).

Ayres and Gertner theorize that "[w]hen parties fail to contract because they want to shift the ex ante transaction cost to a subsidized ex post court determination," resources are suboptimally misallocated to judicial gap filling. When such shifting exists, they suggest the application of a penalty default, which can consist merely of judicial passivity or nonenforcement — leaving the parties where they stand rather than completing the contract. Consequently, they assert that the gap-filling analysis should be preceded by inquiries into why the gap exists and whether the ex post remediation is efficient. Where it is inefficient to shift the cost of contracting from the parties to the courts, "[c]ourts, which are publicly subsidized, should give parties incentives to negotiate ex ante by penalizing them for inefficient gaps."

The previous assessment of the uncertain case for remediable path dependence in the bond indenture emphasized the subjective nature of suboptimality and the difficulties of verification. Nevertheless, there was observed an environment surrounding the issuance of corporate debt that has the potential to be influenced by externalities resulting in the adoption of an inefficient term when better ones could be chosen or devised. The question arises as to whether courts faced with bondholder disputes could usefully employ penalty defaults, rather than the traditional majoritarian default of "what the parties would have wanted" to minimize the potential for adoption of suboptimal terms. There are several aspects of debt financing that suggest the relevance of a penalty default analysis.

\[247\text{Id.}\]
\[248\text{Id. at 127-28 (emphasis added).}\]
\[249\text{Id. at 128.}\]
\[250\text{Ayres & Gertner, supra note 25, at 95.}\]
\[251\text{Id. at 93 (emphasis added).}\]
\[252\text{See supra Part III; supra notes 185-216 and accompanying text.}\]
\[253\text{Ayres & Gertner, supra note 25, at 89-91.}\]
First, the selling of corporate bonds to the public involves substantial amounts of money. The transaction is uniquely able to bear its full costs. Arguably it is a transaction in which the central contractual component, the indenture, should be created with as little incentive as possible for incompleteness and resulting potential for the incurrence of judicial costs of remediation.

Second, there exists (in the form of the Commentaries on Indentures) a vast array of standard and optional provisions that may be adopted or modified to prohibit virtually every kind of financial and transactional activity that would be deemed harmful to the payment capability or creditworthiness of a bond issuer. The silence of an indenture in the face of this broad array of easily-adoptable terminology should have at least some implication for the trier of a dispute where a party seeks an ex post judicial insertion of a missing term. Arguably in the case of silence, the invocation of the penalty default of judicial passivity — leaving the parties where they stand — would create positive learning benefits in the form of incentives to avoid indenture incompleteness by utilizing and tailoring the forms found in the Commentaries. This, of course, is complicated by the requirement of a judicial finding that the indenture is in fact silent.

Also, it is problematic to assume that silence necessarily equates to the inefficiency associated with path dependent suboptimality. It may be that the drafters of the indenture and the purchasers of the bonds fully took into account the absence of protective terms. This, of course, makes a case for passivity on the part of courts asked to imply missing terms. It says little or nothing, however, about the connection between judicial attitudes and indenture inefficiency.

The penalty analysis in the context of the interpretation of an ambiguous term, as distinguished from silence, raises separate issues. Mere passivity does not serve as an interpretive approach here because the existence of an ambiguity by no means suggests that a court should simply

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254 Kahan, supra note 197, at 566 n.4. The author notes that the Board of Governors of the Federal Reserve reported the issuance of $1,883 billion in face amount of corporate and foreign bonds for the year 1992. Id.

255 American Bar Foundation, Commentaries on Indentures 202-77, 206-311, 368-421, 558-83(1971). The form provisions govern, inter alia, limitation on incurrence of additional debt, payment of dividends, mergers and sales of assets, sale and leaseback transactions, subordination, and definitions of events of default and acceleration of payment of principal.

256 Strong proponents of extra-contractual protection for bondholders are skeptical that any formulation of the indenture can effectively insulate bondholders from opportunistic issuer conduct that creatively evades covenants. See Brudney, supra note 17, at 1850-51.

257 Id.
ignore it. This raises another potential objection from commentators who believe that bondholders are always vulnerable to creative avoidance of bond covenants. The burden of a general penalty default rule in the form of judicial passivity may be seen as unfairly falling on the bondholder as the primary seeker of relief. Again, it must be remembered that we are analyzing judicial attitudes toward path dependent inefficiency. Recall, furthermore, that the case for remediable suboptimality in the indenture rests on subjective assumptions and eludes verifiability. Thus, the antidote for what has been found to be at most an environment conducive to the potential for path dependence must not sacrifice the demonstrated worth of the majoritarian default rule. Professor Klausner, writing alone and then with Professor Kahan, addresses the competing values of majoritarian versus penalty defaults. He first notes the problems associated with the search for a majoritarian default rule in the general context of contract suboptimality:

The presence of network externalities thus complicates at the outset the search for a majoritarian default rule. Even after a majoritarian default is identified, however, the presence of network externalities must be taken into account in determining whether the default rule will be "tailored" or "untailored" in its application.

Finally, even if . . . [a] court selects the optimal majoritarian default rule, later changes in the business environment can render the rule suboptimal. If this occurs, accrued network externalities may lock firms into an obsolete default rule. . . . The point again is that, if a default term that has accrued network benefits becomes obsolete, the contractarian assumption that firms will opt out of it and into socially optimal contracts may not be valid.

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258 Id. at 1853-55.
259 Virtually all cases are brought by bondholders alleging a form of corporate opportunism that has expropriated bond value. Conceivably, of course, collective action by bondholders could raise questions of indenture interpretation. For example, an institution could amass a sufficient principal amount of bonds and compel a trustee to declare a default under conditions for which the literature has not reasonably provided. One might argue, however, that this eventuality is governed by the law of lender liability.
260 Klausner, supra note 35, at 826-41.
261 Id. at 831, 833.
The search for "what the parties would have wanted" in connection with incomplete contracts is a tailored rule that is designed to inquire about what the actual parties would have wanted in a given contract or what most parties would have wanted at contractual inception. Thus, the generalized concern about changes in the business climate may be exaggerated. A court employing the tailored majoritarian rule will inquire how the parties would have intended to address such changes.

The question remains whether a penalty default leaving an incomplete indenture unremedied is superior to the majoritarian alternative. When first invoked, the penalty default rule operated to punish parties that may have relied upon the majoritarian rule. Presumably, they reasonably relied upon the courts to provide suppletory terms. Thus, there is a strong argument for a prospective application of any penalty rule.

These, however, are not the only problems with the penalty default rules. Professor Klausner notes, in connection with penalty defaults, that "[i]n the corporate law context, . . . [the penalty default] would be a term that managers, who dominate the writing of the contract, disfavor." He further states that "[b]y inducing explicit contracting, penalty defaults may expose the contracting process to suboptimal diversity." These are general observations about the corporate contract and they may be valid in certain instances. For example, a penalty default rule involving the fiduciary relations between managers or majority shareholders, on the one hand, and minority shareholders, on the other, may need to be framed to induce managers or controlling parties to opt for alternative terms. It is not unreasonable to write background rules with an eye toward protection of those to whom fiduciary duties run.

