CONTRACTS AS BILATERAL COMMITMENTS: A NEW PERSPECTIVE ON CONTRACT MODIFICATION

*CHRISTINE JOLLS**

Abstract

Contracts have traditionally been regarded as means of individual commitment. This article offers a broader vision, viewing contracts as potential means of bilateral commitment as well. Drawing on a burgeoning literature in economics, this article explains that commitment to stick with an original contract, even if *both parties* later want to modify that contract, may improve contractors' welfare. It provides examples from contracts cases of situations in which such bilateral commitment may be beneficial, and it suggests ways in which contract law might better facilitate such commitment. The primary suggestion for facilitating bilateral commitment is that parties—at least sophisticated ones—be permitted to enter into nonmodifiable contracts, which they cannot do under existing law. Permitting parties to write non-modifiable contracts would enhance contractors' welfare in the settings examined in this article and would not interfere with other normative goals of contract law.

CONTRACTS have traditionally been regarded as means by which individuals may commit themselves to specified courses of conduct.[1] However, a contract is not a means by which the parties *collectively* may achieve such commitment. Contract law permits parties to modify contractual terms by mutual agreement. Contracts are individual commitments, but nothing more; both parties' commitments are only as strong as their contracting partners' desire to hold them to their original promises.

* Harvard Law School. Special thanks go to my former teachers, Lucian Bebchuk and David Charny, who gave generously of their time and insights in the initial stages of this project. I am also grateful to Aaron Edlin, Rainer Gawlick, Marcel Kahan, Louis Kaplow, David Laibson, Steve Levitt, an anonymous referee, and workshop participants at the University of California, Berkeley, Columbia, Harvard, Michigan, New York, Stanford Universities, the University of Chicago, the University of Pennsylvania, and Yale University for helpful comments. Finally, I thank the Harvard Law School Program in Law and Economics for financial support.

[1] Charles Fried, Contract as Promise 13 (1981).

[*Journal of Legal Studies,* vol. XXVI (January 1997)]
© 1997 by The University of Chicago. All rights reserved. 0047-2530/97/2601-0006$01.50

This article offers a broader vision of contracts, viewing them as potential bilateral commitments as well as individual commitments. It explains that commitment to stick with an original contract, even if both parties later want to modify that contract, may improve contractors' welfare. It provides examples from contracts cases of situations in which such bilateral commitment may be beneficial. Based on the analysis, it identifies ways in which contract law might better facilitate bilateral commitment among contractors. The article emphasizes the normative goal of maximizing contractors' welfare, since that is the goal posited by the economics literature on which the article draws, but the article also briefly addresses other normative dimensions of the bilateral commitment problem.[2]

The prerogative of contractors to modify their original contract by mutual agreement is an article of faith for contract law. As between two competing expressions of consent—the original contract and the modification—the latter is chosen. ''Those who make a contract, may unmake it.''[3] Courts and commentators have viewed only potentially coerced modifications as appropriate subjects of legal censure and have never questioned the basic premise that voluntary modifications should always be given effect.[4]

As explained below, however, the ability to enter into modifications that are mutually beneficial to parties at the time of modification—''ex post profitable modifications''—may actually reduce the parties' ex ante welfare in the presence of such common economic phenomena as moral hazard and adverse selection. In these and other situations, the ability to modify may reduce the parties' welfare because *anticipation* of the modification opportunity by rational parties may interfere with these parties' ability to create desirable incentives. Anticipation of the modification opportunity means that incentives will no longer be determined by the original contract, and

[2] The economics literature on contract modification (or ''renegotiation'') and the attendant commitment problems includes Jean-Jacques Laffont & Jean Tirole, A Theory of Incentives in Regulation and Procurement (1993); Mathias Dewatripont, Renegotiation and Information Revelation over Time: The Case of Optimal Labor Contracts, 104 Q. J. Econ. 589 (1989); Mathias Dewatripont, Commitment through Renegotiation-Proof Contracts with Third Parties, 55 Rev. Econ. Stud. 377 (1988); Drew Fudenberg & Jean Tirole, Moral Hazard and Renegotiation in Agency Contracts, 58 Econometrica 1279 (1990); Oliver Hart & John Moore, Incomplete Contracts and Renegotiation, 56 Econometrica 755 (1988); Oliver Hart & Jean Tirole, Contract Renegotiation and Coasian Dynamics, 55 Rev. Econ. Stud. 509 (1988); and Jean-Jacques Laffont & Jean Tirole, Adverse Selection and Renegotiation in Procurement, 57 Rev. Econ. Stud. 597 (1990).

[3] Beatty v. Guggenheim Exploration Co., 122 N.E. 378, 387–88 (N.Y. 1919) (opinion of Cardozo, J.).

[4] See, for example, Daniel A. Graham & Ellen E. Peirce, Contract Modification: An Economic Analysis of the Hold-up Game, 52 Law & Contemp. Probs. 9, 9 (1989).

this may make it more difficult to structure incentives properly. As explained below, the ex post profitable modification problem may help to make sense of observed patterns of contracting in several economic contexts.