263 Ayres & Gertner, supra note 25, at 89-91.
264 Klausner, supra note 35, at 834 (stating that "firms contracting in response to penalty defaults will be less able to coordinate with one another to obtain network benefits"). Klausner notes this is the opposite of a situation involving majoritarian defaults. Id.
265 Id.
266 Id.

Section 102(b)(7) of the Delaware Corporation Code permits a corporation to alter the otherwise applicable fiduciary duty of care of directors. Of course, if no action is taken to include a provision in the Certificate of Incorporation, then the cases defining duty of care continue to apply. See, e.g., Smith v. Van Gorkom, 488 A.2d 858, 873, 893 (Del. 1985) (retaining standard of gross negligence, but holding it was a violation of due care to accept an offer to buy the company at almost $20 per share over the prevailing market price for the common stock).

267 Indeed those commentators favoring mandatory corporate terms would make them immutable and thus incapable of being altered even with the knowledgeable consent of parties owed the fiduciary duties. See supra note 17. In the purely contractual realm of the bond indenture, the issues arguably are different, but commentators such as Professor Brudney would
The purely contractual nature of the bond indenture, however, derived as it is from standardized but modifiable terms, may differ from corporate contracts that involve fiduciary duty. Here Professor Klausner's concern with suboptimal diversity does not seem as relevant as it may be in other contexts. Diversity among bond indentures presumably reflects the distinct financial attributes and credit risks among bond issuers. Thus, diversity of terms reflects greater attention *ex ante* to the particulars of each separate bond transaction. A penalty default of judicial passivity and nonintervention should motivate underwriters, who exert significant independent influence over the managers of a corporation, to focus *ex ante* on terms that would result in a more complete indenture.\(^{268}\) This argument is now tested by reference to cases resolving disputes between bondholders and issuing corporations. Recall that the intent is to assess whether doctrines of interpretation can influence the avoidance of suboptimality in the environment of path dependence discussed in Part III.

\(^{268}\) But see Kahan & Klausner, *supra* note 35, at 765. In their suggestion of an agenda for future research to which this article responds they include the topic of interpretation of corporate contracts. They leave open the question of the appropriate rule of interpretation with the following statement:

*Interpretation of standard terms should be treated like the interpretation of laws:* Judges, not juries, should interpret them, and their interpretations should have precedential value. Where a standard term is the product of an explicit standard-setting process such as the model bond indenture or the model simplified indenture, commentaries of the standard-setting organization should be accorded authoritative weight. *In contrast, courts should interpret customized terms in a particularized fashion with specific reference to the circumstances of the parties that have customized a term, including a presumptive intent to depart from the standard term. Ambiguity in the customized term should be resolved to give the term a meaning distinct from that of its standard counterpart.*

*Id.* (emphasis added) (footnotes omitted).

Of course, this does not address whether optimality is best promoted by a majoritarian default rule or a penalty default.
B. Judicial Interpretation in an Environment of Network Externality

1. Sharon Steel Corp. v. Chase Manhattan Bank, N.A.\textsuperscript{269}

In Sharon Steel, a Second Circuit panel consisting of experienced judges\textsuperscript{270} interpreted a boilerplate term in indentures covering bonds issued by UV Industries (UV).\textsuperscript{271} Each indenture contained a standard "successorship"\textsuperscript{272} clause that prohibited UV from entering into mergers or sales of substantially all of its assets unless the acquiring corporation assumed all of the terms of the indenture and was in compliance with all of its terms.\textsuperscript{273} There were no other terms in the indentures that limited the ability of UV to merge or sell substantially all of its assets.\textsuperscript{274} Thus, UV was free to merge or sell its assets subject only to the acquiring corporation assuming the debt and not being in default of the UV indenture terms. The failure to meet these conditions required that UV redeem the debt obligations, which contained provisions entitling the holders to premiums for early redemption.\textsuperscript{275}

\textsuperscript{269}691 F.2d 1039 (2d Cir. 1982).
\textsuperscript{270}The panel consisted of Chief Judge Feinberg, Judge Jon Newman, and Judge Ralph Winter, formerly on the faculty of the Yale Law School. \textit{Id.} at 1041.
\textsuperscript{271}"Boilerplate" in this context means that the term is one that is contained in virtually all indentures and is not subject to alteration by the parties. \textit{Id.} at 1048. Another example of a boilerplate term is the covenant that the corporate issuer will maintain its corporate existence. These terms are distinguished from negotiated terms that cover the specific considerations of a particular bond issuance. Examples of negotiated terms include limitations in any one year of more than a certain dollar amount of distributions to shareholders (or a complete prohibition). Negotiated terms may be found in many indentures, but they are subject to being shaped to limit corporate financial and transactional conduct imical to the ability of bondholders to be paid principal and interest.
\textsuperscript{272}\textit{Id.} at 1042.
\textsuperscript{273}The language from the Manufacturers Indenture, § 11.01, which was in form similar to the other indentures, reads as follows in relevant part:
\begin{quote}
[N]othing contained in this Indenture or in any of the Debentures shall prevent any consolidation or merger of the Company . . . or any sale, conveyance or lease of all or substantially all of the property of the Company to any other corporation . . .; provided, however . . .[UV] hereby covenants and agrees . . . that (a) immediately after such consolidation, merger, sale, conveyance or lease the [acquiring] corporation . . . shall not be in default in the performance or observance of any of the terms, covenants and conditions of this Indenture . . . and; (c) . . . this Indenture . . . shall be expressly assumed, by supplemental indenture satisfactory in form to the Trustee . . .
\end{quote}
\textit{Sharon Steel Corp.}, 691 F.2d at 1044 n.7.
\textsuperscript{274}\textit{Id.} at 1044-45.
\textsuperscript{275}\textit{Id.} at 1044 n.7.
\textsuperscript{276}\textit{Id.} at 1045.
Sharon Steel agreed to acquire all of the assets of UV in exchange for cash and the assumption of the debt governed by the indentures.\textsuperscript{277} It had served notice to the indenture trustees that it intended to assume the obligations in the indentures containing the successorship clauses.\textsuperscript{278} The various indenture trustees refused to allow the assumption of the debt by Sharon Steel and instituted proceedings to compel UV to redeem the debt and pay the early redemption premiums.\textsuperscript{279} There were significant financial implications to the bondholders and Sharon Steel as the acquiror seeking to assume the debt. Specifically, the prevailing interest rate at the time of the acquisition ranged from four to six hundred basis points\textsuperscript{280} above the various rates of interest on the bonds. Accordingly, the indenture trustees, on behalf of the bondholders, were seeking to compel redemption and the payment of the premiums in order to permit the reinvestment of the proceeds at considerably higher rates of return.\textsuperscript{281} If Sharon Steel could not assume the existing low-interest debt, then it would pay some lower amount reflecting the increased cost of money in the transaction. The shareholders of UV would, of course, receive less money if the UV debt could not be assumed. Thus, while the case was styled as one between the indenture trustees of UV and the acquiror, Sharon Steel, the real conflict was between the financial interests of the bondholders and shareholders of UV. The legal question was a rather simple one: Did the successorship clauses permit Sharon Steel to assume the debt?\textsuperscript{282} Yet, there were other facts clouding what appeared to be a simple issue of indenture interpretation.