Contrary to traditional wisdom, the parties to a contract may be better off if the law enables them to tie their hands, or ties their hands for them, in a way that prevents them from taking advantage of certain ex post profitable modification opportunities.[5] The implication, from the normative perspective of maximizing contractors' welfare, is that a contract should be viewed as a potential bilateral commitment as well as an individual commitment. However, the existing legal rules governing contract modification had their genesis in the traditional concern about coercion and make no attempt to address the concern about ex post profitable modification. This article reexamines the legal treatment of contract modification in light of that new concern and suggests ways in which contract law might respond. The real-world importance of the legal governance of contract modification is suggested by the frequency with which modification occurs in practice.[6]

One way in which contract law might respond to the concern about ex post profitable modification is by enforcing contractual terms designed to limit parties' ability to modify their agreement once their relationship is under way. As explained below, such terms are not enforceable under current law. However, enforcement of them would allow contractors whose welfare would be enhanced by tying their hands to do so. Enforcement would thus be desirable on efficiency grounds (subject to a caveat noted below concerning signaling effects). More subtly, though, there is a very real question about whether such terms would actually enable contractors to achieve bilateral commitment to an original contract. For if modification is ex post profitable, will contractors ever bring such terms to a court's attention? Somewhat paradoxically, the answer is often ''yes,'' at least in the settings analyzed in this article.

Enforcement of contractual terms constraining modification, as just out-

[5] The hands tying on which this article focuses differs from the sort of hands tying discussed in Henry Hansmann & Reinier Kraakman, Hands-Tying Contracts: Book Publishing, Venture Capital Financing, and Secured Debt, 8 J. L. Econ. & Org. 628 (1992). That article explains that contracts which commit a party to invest, even if information that later comes to light reveals that investment is unprofitable for the party, may improve contractors' welfare. Such contracts ''tie the hands'' of the investing party. In contrast, the present article is concerned with contracts that tie the hands of both parties, in the sense of constraining their ability to modify their contract.

[6] Robert A. Hillman, Contract Modification under the Restatement (Second) of Contracts, 67 Cornell L. Rev. 680, 681 & n.10 (1982).

lined, involves allowing parties to design their own modification rules. Other ways in which contract law might respond to the concern about ex post profitable modification involve the rules specified by the law itself. As explained below, one potential response in this category is the requirement of section 89(a) of the *Restatement (Second) of Contracts* that a modification be in response to an unanticipated change in circumstances. Another potential response is judicial caution in enforcing modifications on the basis of reliance in situations in which bilateral commitment may enhance contractors' welfare.

Section I of the article describes how and why the law has traditionally policed contract modification. Section II makes the basic case for a reconsideration of the modification problem. It identifies contracting relationships in which opportunities for ex post profitable modification may reduce contractors' welfare and discusses contracts cases and other empirical evidence that illustrate the point. Section III identifies and assesses various ways in which contract law might respond to the concerns identified in Section II. Section IV examines alternatives to legal rules as means of achieving bilateral commitment and suggests that these alternatives may leave important gaps in parties' ability to commit. Finally, Section V moves from efficiency to other normative dimensions of the ex post profitable modification problem and suggests that facilitating bilateral commitment among contractors would be consistent with nonefficiency as well as efficiency goals of contract law.

I. How and Why the Law Polices Contract Modification

This section provides a brief overview of the existing legal approach to contract modification. Subsection *A* focuses on the case in which the contractors make no attempt to design their own modification rules, so that the rules specified by contract law apply. Subsection *B* examines whether modification rules designed by the contractors themselves are enforced by courts.

A. Rules Specified by Contract Law

Under the *Restatement (Second) of Contracts,* a modification of an existing contract lacks consideration if one party promises merely to perform a duty that is already owed to the other party.[7] Agreements lacking consideration are generally unenforceable, so the basic rule under the *Restatement* is that a modification under which one party promises nothing new is unen-

[7] Restatement (Second) of Contracts § 73 (1979).

forceable. The *Restatement* specifies a number of exceptions to this general rule, the most important of which is that a modification unsupported by consideration is nevertheless enforceable if it is ''fair and equitable in view of circumstances not anticipated by the parties when the contract was made.''[8] A modification, whether or not supported by consideration, is *not* enforceable if it was induced by an ''improper threat,'' including a threat to breach an existing contract in violation of the duty of good faith and fair dealing, if the threat leaves the victim with ''no reasonable alternative.''[9]

Modification of contracts for the sale of goods is governed by section 2-209 of the Uniform Commercial Code (U.C.C.), which dispenses completely with the requirement of consideration.[10] Parties may enforce any modification that satisfies the duty of good faith imposed by the Code.[11] The good faith test is satisfied by a showing that the modification was motivated by (for example) ''a market shift which makes performance come to involve a loss.''[12]

The standard rationale for the existing legal restrictions on modification is that the modification process may be coercive.[13] The concern is that a party may extract an agreement to modify by threatening to breach the existing contract if the agreement to modify is not forthcoming. Once a contracting relationship is under way, a party may be quite vulnerable to threats of breach; the party may have limited outside options and may be less than fully compensated by the legal remedies for breach. The other party may be able to extract a favorable modification by exploiting this vulnerability, since acceding to the modification may well be preferable, from the perspective of the vulnerable party, to suffering the consequences of a breach. Judge Posner has explained the point thus:

> [T]here is often an interval in the life of a contract during which one party is at the mercy of the other. A may have ordered a machine from B that A wants to place in operation on a given date [and] may have made commitments to his customers that it would be costly to renege on. As the date of scheduled delivery approaches, B may be tempted to demand that A agree to renegotiate the contract price, know-

[8] *Id.* § 89(a).

[9] *Id.* §§ 175(1), 176(1)(d).

[10] U.C.C. § 2-209(1) (1987).

[11] *Id.* § 2-209 cmt. 2.