Before Sharon Steel agreed to buy all of UV's assets, UV adopted a plan of liquidation and sold two of its three lines of business.\textsuperscript{283} What remained constituted assets that produced thirty-eight percent of UV's operating revenues, forty-one percent of the book value of all of its operating properties, and fifty-one percent of its assets when certain items of cash were added to its operating properties.\textsuperscript{284} The indenture contained no limitations on UV's sale of less than substantially all of its assets, so the

\textsuperscript{277}Sharon Steel Corp., 691 F.2d at 1046.
\textsuperscript{278}Id. at 1046-47.
\textsuperscript{279}Id.
\textsuperscript{280}One basis point equals one-hundredth of a percentage point. Thus, the interest rate prevailing at the time of the UV/Sharon Steel deal was four to six percent above the rate of interest due on the bonds. Obviously, if the bondholders could require the redemption of the bonds, they could invest the proceeds at these higher rates.
\textsuperscript{281}Sharon Steel Corp., 691 F.2d at 1046-47.
\textsuperscript{282}Id. at 1048-49.
\textsuperscript{283}Id. at 1045-46.
\textsuperscript{284}Id. at 1051.
previous transactions were perfectly legal. Additionally, there were no limitations on mergers or sales of assets. Consequently, UV could probably have merged with Sharon Steel or any other company without redeeming the public debt so long as the resulting company assumed the debt and complied with the indenture limitations. There was no dispute that Sharon Steel, after the purchase of assets, met all of the terms of the indentures.\footnote{Sharon Steel Corp., 691 F.2d at 1051.}

The indenture trustees argued that the terms of the successorship clauses were violated when a sale of all the assets was preceded by transactions undertaken as part of a plan of liquidation.\footnote{Id. at 1047.} The sale to Sharon was not a sale of substantially all of the assets; therefore, the UV debt could not be assumed by Sharon Steel.\footnote{Id. at 1051-52.} Otherwise, the trustees argued, a company could sell in piecemeal fashion all of its assets for cash and then "sell" the cash to an acquiror in exchange for cash and the assumption of the debt.\footnote{Id. at 1049.} Such a transaction would not be a conventional sale of assets, but rather a sham that would harm the bondholders by avoiding their rights to redemption. The possibility of such a transaction — not present in the Sharon-UV transaction — constituted the basis for the argument that Sharon should not be allowed to assume the debt under the successorship clauses.\footnote{Id. at 1050.}

Sharon Steel urged that the successorship clauses of the indenture were designed to benefit the issuer of the bonds by giving it a measure of flexibility to merge or sell all of its assets and enter into other transactions free from the debt that would be assumed by the acquiring corporation.\footnote{Id. at 1048.} It pointed to two basic characteristics of corporate debt set forth in the Commentaries. The first proposition embodies the notion that bondholders are entitled only to the timely payment of principal and interest throughout the life of the bond.\footnote{The Commentaries also set forth a second characteristic of bonds as follows: The second fundamental characteristic of long term debt financing is that the rights of holders of the debt securities are largely a matter of contract. There is no governing body of statutory or common law that protects the holder of.} Accordingly, a bond may rise or fall in price based upon movements in the interest rates in the financial markets but this is a risk assumed by the bondholder who has agreed to wait until the designated maturity date to receive final payment of principal.\footnote{Id. at 1048.}
Sharon Steel argued that the boilerplate successorship clause was not designed to operate as a limitation on mergers and sales of assets; in fact, the language was permissive.293 The standard forms contained in the Commentaries contain myriad provisions limiting mergers and sales of assets, but none were contained in the UV indentures.294 Sharon Steel further argued that the successorship clauses would permit mergers and sales of assets to larger companies with different aggregations of assets so that the bondholders would look to an entity with potentially quite different payment capabilities.295 So long as the requirement of compliance with the terms of the indenture by the acquiring corporation was met, however, the bondholders had no basis to object to the assumption.296 Accordingly, the sequence of transactions leading up to the sale of assets by UV to Sharon Steel and the assumption of debt was not prohibited by the express terms of the indenture.297 In short, UV had not given up its right to sell its assets, regardless of the timing and sequence of such sales.298

Before turning to the decision of the court, recall the discussion of majoritarian default rules.299 A majoritarian default seeks to discover what the parties would have wanted if they had addressed the issue.300 A variant is what most parties would have wanted in the situation. Notice the difficulty of undertaking this inquiry in the financial context posed by Sharon Steel. The financial goal of the bondholders is to oppose assumption of the UV debt by Sharon Steel. Their goal is to be paid early with a premium for early redemption because interest rates have risen.301 They will then invest the proceeds of the early repayment at the prevailing higher rates.302 What if the prevailing rates, however, had been lower? Presumably, the bondholders would have no objection to retaining their unsecured debt securities against harmful acts by the debtor except in the most extreme situations. . . . [T]he debt securityholder can do nothing to protect himself against actions of the borrower which jeopardize its ability to pay the debt unless he . . . establishes his rights through contractual provisions set forth in the . . . indenture.

Id. at 1049.

293Sharon Steel Corp., 691 F.2d at 1050.
294Id.
295Id.
296Id.
297Sharon Steel Corp., 691 F.2d at 1050.
298Id.
299See supra notes 261-65 and accompanying text.
300Id.
301Sharon Steel Corp., 691 F.2d at 1046-47.
302Id.
bonds, which bear the higher interest. How does the majoritarian default rule help a court faced with a lawsuit with interests motivating opposing interpretations of a contract driven by the fortuity of changed events? It does not seem to provide a realistic and workable standard for determining which party prevails. In contrast, a penalty default of judicial passivity leaves the parties where they stand. They will not be permitted to shift the \textit{ex ante} cost of contracting to the \textit{ex post} judicial resources of conflict resolution.

The \textit{Sharon Steel} court simply cannot resort to a majoritarian default analysis because each party would want an opposite interpretation depending upon the prevailing rates of interest. Thus, in ruling against the right of Sharon Steel to assume the UV debt, the court must employ a variant of the majoritarian default rule. First, the court observes that uniformity requires interpretations of boilerplate indenture provisions to be undertaken strictly as a matter of law.\textsuperscript{303} "Uncertainties would be created if interpretation of boilerplate provisions were submitted to juries sitting in every judicial district in the nation."\textsuperscript{304} The court follows this unproblematic assertion with an analysis that exposes a complete lack of case law addressing the words "substantially all of the assets" contained in the indenture.\textsuperscript{305} In short, there was no precedential guidance for whether the last sale of UV assets to Sharon Steel should be viewed along or in series with the earlier sales.