[12] *Id.*

[13] Alaska Packers Ass'n v. Domenico, 117 F. 99, 102 (9th Cir. 1902); Restatement (Second) of Contracts § 73 cmt. a (1979); U.C.C. § 2-209 cmt. 2 (1987).

ing that A will incur heavy expenses if B fails to deliver on time. A can always refuse to renegotiate, relying instead on his right to sue B for breach of contract if B fails to make delivery by the agreed date. But legal remedies are always costly and uncertain.[14]

Coerced modification offends the normative prescription of maximizing contractors' welfare. The party who will be vulnerable to ''holdups'' by the other party down the road may refuse to enter into an otherwise profitable contracting relationship. Alternatively, this party may go ahead with the transaction but protect herself against the prospect of threats of breach by inefficiently underinvesting in assets that are specific to the relationship.[15] Either way, contractors' welfare falls. The law's attempt to foreclose coerced modification may thus be understood as a species of a more general condemnation of welfare-reducing modification opportunities. From this perspective, the spirit of this article's exploration of legal means of bilateral commitment is akin to the spirit of the existing rules governing modification: in both instances, the aim is to foreclose modification opportunities that reduce contractors' welfare.

B. Rules Designed by Contractors

Can the parties supplement the law's background limits on modification with limits of their own? Perhaps surprisingly, the answer to this question is generally ''no.'' ''The parties to a contract cannot by agreement preclude themselves from varying their duties to each other by subsequent agreement.''[16] The common law also forbids parties to impose formal requirements for modification, such as a requirement that the modification be in writing.[17] Under the U.C.C., a writing may be required for modification, but this exception to the common-law doctrine is importantly qualified by a Code provision under which an attempt at forbidden oral modification oper-

[14] United States v. Stump Home Specialties, Inc., 905 F.2d 1117, 1121–22 (7th Cir. 1990).

[15] Paul A. Grout, Investment and Wages in the Absence of Binding Contracts: A Nash Bargaining Approach, 52 Econometrica 449 (1984).

[16] Restatement (Second) of Contracts § 311 cmt. a (1979); see also Zumwinkel v. Leggett, 345 S.W.2d 89, 93–94 (Mo. 1961); Beatty v. Guggenheim Exploration Co., 122 N.E. 378, 387 (N.Y. 1919); Davis v. Payne & Day, Inc., 348 P.2d 337, 339 (Utah 1960); Arthur L. Corbin, Corbin on Contracts § 531 (1960). The U.C.C. does not explicitly address the enforceability of terms constraining modification, so the common-law rule of unenforceability governs. See U.C.C. § 1-103 (1987).

[17] Westchester Fire Ins. Co. v. Earle, 33 Mich. 143, 153 (1876); *Zumwinkel,* 345 S.W.2d at 93–94; *Beatty,* 122 N.E. at 387–88; *Davis,* 348 P.2d at 339.

ates as a *waiver* of contractual terms despite the original contract's requirement that a modification be in writing.[18]

The rationale for denying enforcement to provisions constraining modification is that contractors lack the power to limit their right to recontract as they see fit. Justice Cardozo's opinion in *Beatty v. Guggenheim Exploration Co.* provides a classic example: ''Those who make a contract, may unmake it. The clause which forbids a change, may be changed like any other. . . . 'Every such agreement is ended by the new one which contradicts it.' . . . What is excluded by one act, is restored by another. You may put it out by the door; it is back through the window. Whenever two men contract, no limitation self-imposed can destroy their power to contract again.''[19] Justice Cardozo's freedom of contract logic makes *chronology* critical in the following sense. Where parties agree to be bound by their original contract notwithstanding any subsequent agreement to the contrary and then later agree not to be bound by that original contract, there are two competing agreements: the agreement to be bound by the original contract no matter what, and the subsequent agreement to the contrary. Both agreements are valid expressions of the parties' consensual acceptance of specified arrangements. One must be chosen. Saying that the latter prevails over the former, as Justice Cardozo does, allows chronology to control the choice; as between two expressions of consent, the one ''last in time'' trumps. As explained in the next section, this application of the last-in-time rule may reduce contractors' welfare and, thus, may contravene the normative principle that, I argued above, plausibly underlies the background rules governing contract modification.

II. The Efficiency Case for Enabling Bilateral Commitment

This section explains why the opportunity to enter into a modification that is mutually profitable at the time of modification may reduce the ex ante welfare of the parties to a contract. Subsection *A* focuses on situations of moral hazard, in which the actions of one individual—the agent—affect another individual—the principal—who in turn is unable to monitor the actions of the agent. Moral hazard may play a role in many economically im-

[18] U.C.C. § 2-209(2) & (4) (1987); see also Kropp v. Ziebarth, 601 F.2d 1348, 1356 (8th Cir. 1979); Nassua Trust Co. v. Montrose Concrete Products Corp., 436 N.E.2d 1265, 1271 (N.Y. 1982). But compare Wisconsin Knife Works v. Nat'l Metal Crafters, 781 F.2d 1280, 1286–87 (7th Cir. 1986) (suggesting that the applicability of § 2-209(4) to waivers by conduct when the contract requires written modification should be limited to situations in which the party asserting the waiver can show reliance on it).

[19] *Beatty,* 122 N.E. at 387–88 (citations omitted).

portant settings, including the relationship between the shareholders and the managers of a publicly traded corporation, the relationship between an insurance company and an insured, the relationship between a landowner and a sharecropper, and the relationship between a supplier and a purchaser of a good.[20] As described below, both theory and practice suggest that the ex post profitable modification problem may often arise in moral hazard situations of these sorts.

Subsection *B* examines a second type of setting in which opportunities for ex post profitable modification may reduce contractors' welfare. It focuses on contractual relationships in which parties have preferences that ''differ at the time of action from what they were earlier, when the prospect was contemplated but the decision was still in the future.''[21] A classic example of such time inconsistency of preference is the conflict anticipated by Ulysses in Homer's *Odyssey* between what he would want to do upon hearing the song of the Sirens (stay and listen to the beautiful sounds) and what he wants to do before the temptation presents itself (return home to Penelope as quickly as possible).[22] Ulysses rightly anticipates that ''if free to reconsider his plan at later dates, [he may well] disobey it.''[23] Such time inconsistency of preference implies that behavior which is desirable ex post may be undesirable ex ante—a recognition implicit in Ulysses' decision to have himself tied to the mast of his ship to avoid being tempted by the Sirens' song.[24] In a like manner, I suggest below, opportunities for ex post profitable modification may reduce contractors' ex ante welfare in settings in which one party has preferences that vary over the course of the contracting relationship.

The contracting relationships analyzed in this section do not exhaust the list of settings in which opportunities for ex post profitable modification may reduce contractors' welfare. The ex post modification problem arises not only with moral hazard and time-varying preferences but also in a variety of other situations. Examples include situations in which an agent in a principal-agent relationship has private information about the desirability of alternative courses of action (creating problems of adverse selection), and

[20] Kenneth J. Arrow, The Economics of Agency, in Principals and Agents: The Structure of Business 37 (John W. Pratt & Richard J. Zeckhauser eds. 1985); Steven Shavell, Risk Sharing and Incentives and the Principal and Agent Relationship, 10 Bell. J. Econ. 55 (1979); Joseph E. Stiglitz, Incentives and Risk Sharing in Sharecropping, 41 Rev. Econ. Stud. 219 (1974).

[21] Thomas C. Schelling, Choice and Consequence 84–85 (1984).

[22] The Odyssey of Homer 214 (Robert Fitzgerald trans., Anchor Books 1963).

[23] Robert H. Strotz, Myopia and Inconsistency in Dynamic Utility Maximization, 23 Rev. Econ. Stud. 165, 165 (1955).

[24] The Odyssey of Homer, *supra* note 22, at 214.

situations in which commitment to stick with an original contract is desirable on strategic grounds.[25] At the same time, there are a great many situations in which opportunities for ex post profitable modification *enhance* contractors' welfare; such opportunities may allow them to respond optimally to changed circumstances or provide them with other benefits.[26] My point in this section is just the modest one that ex post profitable modification opportunities may reduce contractors' welfare in certain settings of economic significance.

A. *Moral Hazard*

This subsection describes how opportunities for ex post profitable modification may reduce contractors' welfare in relationships characterized by moral hazard. It focuses on a particular category of such relationships, which I term ''owner-worker'' relationships. In these relationships, the principal is a property owner who is better able to bear risk than the agent, and the agent is a worker who is hired by the owner and whose actions affect the owner's profit from her property. Examples of owner-worker relationships include the relationship between the shareholders and the managers of a publicly traded corporation and the relationship between a landowner and a sharecropper. Moral hazard arises in the former relationship because the shareholders of a publicly traded corporation (and, as well, the corporation's board of directors) cannot tell whether the actions taken by managers at the corporation are those that maximize the corporation's value; it arises in the latter relationship because a landowner cannot tell exactly how much effort a sharecropper has put into planting and cultivating the crops grown on the land.[27] The principal-agent paradigm does not by any means capture all (or even many) of the interesting and important features of these relationships, but I believe it is a useful abstraction for studying the moral hazard element involved in them.[28]

[25] Dewatripont, Renegotiation and Information Revelation over Time, *supra* note 2, at 589, 591; Dewatripont, Commitment through Renegotiation-Proof Contracts with Third Parties, *supra* note 2, at 377–78.

[26] Aaron Edlin & Stefan Reichelstein, Holdups, Standard Breach Remedies, and Optimal Investment, 86 Am. Econ. Rev. 478 (1996); Aaron Edlin & Stefan Reichelstein, Specific Investment under Negotiated Transfer Pricing: An Efficiency Result, 70 Acct. Rev. 275 (1995); Benjamin E. Hermalin & Michael L. Katz, Moral Hazard and Verifiability: The Effects of Renegotiation in Agency, 59 Econometrica 1735 (1991).

[27] Michael C. Jensen & Kevin J. Murphy, Performance Pay and Top-Management Incentives, 98 J. Pol. Econ. 225, 225–26 (1990); Stiglitz, *supra* note 20, at 220, 242–43.

[28] For discussions of the limitations of the principal-agent paradigm in analyzing shareholder-manager relationships, see Victor Brudney, Corporate Governance, Agency Costs, and the Rhetoric of Contract, 85 Colum. L. Rev. 1403 (1985); and Robert C. Clark, Agency Costs versus Fiduciary Duties, in Pratt & Zeckhauser eds., *supra* note 20, at 55, 62–71. With regard to landowner-sharecropper relationships, their development in the United States after the

I begin the discussion of owner-worker relationships by describing welfare-maximizing contracts for such relationships in the situation in which modification of the contract is not possible. I call such contracts ''welfare-maximizing commitment contracts.'' I then explain that modification of welfare-maximizing commitment contracts is mutually profitable for the owner and the worker ex post, and I describe the reduction in contractors' welfare from opportunities for ex post profitable modification. Finally, I discuss observed patterns of owner-worker contracting that fit the pattern suggested by the foregoing analysis.