The court considered the competing arguments as to the meaning of the successorship clause and focused upon the Sharon Steel argument that the successorship clauses were designed to benefit corporate bond issuers.\textsuperscript{306} Thus, the court rejected the assertion that the permissive indenture language contemplated a wide range of transactional freedom for a corporate issuer to merge with companies of differing sizes, businesses and financial attributes.\textsuperscript{307} Specifically, Judge Winter opined:

\begin{quote}
We disagree. In fact, a substantial degree of protection against diluting transactions exists for the [bondholder]. . . . [Bondholders] can rely, for example, on the self-interest of equityholders for protection against mergers which result in a firm with a substantially greater danger of insolvency. So far as the sale of assets to such a firm is concerned, that can
\end{quote}

\begin{flushright}
\textsuperscript{303}Id. at 1048.
\textsuperscript{304}Id.
\textsuperscript{305}Sharon Steel, 691 F.2d at 1050.
\textsuperscript{306}Id.
\textsuperscript{307}Id.
\end{flushright}
occur but substantial protection exists even there since the more debt heavy the purchaser, the less likely it is that the seller's equity holders would accept anything but cash for the assets. A sale to a truly crippled firm is thus unlikely given the self-interest of the equity holders. After a sale, moreover, the lenders would continue to have the protection of the original assets. In both mergers and sales, complete protection against an increase in the borrower's risk is not available in the absence of more specific restrictions, but the self-interest of equity holders imposes a real and substantial limit to that increase in risk. The failure of successor obligor clauses to provide even more protection hardly permits an inference that they are designed solely for the benefit of borrowers. 308

This analysis of the successorship clauses is far from satisfying. The court seems to be saying that stockholders will not enter into transactions that hurt both themselves and the bondholders. As in the Sharon/UV deal, however, when the stockholders approve the sale of assets for cash or approve a merger for cash, they terminate their investment. There is no basis for the court's conclusion that a measure of protection exists from the self-interest of shareholders. 309 But, in any event, the court concludes and holds that "protection for borrowers as well as for lenders may be fairly inferred from the nature of successor obligor clauses." 310 It extends this conclusion to encompass the following concept:

Where contractual language seems designed to protect the interests of both parties and where conflicting interpretations are argued, the contract should be construed to sacrifice the principal interests of each party as little as possible. An interpretation which sacrifices a major interest of one of the parties while furthering only a marginal interest of the other should be rejected in favor of an interpretation which sacrifices marginal interests of both parties in order to protect their major concerns. 311

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308 Id. (emphasis added).
309 Sharon Steel Corp., 691 F.2d at 1051.
310 Id.
311 Id.
While not explicitly stating its analysis in terms of a majoritarian default rule such as "what the parties would have wanted," the court adopts exactly that approach in devising a solution out of whole cloth that attempts to elevate a housekeeping, boilerplate term to the level of a substantive bilateral provision intended to benefit both the issuer and the bondholders. This may be a slight overstatement. Clearly, the successorship clause contains a substantive component beyond mere housekeeping. The acquiror or merger partner must meet all of the assumed indenture provisions after the transaction is completed. Existing, however, as a standard nonnegotiated provision, the successorship clause hardly seems designed to go beyond this limited purpose. The Commentaries do not indicate otherwise. Indeed, under this analysis, there would be no need to ever include an optional term limiting asset dispositions. Specifically, the use of the boilerplate term governing merely technical successorship would confusingly obviate the need for a negotiated term such as the following hypothetical limitation: "Without the consent of the Bondholders, the Company shall not in any twelve month period sell or exchange more than 25% of the book value of its assets."

The invocation of a default standard that would infringe upon the respective parties' principal interests as little as possible involves a judicial inquiry not unlike "what the parties would have wanted." It expends judicial resources ex post the contracting process in an attempt to fathom meaning in a standard term. But there simply are no "principal," "major," or "marginal" interests to be balanced and compared from the contractual language involved in Sharon Steel. Would a penalty default analysis leaving the bondholders without relief have resulted in lessening the

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312 See supra notes 261-65 and accompanying text.
313 Professors Kahan and Klausner would accord authoritative importance to guidance in the Commentaries on the Indenture. Kahan & Klausner, supra note 35, at 765. They cite Sharon Steel for the proposition that "commentaries of the standard-setting organization should be accorded authoritative weight." Id. (footnote omitted). If anything the quotations from the Commentaries on the Indenture suggest that, if the parties want protections from issuer conduct, they should bargain for it and spell it out in the indenture. It is true that the Sharon court followed the suggestion of Kahan and Klausner that boilerplate should be interpreted by judges and not juries. See Sharon Steel Corp., 691 F.2d at 1048. The method of interpretation still leaves much to be analyzed between the competing claim of majoritarian defaults and penalty defaults.
314 See generally Ayres & Gertner, supra note 25 (using the language "what the parties would have wanted").
potential for suboptimality in indentures?\textsuperscript{315} The answer is by no means clear.

The Ayres/Gertner penalty default analysis\textsuperscript{316} requires a different approach to the issue of interpretation in Sharon Steel. We have isolated a gap in the indenture but we need to ask: "[W]hy does the gap exist?\textsuperscript{317} In Sharon Steel, there are three possible answers. First, and most likely, the boilerplate term was adopted without any thought beyond its clear requirement that a successor corporation provide identical covenant protection to the UV bondholders by duplicating and meeting in an assumed supplemental indenture all of the protections provided by the original UV indenture.

A second possibility emerges: the underwriters and UV, at the inception of the financing, clearly had no intention whatsoever to limit the disposition of assets by UV. They expressly left any limitation on UV out of the covenant protections.

Third, and highly unlikely, the framers of the indenture acted strategically. They knew the successorship clause could be manipulated to keep bondholders from having their bonds redeemed in a sale of assets transaction when interest rates had risen. They intended that UV be able to appropriate the value of the bonds when interest rates rose. This strains credulity. Boilerplate provisions, unlike negotiated provisions, do not create the potential for strategic conduct because they address recurring formalities.\textsuperscript{318}

The first and third answers suggest the advisability of a penalty default. They bring into focus the importance of creating learning effects that cause increased transactional attention (and costs) to reach a more detailed agreement. Recall the existence of off-the-rack terms from the Commentaries covering virtually every possible limitation on the financial and business behavior of the bond issuer.\textsuperscript{319} A penalty default rule leaving the parties where they stand exerts considerable (prospective) force on contracting parties to address ex ante specific issues or be left with judicial relief ex post. It unburdens the courts from an ex post role where public

\textsuperscript{315} Arguably, a court more sensitive to the economic implications of the allocation of costs of contracting and the application of judicial resources might have more painstakingly scrutinized the question of the threshold necessary to create a legitimate ambiguity or gap arising from boilerplate provisions. After all, these are standard provisions whose provisions ordinarily do carry the substantive import of optional covenants reflecting the unique financial and business attributes of the bond issuer.