1. *Welfare-Maximizing Commitment Contracts.* Contracts enable parties to address problems of moral hazard. In owner-worker relationships, while the owner cannot observe the actions chosen by the worker, tying the worker's compensation to the owner's profit gives the worker an incentive to choose actions that increase this profit. Creating incentives in this way has a cost as well as a benefit, however, as it shifts the risk associated with factors beyond the worker's control—such as industry-wide difficulties in the shareholder-manager relationship, and bad weather in the landowner-sharecropper relationship—from the owner, who is the better risk bearer, to the worker, who is the worse risk bearer.[29] Welfare-maximizing commitment contracts are ones that trade off incentive benefits and risk-sharing costs of tying the worker's compensation to the owner's profit.[30] Observed contracts in owner-worker relationships confirm the prediction that the worker's compensation will be tied to the owner's profit: stock options and bonuses tied to the corporation's performance are common components of managerial compensation in shareholder-manager relationships, and, likewise, the typical sharecropping contract compensates the sharecropper with part of the crop he produces.[31]

Civil War, when freed slaves lacked money to rent land and landowners lacked money to pay wages (and, presumably, also lacked access to capital markets), suggests that sharecropping has advantages independent of the incentive considerations emphasized by the principal-agent paradigm. See generally Allan Nevins & Henry S. Commager, A Pocket History of the United States 244 (5th ed. 1969).

[29] Lucian A. Bebchuk, Federalism and the Corporation: The Desirable Limits on State Competition in Corporate Law, 105 Harv. L. Rev. 1435, 1464 n.102 (1992); C. Hanumantha Rao, Uncertainty, Entrepreneurship and Share Cropping in India, 79 J. Pol. Econ. 578, 580–81 (1971).

[30] Shavell, Risk Sharing and Incentives and the Principal and Agent Relationship, *supra* note 20, at 59.

[31] On stock options and bonuses in managerial compensation packages, see Jensen & Murphy, *supra* note 27; and Subcommittee on Executive Compensation, ABA Section on Corporation, Banking, and Business Law, Executive Compensation: A 1987 Road Map for the Corporate Advisor, 43 Bus. Law. 185 (1987). On sharecropping contracts, see Young v. Thomas, 785 P.2d 489 (Wyo. 1990); Knox v. Hanson, 408 P.2d 76 (Or. 1965); Feldman v. Fox, 164 S.W. 766 (Ark. 1914); and Rao, *supra* note 29.

2. *Ex Post Profitability of Modification.* The opportunity for ex post profitable modification in owner-worker relationships arises because the cost-benefit trade-off between incentives and risk sharing changes as the relationship progresses. Once most or all of the worker's action choices have been made, there is little reason to be concerned about creating desirable incentives for the worker; his decisions are "water under the bridge." Thus, tying the worker's compensation to the owner's profit no longer carries the benefit that it did when the original contract was entered into. It follows that both the owner and the worker can gain by agreeing to a modification of the welfare-maximizing commitment contract that is less incentive-oriented and less risky for the worker than the original contract.[32] For example, in the shareholder-manager relationship, once the manager has taken most of the actions intended to be influenced by tying managerial compensation to the corporation's performance, there are mutual gains to be had from agreeing to a modification under which the manager's compensation is less sensitive to the corporation's performance than under the original contract. Likewise, in the landowner-sharecropper relationship, once most of the sharecropper's planting and cultivating activity has taken place, the parties can mutually profit by agreeing to a modified contract that provides the sharecropper with a higher fixed payment and a smaller share of the crop than under the original contract.

For modification to occur, there must be a lag between the time at which most or all of the worker's action choices have been made and the time at which the owner's profit becomes known. Once the owner's profit is known, the worker's compensation under the original contract is known, and, thus, modification would necessarily benefit either the owner or the worker at the other's expense. In the shareholder-manager relationship, the time lag may occur, say, 10 months into the year, when the manager has made most of the important decisions but the corporation's annual earnings remain uncertain.[33] Likewise, in the landowner-sharecropper relationship, there may well be a time lag between the time at which most of the sharecropper's planting and cultivating activity has taken place and the time at which the profit from the crop is realized.[34]

[32] Fudenberg & Tirole, *supra* note 2, at 1280.

[33] *Id.* at 1279.

[34] *Id.* at 1308. There is an important subtlety in the ex post modification analysis that the text does not bring out. The statement in the text is that the owner and the worker both can gain by agreeing to modify a welfare-maximizing commitment contract once the worker's action choices have been made. Assuming no transaction costs (including no informational asymmetries), the fact that both can gain from modifying is sufficient to ensure that modification will, in fact, occur. See Ronald H. Coase, The Problem of Social Cost, 3 J. Law & Econ. 1 (1960). In the case of the owner and the worker, the owner does not observe the worker's action choices directly. However, she knows the choices that the worker will make

3. *Welfare Consequences.* In assessing the effect of ex post profitable modification opportunities on contractors' welfare, it is useful to distinguish between two types of situations: those in which the parties do not take opportunities for ex post profitable modification into account when they design their original contract, and those in which they do take such opportunities into account in designing their original contract. If the parties do not take opportunities for ex post profitable modification into account, then they will choose as their original contract the welfare-maximizing commitment contract. Once the relationship is under way, however, both the owner and the worker can gain by modifying the original contract. Knowing this, a rational worker will have little incentive to choose actions that increase the owner's profit; the worker will know that under the mutually profitable modification, compensation will depend little or not at all on the owner's profit. The anticipation of the modification effectively *undoes* the original contract's alignment of the owner's and the worker's interests. The modification opportunity does not benefit the worker at the owner's expense; a rational owner will understand that the worker's incentives are determined by the anticipated modification and, thus, will offer the worker a payment at the modification stage that reflects these lower incentives. The effect of the modification opportunity is to reduce the aggregate surplus generated by the owner-worker relationship.