\textsuperscript{316} Ayres & Gertner, supra note 25, at 91.

\textsuperscript{317} Id. at 127.

\textsuperscript{318} See BLACK'S LAW DICTIONARY, supra note 200, at 175.

\textsuperscript{319} See supra text accompanying notes 313-18.
and private resources are expended on advocacy clouded by twenty-twenty hindsight and self-interest. Also, recall that a court has access to doctrines of bad faith and fraud. Finally, the context of public financing of corporations is repetitive in nature and presumably will absorb and incorporate the learning and network effects of a decision designed to influence future conduct.

But is any of this realistic? The ex post expenditure of judicial resources almost certainly pales in the face of the expenses incurred by the private sector in seeking to vindicate bondholder claims. Also, the penalty default regime encourages parties to take the time and expend the resources to specify agreements covering, more specifically, future contingencies. No one, however, expects that the penalty default scheme will eliminate incompleteness, even where there are ample ex ante resources such as the case of the bond indenture. Finally, are courts equipped to determine the reasons for contractual incompleteness as a precursor to resolving disputes?

Clearly there are cases in which even the most careful drafting and consideration of contingencies could not have focused on legitimately unforeseen events. These cases may most fairly and economically be adjudicated by reference to the majoritarian rule of inquiring what the parties would have wanted or what most parties would have wanted. So, if Sharon Steel represents a dramatically ad hoc cobbling of intimations and guesses about boilerplate provisions, it nevertheless enhances, to some small degree, the learning benefits available to future framers of indentures.

2. Metropolitan Life Insurance Co. v. RJR Nabisco, Inc.

A leveraged buyout, perhaps unlike any other corporate transaction, has the potential to diminish the market value of outstanding bonds. The effects and disparity of treatment are immediately felt. Shareholders get cash for all their stock at a significant premium above the previous prices in the market. At the same time, bondholders watch the market value of their bonds plummet. This must violate some indenture provision. The

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320See generally RESTATEMENT (SECOND) OF CONTRACTS § 208 (1992) (stating that courts may refuse to permit any unconscionable terms in a contract).
321See generally Ayres & Gertner, supra note 25 (using "what the parties would have wanted").
323The emotions generated by the leveraged buyout transaction are reflected in Christopher Farrell et al., Bondholders are Mad as Hell — And They're Not Going to Take It Anymore, Bus. Wk., Feb. 6, 1989, at 82.
leveraged buyout of RJR Nabisco (RJR)\textsuperscript{324} sets the stage for a judicial decision that is useful in evaluating whether existing contract doctrine can deter tendencies towards suboptimality in the bond indenture as observed in Part III.

In 1988, RJR Nabisco, Inc. (RJR) was acquired in a massive leveraged buyout under which it became liable for more than $19 billion in debt.\textsuperscript{325} Kohlberg Kravis Roberts & Co. arranged the transaction, which was approved over a competing bid and resulted in an offer to all shareholders at a substantial premium over the prevailing price of RJR equity securities.\textsuperscript{326} Metropolitan Life Insurance Company (Met Life) owned bonds of RJR before the leveraged buy out and experienced a sharp decline in their market value.\textsuperscript{327} Met Life sued RJR for breach of the indentures governing RJR even though no covenants limiting additional indebtedness were contained within.\textsuperscript{328} Met Life argued that the indentures were silent because "[s]uch covenants were believed unnecessary with blue chip companies . . . [and] the transaction contradicts the premise of the investment grade market" and "[t]his buy-out was not contemplated at the time the debt was issued . . . .\textsuperscript{329} Met Life implored the court to fill a textual gap in the indentures by reference to what they argued was clearly understood apart from the specific language.\textsuperscript{330}

\textsuperscript{324}For a lucid and entertaining history of the RJR transaction and a biography of the various lawyers, investment bankers, and company officials, see BRYAN BURROUGH & JOHN HELYAR, BARBARIANS AT THE GATE—THE FALL OF RJR NABISCO (1990).

\textsuperscript{325}Id. at 1505. The three steps to the transaction consisted (1) of securing and drawing down on loan commitments; (2) paying the tendering shareholders with the proceeds of the loans; and (3) merging the acquiring company with RJR into one surviving company, RJR, that was liable for the debt used to make the acquisition. \textit{Id.} at 1507 n.8. This is a standard for leveraged buy out. Obviously, such a transaction can be effectuated only when at least two conditions exist. First, the stock of the acquired company does not reflect the underlying asset value, thus creating an incentive to buy the company cheaply. Second, the acquired company must be relatively debt free and not restricted from incurring additional debt, thus creating an incentive for lenders to loan the money that is used to buy the stock. The effect of the transaction is almost always dramatic; stockholders are cashed out and the company becomes heavily debt-laden. As a consequence, pre-acquisition creditors find themselves subordinated to, or on a parity with, the usually massive debt incurred to finance the transaction. Because bond prices are partly influenced by the credit rating of the issuing company and since the incurring of debt always causes a company to be less creditworthy and have its bonds downgraded, pre-acquisition bondholders experience a sharp drop in the market price of their bonds.

\textsuperscript{326}Id. at 1506.

\textsuperscript{327}Id. at 1507.

\textsuperscript{328}Id.

\textsuperscript{329}Metropolitan Life Ins. Co., 716 F. Supp. at 1514.

\textsuperscript{330}Id. at 1516.
Judge Walker did not reject out of hand the theory asserted by the plaintiffs. According to the court, the absence of an express term does not preclude the grant of contract relief in all cases; it simply refocuses the inquiry into whether an implied covenant exists and has been violated. The court stated:

[t]hat inquiry surfaces where, while the express terms may not have been technically breached, one party has nonetheless effectively deprived the other of those express, explicitly bargained-for benefits. In such a case, a court will read an implied covenant of good faith and fair dealing into a contract to ensure that neither party deprives the other of the "fruits of the agreement."

The implied covenant of good faith and fair dealing exists to fill gaps in contracts because contracts can never fully address every conceivable set of contingencies. As such, it is a majoritarian default rule employed to fill gaps in otherwise express terms, and it is consistent with the economic objective of unburdening contracting parties from the incurrence of unnecessary ex ante transaction costs. Judge Walker’s decision denying relief to Met Life employs traditional contract doctrine, but employing an analysis consistent with the economic principles addressed in the academic literature of penalty default rules. The reasoning of the decision demonstrates the flexibility of traditional majoritarian default rules in addressing incompleteness in the indenture.

Arguably, it supports the proposition that the concept of penalty defaults is subsumed under the existing doctrine of the implied covenant of good faith and fair dealing. Thus, although Judge Walker does not employ the law and economics verbiage relating to the allocation of ex ante and ex post cost of contracting, the substantive basis of his reasoning is

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331 As with the judges in Sharon Steel, Judge Walker had significant financial experience before his appointment. He was a partner in the Wall Street firm of Carter, Ledyard & Milburn and was an Assistant Secretary of the Treasury.
332 Id. at 1516-17.
333 Id. at 1517.
335 See supra notes 333-35 and accompanying text.
336 Recall Professor Slawson’s assertion that the entire debate over default theory rests upon the academic invention of a new word "default" that adds nothing to the existing theory of contracts. Slawson, supra note 236, at 29.
entirely consistent with penalty default theory advocating judicial passivity. He states:

Plaintiffs’ submissions . . . remind the Court that a "fundamental basis" or a "fruit of an agreement" is often in the eye of the beholder, whose vision may well change along with the market, and who may, with hindsight, imagine a different bargain than the one he actually and initially accepted with open eyes.

. . . .

The sort of unbounded and one-sided elasticity urged by plaintiffs would interfere with and destabilize the market. And this Court, like the parties to these contracts, cannot ignore or disavow the marketplace in which the contract is performed. Nor can it ignore the expectations of that market — expectations, for instance, that the terms of an indenture will be upheld, and that a court will not, sua sponte, add new substantive terms to that indenture as it sees fit. The Court has no reason to believe that the market, in evaluating bonds such as those at issue here, did not discount for the possibility that any company, even one the size of RJR Nabisco, might engage in an LBO heavily financed by debt. That the bonds did not lose any of their value until the October 20, 1988 announcement of a possible RJR Nabisco LBO only suggests that the market had theretofore evaluated the risks of such a transaction as slight.337

The terminology "fruits of the agreement" bears remarkable resemblance to the language employed by the Sharon Steel court.338 One could argue that the concept of penalty defaults is alive and well under the nomenclature of implied covenant of good faith and fair dealing. Thus, the concept of penalty default rules is subsumed under existing doctrine to be applied under appropriate circumstances. It might follow that Sharon Steel was simply a case that was wrongly decided applying conventional majoritarian default doctrine. Are there conclusions that may be drawn about the effect of judicial decisions on the potential suboptimality of

338 Supra note 313 and accompanying text.
corporate contracts such as the indenture? Did Judge Walker's decision have the effect of causing innovation in ex ante contracting? Specifically, if the Metropolitan Life ruling influenced the introduction of event risk covenants into bond indentures, then perhaps a tentative case can be made for judicial passivity as a means of enhancing indenture efficiency.

The timing of the introduction of event risk covenants into the indentures covering publicly issued bonds is not helpful to the argument that the decision was influential. The protective provisions giving bondholders rights in leveraged buyouts were introduced as a result of the RJR transaction and were in place well before the final judicial resolution of the Met Life claims.\(^{339}\) In addition, the question must be asked why some form of bondholder protection did not emerge earlier in the decade when the potential for declines in bondholder value was clearly evident.

In summary, the proof of a causal connection between judicial decisions and transactional innovation may be as elusive as validating a clear-cut case of third degree path dependence generally or specifically in the adoption of bond terms. As stated earlier, although the case can be made that conditions exist promoting locked-in suboptimality in the adoption of bond provisions, the implications for any normative shift toward default rules are uncertain and indeterminate. The timing of the RJR decision and the adoption of event risk covenants suggests that the marketplace responded to the transaction rather than the subsequent decision authored by Judge Walker. This is not to undervalue the meticulous Klausner-Kahan study which suggests at least the existence of some learning and network effects in the development of event risk covenants.\(^{340}\) Indeed, it could be concluded that the application of concepts of implied covenant of good faith and fair dealing and the Sharon Steel

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\(^{339}\)This does not alter the tentative conclusion of Part III that the bond indenture exists as a form of contract with considerable potential for suboptimality. The timing of the introduction may indeed confirm it. Bonds were issued to the public for years before the RJR transaction without protective covenants, but in the face of numerous leveraged transactions. Moreover, Professors Klausner and Kahan's empirical study of over a hundred such covenants in investment-grade debt securities that were issued between 1988 and 1993 concludes that learning and network externalities were present. Their data shows:

[\textit{M}oderate support for the hypothesis that learning or network externalities, or both, are present in contract terms. The support lies in three sources: the bandwagon pattern by which these covenants were adopted; the extent to which they became standardized; and the extent to which quality improvements diffused over time. . . . Although the data suggest that learning as well as network externalities were present, we cannot rule out the possibility that learning alone was responsible for our results.}

Kahan & Klausner, \textit{supra} note 35, at 743.

\(^{340}\)See generally Kahan & Klausner, \textit{supra} note 35 (describing event risk covenants vis-à-vis learning and network effects).
"fruits of the agreement" analysis provide useful alternatives for courts faced with ambiguity and silence in bond indentures. Augmented by concepts of fraud and principles of general equity, existing doctrines address the existence of suboptimality — even third degree suboptimality — with sufficient precision. The existence of learning effects driven by traditional judicial doctrines and the forces of the marketplace reduce the potential for misallocation of private contracting and public judicial resources without resorting to innovations such as penalty defaults.

It is important to address one more case of alleged issuer opportunism. What happens when an insolvent corporation makes to its bondholders an "offer they can't refuse" as a means of saving itself from bankruptcy?

3. Katz v. Oak Industries Inc.\textsuperscript{341}

Moise Katz, a bondholder of Oak Industries (Oak), a corporation seeking to restructure itself, sued to enjoin a proposed transaction by Oak wherein it made the following offer to its bondholders.\textsuperscript{342} Oak would pay a premium above the market price for each of the bonds, which were trading considerably below the face principal amounts of $1000 because of the troubled financial condition of Oak, which was insolvent.\textsuperscript{343} In order to accept the Oak offer and receive payment, which was made on equal terms to each class of bondholders, the bondholder had (1) to tender the bond and (2) to execute a valid "exit consent" waiving virtually all of the negotiated financial covenants in favor of the bondholders.\textsuperscript{344}

Furthermore, the offers to each class were conditioned upon the receipt by Oak of sufficient quantities of the principal amount of the bonds so that the consents would effectuate an amendment to each indenture stripping it of the financial covenants.\textsuperscript{345} The transaction was designed to reduce the overall debt of Oak and meet a condition put forward by a potential equity investor that would have infused capital, thus saving Oak from bankruptcy.\textsuperscript{346} The negative net worth and financial ill health of Oak made it imperative that only through the consummation of the debt