A second possible scenario is that the original contract between the owner and the worker takes into account any ex post profitable modification opportunities and their effect on the worker's incentives. I refer to welfare-maximizing contracts in this category as "welfare-maximizing no-commitment contracts." Economists distinguish between two types of such contracts: first, the contract may be one under which ex post modification, involving a reduction in the sensitivity of the worker's compensation to the owner's profit, is mutually profitable in the case of some workers but not others; and second, the contract may be one under which workers are given the option of several different compensation packages, at least some of which are less sensitive to the owner's profit than welfare-maximizing commitment contracts, and under which ex post modification is never mutually profitable.[35] Whether modification is mutually profitable in the case of a particular worker under the first type of welfare-maximizing no-commitment contract depends on characteristics of the worker that are unobservable to the owner and, thus, cannot be taken into account in crafting the

under a welfare-maximizing commitment contract because she knows what sorts of incentives such a contract will create for the worker. The implication is that a mutually profitable modification will, in fact, be agreed on by the parties. See Fudenberg & Tirole, *supra* note 2, at 1280.

[35] Fudenberg & Tirole, *supra* note 2, at 1290–91, 1293–94.

original contract. Likewise, workers choose different compensation options under the second type of welfare-maximizing no-commitment contract due to unobservable (to the owner) differences in workers' characteristics.[36] In either case, the parties' welfare is lower than under the welfare-maximizing commitment contract when modification is not possible. In effect, opportunities for modification introduce an additional constraint on the parties' ability to create desirable incentives.[37]

4. *Observed Contracting Patterns.* The foregoing analysis of owner-worker relationships has focused on the analytical reason that opportunities for ex post profitable modification may reduce contractors' welfare. I now describe observed patterns of owner-worker contracting that fit the pattern suggested by the analysis above.

First, in shareholder-manager relationships, a number of observed compensation practices seem consistent with the analytical predictions. For example, stock option repricing that involves reducing the number of options and lowering the exercise price is observed in practice.[38] Such repricing is the sort of ex post modification that the theory predicts; the manager's compensation becomes less incentive-oriented and less risky than under the original contract. (The manager faces a smaller upside gain because she has fewer options, but the probability of at least some profit from her options is higher because the exercise price is lower.) The repricing may reflect a situation in which the board of directors and the manager failed to take the opportunity for ex post profitable modification into account when they de-

[36] See generally John C. Harsanyi, Games with Randomly Disturbed Payoffs: A New Rationale for Mixed Strategy Equilibrium Points, 2 Int'l J. Game Theory 1 (1973).

[37] Fudenberg & Tirole, *supra* note 2, at 1288–89, 1293, 1297. The welfare-reduction result can be seen fairly easily in the simple model on which Fudenberg and Tirole focus. In this model, the worker chooses between a "high" level of effort and a "low" level of effort. The owner and the worker are assumed to agree to a contract that maximizes the owner's expected utility subject to a reservation utility for the worker. The high level of effort is chosen by the worker under the welfare-maximizing commitment contract when there is no opportunity for modification. With opportunities for modification, however, it is not possible to ensure that the worker has an incentive to choose the high level of effort. Meanwhile, moving from the no-modification case to the modification case does not change the compensation scheme that best achieves each given incentive level. Thus, the owner pays the worker in accordance with the same compensation scheme as the scheme in accordance with which the owner would have paid the worker to create the same incentive level in the no-modification case. But the owner preferred to create a different incentive level in the no-modification case; the worker always chooses the high level of effort under the welfare-maximizing commitment contract when there is no opportunity for modification. Thus, the owner is worse off once opportunities for modification are present. Meanwhile, with standard specifications of the worker's utility, the worker is equally well off in the two situations.

[38] See, for example, Rod Wolf, Valley Firms' Abuse of Choice: Repricing Options If Stock Falls, San Jose Mercury News, June 29, 1992, at D1 (describing repricings in which the number of options was reduced by one-fifth to one-half and in which the exercise price was lowered).

signed the original contract but took advantage of this opportunity when it presented itself. Alternatively, the board of directors and the manager may have taken the opportunity for ex post profitable modification into account from the beginning and designed an original contract under which ex post modification turned out to be profitable. Either way, stock option repricing involving fewer options and a lower exercise price exemplifies the sort of ex post profitable modification with which this article is concerned.

The analysis above makes predictions not only about the occurrence of modification in owner-worker relationships but also about the effects of anticipated modification on the worker's effort level. Thus, the analysis predicts that managers whose options were repriced in the manner described above would have exerted less effort than they would have had they thought their option packages would retain their original structure. Unfortunately, it is difficult to get practical corroboration of this prediction; managers' actions are unobservable by assumption. The corporation's performance provides a proxy for managers' actions, however, because the former is correlated (though only imperfectly) with the latter. In fact, repricing involving fewer options and a lower exercise price appears to coincide with poor corporate performance, as measured by stock price.[39] An alternative explanation for this coincidence might be that a reduction in stock price *causes* repricing, with the goal of keeping the carrot within managers' reach, but this explanation seems to fit better with repricing involving a lower exercise price but no reduction in the number of options than with repricing involving a lower exercise price *and* fewer options.

Other observed features of executive compensation are also consistent with the analytical predictions set forth above. As noted earlier, the theory predicts that parties may enter into welfare-maximizing no-commitment contracts under which modification is never ex post profitable. Such contracts will give the manager the option of several different compensation packages, at least some of which are less performance-sensitive than welfare-maximizing commitment contracts. The analysis generates the following two predictions: first, managers should be observed to have some discretion with regard to the performance sensitivity of their compensation, and second, for some managers, the compensation we observe should be less performance sensitive than it would be under a welfare-maximizing commitment contract.