\textsuperscript{341}508 A.2d 873 (Del. Ch. 1986).
\textsuperscript{342}Id. at 875.
\textsuperscript{343}Id. at 875-77.
\textsuperscript{344}Id. at 877.
\textsuperscript{345}Katz, 508 A.2d at 877.
\textsuperscript{346}Id. at 876.
restructuring could the company avoid a formal bankruptcy reorganization.\textsuperscript{347} Katz argued that the offer was unfairly and illegally coercive to the bondholders because they were denied a meaningful choice between tendering and retaining their bonds.\textsuperscript{348} Specifically, each bondholder faced the possibility that, if she did not accept the offer and tender her bonds, she would be left with bonds stripped of all financial protection if Oak received the requisite amounts of principal of each class of bonds necessary to amend the indentures.\textsuperscript{349} According to Katz, the bondholders not wanting to continue to hold the bonds without the negotiated financial protections would be forced to tender in spite of their desire to hold the full principal amounts of their bonds to maturity, thus taking whatever risks were entailed in Oak's financial survival and retaining their legal obligation to payment in full.\textsuperscript{350} Thus, Katz argued that Oak was illegally coercing bondholders to tender their bonds in violation of the respective bond indentures.\textsuperscript{351}

 Chancellor (now Professor) William Allen, rejecting the application for a preliminary injunction, analyzed the legality of coercion within the doctrinal confines of implied good faith and fair dealing emanating from all contracts.\textsuperscript{352} This seeming similarity to the Met Life approach was preceded by the problematic assertion that:

\textit{This case does not involve the measurement of corporate or directorial conduct against that high standard of fidelity required of fiduciaries when they act with respect to the interest of the beneficiaries of their trust} . . . Arrangements among a corporation, the underwriters of its debt, trustees under its indentures and sometimes ultimate investors are typically thoroughly negotiated and massively documented. The rights and obligations of the various parties are or should be spelled out in that documentation. \textit{The terms of the contractual relationship agreed to and not broad concepts such as fairness define the corporation's obligation to its bondholders.} \textsuperscript{353}

\textsuperscript{347}Id. at 875-76.  
\textsuperscript{348}Id. at 878.  
\textsuperscript{349}Katz, 508 A.2d at 878.  
\textsuperscript{350}Id.  
\textsuperscript{351}Id.  
\textsuperscript{352}Id. at 878-79.  
\textsuperscript{353}Id. at 879 (footnoted omitted)(emphasis added).
This black letter recitation of the difference between duties to equity participants in a corporation, on the one hand, and creditor claimants, on the other, disregards a crucial fact underlying the exchange offer: Oak was insolvent. In the most basic sense, the bondholders, as claimants prior to equity, had ownership interests to whatever remained of the asset base of Oak before the allegedly coercive exchange offers. Accordingly, a transaction that has as its effect the creation of positive net worth stands on fundamentally different footing from the transactions complained of in Sharon Steel and Met Life. Judge Allen recognized this distinction five years later in Credit Lyonnais Bank Nederland, N.V. v. Pathe Communications Corp.\textsuperscript{354} He suggested that an elevated duty runs from the board of directors of a corporation to creditors when the entity is near or on the brink of insolvency.\textsuperscript{355} In any event, the failure of the court to discuss the importance of insolvency to its application of the principle of implied good faith does not necessarily constitute a basis for concluding that the result reached was incorrect. Recall that the case was decided in the context of the request for an injunction; a balancing of general equitable considerations played a significant role in the result.\textsuperscript{356}

Regardless of the correctness of the result of Katz, the decision has normative implications somewhat different from those suggesting that traditional doctrines were properly employed in Met Life and Sharon Steel. The existence of potential suboptimality in the bond indenture does not implicate any of the incentives that arguably would influence drafters of the indenture to contract more completely ex ante. The potential for insolvency exists as an event governing an entirely separate body of law, including fraudulent conveyance, bankruptcy, and theories asserting the superiority of creditors' rights to those of equity holders. Nevertheless, Chancellor Allen, after equating the legal limits of permissible coercion with an inquiry into the obligations arising from the doctrine of implied covenant of good faith, deduced the following test:

\textsuperscript{355}Id. at *108.
\textsuperscript{356}The opinion concludes as follows:
An independent ground for the decision to deny . . . [exists when granting the injunction] threatens the party sought to be enjoined with irreparable injury that, in the circumstances, seems greater than the injury that plaintiff seeks to avoid . . . . It is not unreasonable to accord weight to the claims of Oak that the reorganization and recapitalization of which the exchange offer is a part may present the last good chance to regain vitality for this enterprise. . . . I am satisfied simply to note my conclusion that . . . [plaintiffs injury] is far outweighed by the harm that an improvidently granted injunction would threaten to Oak.

\textit{Katz}, 508 A.2d at 882.
Because it is an implied contractual obligation that is asserted as the basis for the relief sought, the appropriate legal test is not difficult to deduce. It is this: *is it clear from what was expressly agreed upon that the parties who negotiated the express terms of the contract would have agreed to proscribe the act* later complained of as a breach of the implied covenant of good faith — *had they thought to negotiate with respect to that matter*. If the answer to this question is yes, then, in my opinion, a court is justified in concluding that such act constitutes a breach of the implied covenant of good faith.\(^{357}\)

The test framed by Chancellor Allen is by no means evident in the context of a troubled company restructuring. Nevertheless, the implications for potential indenture inefficiency may be at best uncertain. In the previously suggested normative inquiry built on the perception of an environment for potential lock-in of suboptimal indenture terms, a law and economics approach seeks to discourage the potential for cost shifting from private transactional resources to public judicial ones. Thus, two questions arise in the context of exit-consent offers to bondholders: would Katz have been better decided under a penalty default analysis? Or, does the Katz variant of the majoritarian approach of what the parties would have wanted better satisfy policy objectives such as fairness and good faith? This article suggests a negative answer to both questions.

First, negotiation over indenture covenants emphasizes protections for bondholders' rights to payment of principal and interest. Covenants seek to preserve the issuer's creditworthiness and solvency. Typically, negotiations between the issuer and the underwriters supplement boilerplate provisions with tailored (even if they are off the Commentaries "rack") provisions designed to balance the need of the issuer for financial operational freedom with reasonable bondholder protection. The state of insolvency and the context in which it may arise raises problems of predictability and indeterminacy. One simply cannot know with any clarity what the agency issues and costs will be between the equity and creditor claimants when the net worth of the corporation disappears. This suggests that penalty defaults and even majoritarian inquiries such as those employed by Chancellor Allen may fall short of protecting bondholders of an insolvent entity.

\(^{357}\textit{Id. at 880 (emphasis added).}\)
Second, as suggested, underwriters and issuers, and their lawyers, properly rely on the learning effects of specialized legal doctrines such as fraudulent conveyance and, ultimately, on those contained in the bankruptcy code, such as equitable subordination, to govern conduct in the context of insolvency. Moreover, there is a trend exhibited in the Credit Lyonnais\textsuperscript{358} dictum to unite traditional doctrines of fiduciary duty and neoclassical contract interpretation into one another at the margins of or in insolvency. And in the legal, as opposed to equitable, analysis denying preliminary relief to the Oak bondholders, Chancellor Allen noted as follows: "Such an implication [of a violation of good faith by Oak], at least where, as here, the inducement is offered on the same terms to each holder of an affected security, would be wholly inconsistent with the strictly commercial nature of the relationship."\textsuperscript{359}

Returning to the question deemed important from the Ayres/Gertner scholarship:\textsuperscript{360} why did the gap in the contract occur? The special circumstances of insolvency and the typical goals of negotiators of bond covenants of a solvent, going concern suggest a low likelihood that ex ante contracting costs consciously or unconsciously will be shifted inefficiently to the ex post judicial process. This is simply an observation about the conduct of the participants charged with framing the indenture. Moreover, the indeterminability and unforeseeability of insolvency do not invite strategic information withholding.