Available empirical evidence provides support for both of these predictions. First, many managerial compensation contracts allow the manager significant flexibility with regard to the performance sensitivity of his com-

[39] Wolf, *supra* note 38, at D1.

pensation. For example, such contracts often permit transformation of part or all of earned bonus payments into stock options (or sometimes into phantom shares) at the request of the manager.[40] Moreover, stock options and stock appreciation rights, which provide the manager with significant discretion to exercise the options and rights sooner or later as the manager prefers, are much more popular than restricted or phantom stock plans.[41]

The second prediction, that the compensation we observe should often be less performance sensitive than managerial compensation under welfare-maximizing commitment contracts, is not easy to confirm empirically; while we know that welfare-maximizing commitment contracts strike the optimal trade-off between incentives and risk sharing, the theory does not generate a prediction about the magnitude of the performance sensitivity of compensation.[42] However, the leading empirical study of executive compensation supports the conclusion that such compensation is less sensitive to performance than it would be under a welfare-maximizing commitment contract.[43]

Also consistent with the analytical predictions described above are observed patterns of contracting in landowner-sharecropper relationships, as revealed by several reported cases involving sharecropping contracts. For example, in *Knox v. Hanson,* the original contract provided that the sharecropper was to operate the landowner's ranch, paying all operating expenses, and, in return, receive 60 percent of the proceeds from the operations.[44] Later, contemplating sale of the produce of the ranch, the parties modified their contract. Under the modified contract, the sharecropper was to be responsible for only half of the operating expenses that he had incurred in running the ranch, and he was to receive half, rather than 60 percent, of the proceeds from the sale of the ranch's produce when these proceeds were realized.[45] Thus, the modification reduced the sharecropper's stake in the proceeds, a risky proposition, and provided the sharecropper with a flat amount (reimbursement of half of the operating expenses, a sure

[40] Fudenberg & Tirole, *supra* note 2, at 1307.

[41] *Id.* at 1307–8.

[42] Jensen & Murphy, *supra* note 27, at 243.

[43] *Id.* at 227, 243–44. But compare John A. Haubrich, Risk Aversion, Performance Pay, and the Principal-Agent Problem, 102 J. Pol. Econ. 258 (1994) (arguing that the observed performance sensitivity of managerial pay *is* consistent with the underlying theoretical model).

[44] Knox v. Hanson, 408 P.2d 76, 77 (Or. 1965).

[45] *Id.* The modified contract provided that the sale proceeds were to be applied against the accumulated operating expenses, with any remainder being divided equally between the landowner and the sharecropper. *Id.* The effect of this arrangement was to replace the sharecropper's right to 60 percent of the proceeds minus all of the operating costs with a right to 50 percent of the proceeds minus 50 percent of the operating costs.

thing) in exchange. As well, the modification, in contemplation of sale of the ranch's produce, occurred after most of the sharecropper's actions had been chosen, but before realization of the proceeds from the operations. Finally, the proceeds from the operations—a proxy for the sharecropper's effort level—were disappointing, as predicted by the above analysis.[46]

The facts of two other sharecropping cases, *Young v. Thomas*[47] and *Feldman v. Fox,*[48] provide additional illustrations of the above analysis. In *Young,* the original contract provided that the sharecropper was to make an up-front payment of $75,000 to the landowner in exchange for the right to the full amount of the proceeds from the crop.[49] This original contract creates the greatest possible incentive for the sharecropper by making his compensation completely dependent on the proceeds from the crop. The contract also exposes the sharecropper to a great deal of risk. Later in the growing season, the contract was modified by a new agreement providing that the sharecropper was to receive half of the proceeds from the crop and did not have to pay the rent of $75,000.[50] The form of the modification is identical to that in *Knox:* the sharecropper's stake in the proceeds was reduced (from 100 percent to 50 percent), and the sharecropper received a flat payment (reimbursement of the $75,000) in return. As well, the modification, agreed to shortly before the harvest of the crop, occurred after most of the sharecropper's actions had been chosen, but before realization of the proceeds from the crop. Finally, and again paralleling *Knox,* the proceeds of the crop (a proxy for the sharecropper's effort level) were apparently on the low side; the proceeds were $55,951.74, approximately $20,000 less than the $75,000 rent specified in the original contract.[51]

The facts of *Feldman v. Fox* fit the same pattern as those in *Knox* and *Young.* The original contract in the case provided that, in return for planting, cultivating, and gathering the crop, the sharecropper would receive the proceeds from the sale of one-half of the crop and would be paid 50 cents per hundred pounds for the other half of the crop.[52] After the crop had been planted and had matured, the sharecropper and the landowner modified the original contract. According to the sharecropper, the modification required the landowner to pay the sharecropper $300 in lieu of the sharecropper's

[46] *Id.*

[47] Young v. Thomas, 785 P.2d 489 (Wyo. 1990).

[48] Feldman v. Fox, 164 S.W. 766 (Ark. 1914).

[49] 785 P.2d at 489.

[50] *Id.*

[51] *Id.* at 490.

[52] 164 S.W. at 766.

right to one-half of the sale proceeds.[53] The sharecropper's version of the modification takes the same form as the modifications in *Knox* and *Young:* the sharecropper's stake in the proceeds was reduced (here, to nothing) in exchange for a fixed payment (of $300) to the sharecropper. The timing fits as well; the modification occurred after the planting and cultivating of the crop was complete but before the proceeds from the crop were realized.[54] Finally, although the case report does not provide any information about the magnitude of the proceeds from the crop (which, again, constitute a proxy for the sharecropper's effort), the fact that the sharecropper sought to recover the $300, whereas the landowner argued that all that he owed was one-half of the proceeds, suggests strongly that the proceeds fell short of earlier expectations.