Accordingly, the majoritarian variant of what the express terms of the indenture may reasonably suggest that the negotiators would have agreed upon serves as a valid analytical inquiry. Of course, it is questionable how much guidance can be drawn from indenture terms designed to regulate the behavior of solvent companies. Therefore, the analytical task of a court should simply constitute the fashioning of a fair result under the heightened duty to creditors recognized in the context of insolvency. Finally, it must be concluded that potential suboptimality in the bond indenture should have little influence in the adjudication of bondholder claims that issuers have violated indenture provisions when those issuers are insolvent.

There may be an alternative and more subtle explanation (and justification) for the Katz decision that emanates from the unique attribute of the Delaware court system as the principal enunciator of standards of corporate governance. Professor Edward B. Rock has recently written the

\footnotesize{\textsuperscript{358}Credit Lyonnais Bank Nederland, 1991 Del. Ch. LEXIS 215, at *108.}
\footnotesize{\textsuperscript{359}Katz, 508 A.2d at 881 (emphasis added).}
\footnotesize{\textsuperscript{360}Ayres & Gertner, supra note 25, at 87.}
"story of how a small community [of Delaware judges, lawyers, and corporate officers] imposes formal and informal, legal and nonlegal, sanctions on its members." Accordingly, Delaware decisions may be seen as creating narratives with an unspecific moral force guiding the behavior of directors in the fulfillment of fiduciary duties. He states:

My claim here — which is a descriptive claim — is that the Delaware courts generate in the first instance the legal standards of conduct (which influence the development of the social norms of directors, officers, and lawyers) largely through what can best be thought of as "corporate law sermons." These richly detailed and judgmental factual recitations, combined with explicitly judgmental conclusions, sometimes impose legal sanctions but surprisingly often do not.

Taken as a whole, the Delaware opinions can be understood as providing a set of parables — instructive tales — of good managers and bad managers, of good lawyers and bad lawyers, that, in combination, fill out the normative job description of these critical players. My intuition is that we come much closer to understanding the role of courts in corporate law if we think of judges more as preachers than as policemen.

Seen as a parable in the context of the bondholder complaint in Katz, Chancellor Allen's invocation of a majoritarian default analysis in denying the preliminary injunction may simply be a method of encouraging voluntary workouts where there is little palpable harm to bondholders facing the alternative to bankruptcy. This, of course, adds little to the normative inquiry concerning suboptimality in the indenture. But it may explain the apparent insensitivity of the court to the insolvent state of Oak Industries as merely a statement of the court to the Delaware legal community: offers to bondholders on equal terms are permitted absent a showing of some specific harm when the continued viability of the entire enterprise is at stake.

362Id. at 1016 (emphasis added). The article specifically focuses on the relationship between directors and shareholder as the former seeks to fulfill its fiduciary duty to the latter. The observations, however, seem applicable to the issuer/bondholder conflict at issue in Katz.
V. Conclusion

The purpose of this article has been to trace the development of legal and economic literature invoking path dependence from the familiar example of the arguably inefficient QWERTY typewriter keyboard to the altogether less familiar context of the adoption of corporate contractual terms. If path dependence exists other than as an isolated anomaly, it powerfully describes how economic actors become locked into suboptimal behavior where there exist efficient alternatives. Proponents of conventional economic theory assert that true path dependence can exist under only the most constrained and unlikely assumptions. The debate is far from over, but there are important points of inquiry for legal scholars, particularly those rendering the corporation as an aggregate of efficient contracts.

One of the first points of departure carried forward here, tests whether true path dependence may be isolated in the corporate contractual setting. The author concludes, perhaps somewhat in the vein of the adherents to traditional neoclassical economic theory, that the contracting process differs substantially from product development in several important ways that deter suboptimal adoption of contract terms. Partisan multilateral negotiation increases the probability that parties will frame and seek acceptance of those terms advancing their self-interest. Except where transaction costs must be kept extraordinarily low, parties will rarely resort to inefficient provisions to govern important financial relationships. The learning of lawyers and law firms, and the intense competition among them for state-of-the-art solutions to clients' legal and business objectives, operate to reduce the chance that contracts will reflect suboptimality through herd behavior.

The skeptical view of the transportability of path dependence from product development to a valid general description of corporate contracting, however, does not completely rule out its existence. There are specialized contracts that may not exhibit the typical negotiating framework. The corporate bond indenture is one of these and perhaps not the only one. The unique process of adoption of terms, the existence of the voluminous off-the-rack provisions of the Commentaries, the momentum of standardization of the densely detailed indenture and, finally, the attitude of courts responding to claims of contractual incompleteness — all are contributing conditions to an environment where the absence of partisan negotiation may result in the adoption of suboptimal terms. Professors Klausner and Kahan's ground breaking work has established a tentatively strong case for network and learning externalities leading to suboptimality
in the narrow context of event risk covenants. Their empirical work is impressive, but so much turns on the subjective and intuitional definition of efficiency in any contractual setting.

With the assumption that some form of susceptibility to inefficiency exists in the creation of the bond indenture, this article has sought to carry on one of the initiatives suggested by the Klausner-Kahan work—an analysis of the implications of network and learning externalities to doctrines of judicial interpretation. To accomplish this, the author employed the work of contract scholars who advocate a broader consideration of default rules and standards beyond the traditional majoritarian inquiry of what the parties would have wanted. Specifically, the author has sought to test the concept of penalty defaults as a remedy for potential indenture suboptimality with specific judicial decisions. In each of the cases, Sharon Steel, RJR Nabisco, and Katz, the author has inquired as to whether a default analysis can deter the shifting of contract costs from the ex ante framing of corporate bond indentures to the expenditure of ex post judicial resources in adjudicating bondholder claims of issuer opportunism. Can the doctrines employed by courts play a part in the framing of more efficient bond provisions? The author concludes that existing doctrines retain considerable latitude and power to deter inefficiency in bond indentures. The continuing tension between debt and equity participants in the corporation is unlikely to be lessened by major deviations from existing doctrine. Issues of bond indenture interpretation will continue to be joined and it is doubtful that a rational regime of penalty rules and standards can do much to minimize the public and private costs of adjudication. Accordingly, the potential for suboptimality in the bond indenture does not suggest substantial changes in the manner in which courts resolve these disputes.