B. Time-Varying Preferences

Like moral hazard, time-varying preferences—such as those exhibited by Ulysses in *The Odyssey*—give rise to ex post profitable modification opportunities that may reduce contractors' welfare. Most obviously, such preferences produce situations in which modification opportunities reduce the parties' welfare at the time at which their original contract is entered into. Suppose, for example, that a credit card patron would like to limit himself to a $500 balance but will be tempted at times to exceed that level of spending. (Evidence that many credit card patrons accumulate very large balances, and that they often respond by deciding to get rid of credit cards altogether[55]—a strategy akin to Ulysses' tying himself to the mast—suggests the practical significance of the example.) The patron's ability to modify the credit card agreement with his bank to provide for a higher credit

[53] *Id.* Apparently, the sharecropper and the landowner disagreed about what the modification involved. The court's opinion states that the sharecropper's testimony was that the landowner '' 'guarantee[d]' [the sharecropper] $300 for his interest,'' and at trial, the modification was described to the jury as a sale for $300 of the sharecropper's interest in the crop. *Id.* A later case, discussing *Feldman,* also described the modification in this way. See Foster v. Enarc Lumber Mfg. Co., 349 S.W.2d 341, 344 (Ark. 1961). However, the court in *Feldman* rejected the contention that the modification involved a sale of the sharecropper's interest. The modification was deemed to be an indemnity contract, under which the landowner was obliged to pay the sharecropper the difference between the crop proceeds to which the original contract entitled the sharecropper and $300 if these proceeds were less than $300. Interpreted in this way, the modification was held to be unenforceable because of lack of consideration. See 164 S.W. at 767.

[54] *Feldman,* 164 S.W. at 766.

[55] Unwanted Credit Cards, Consumer Rep., September 1991, at 585; The Card that Wouldn't Die, Consumer Rep., October 1988, at 668; The Hidden Power of Plastic, Consumer Rep., February 1987, at 119, 121.

limit (say, $2,000) if he later desires to exceed $500 in spending reduces his welfare at the time of the original contract, since at that point he prefers to be forced to stick with the $500 limit. If the bank providing the credit card earns a competitive return in both cases, then the fall in the credit card patron's welfare implies a fall in the contractors' welfare on the whole as well.

A natural question to ask in response to such an example, however, is why the preferences of the "first incarnation" of the individual should be used as the benchmark in assessing contractors' welfare. If the preferences of the second incarnation were used instead, then the opportunity for ex post profitable modification would enhance rather than reduce contractors' welfare. There may be good reasons to focus on the first incarnation of the individual when the preferences of that incarnation reflect a considered judgment about the matter in question; one may consider all of the arguments pro and con and then reach a decision—a considered judgment—about the matter, but it may not be possible always to keep the proof of the rightness of the decision before one's mind. As Jon Elster has put it, "[One] knows what [one] ought to do, but only in the sense in which a sleeping geometer can be said to 'know' a geometrical theorem. One cannot constantly *keep* before one's mind all that one knows."[56] The credit card patron who is tempted to splurge may be like the sleeping geometer, unable to reconstruct the basis for imposing the $500 limit.

Such judgments about the relative merits of different preferences may often be far from obvious, however. Perhaps because of this indeterminacy, economic analysis of time-varying preferences has focused on a case in which no choice among different incarnations of the individual is necessary. In this case, which is the focus of the discussion below, opportunities for ex post profitable modification reduce contractors' welfare regardless of which preferences are selected as the normative benchmark.

The case on which economic analysis of time-varying preferences has focused involves contracting between a consumer who wishes to engage in saving and a bank or other financial institution.[57] The consumer's time-varying preferences generate a scenario in which the amount that the consumer *plans* to save during a particular period of time diverges from the amount that the consumer *wants* to save during this period once it arrives. Psycho-

[56] Jon Elster, Ulysses and the Sirens: Studies in Rationality and Irrationality 52 (1979).

[57] David Laibson, Self-Control and Saving (unpublished manuscript, Harvard University, December 1, 1992); R. A. Pollack, Consistent Planning, 35 Rev. Econ. Stud. 201 (1968); Strotz, *supra* note 23. The emphasis in the economics literature is on the consumer's choice behavior; the contracting relationship with a financial institution is implicit rather than explicit.

logical evidence indicates that preferences often are time-varying in a rather specific sense: at each point in time, a special priority is placed on consumption at present, and consumption at future points is discounted substantially.[58] An example of such a scenario, which I use below to illustrate the analysis, is a setting in which a consumer accords a weight of one to present consumption while discounting all future periods' consumption by a factor of .5. The computations below also assume that the consumer lives for three periods, begins with $1,000, and has logarithmic utility (meaning that the utility of consumption is equal to the natural log of the amount consumed); that the price of one unit of consumption is $1; and that the interest rate is zero. Throughout the analysis I also assume that contracts between the consumer and the bank are governed by the same legal rules as contracting generally.

1. *Welfare-Maximizing Commitment Contracts.* At each point in time, the consumer wants to spend now and save later. Thus, welfare-maximizing commitment contracts might look something like the following: the consumer's paychecks are directly deposited into the bank; the consumer is permitted to withdraw a relatively large sum right away (satisfying her present desire for present spending); and the consumer is permitted much smaller withdrawals in future time periods (satisfying her present desire for future saving).[59] In the example described above, the contract that the consumer finds most attractive at period one is a contract under which she receives $500 in the first period and $250 in each of the two subsequent periods; the consumer thus consumes heavily in period 1 and consumes less in periods 2 and 3.[60]

2. *Ex Post Profitability of Modification.* The consumer and the bank can both gain by modifying a welfare-maximizing commitment contract once their relationship is underway. Modification is profitable because of changing preferences; at later periods, the consumer can be made better off if she can consume more and save less than what a welfare-maximizing commitment contract calls for. Thus, she will be willing to pay off the bank for agreeing to a modification. In the numerical example, while the welfare-maximizing commitment contract calls for payments of $250 in periods 2

[58] P. DeVilliers & Richard J. Hernstein, Toward a Law of Response Strength, 83 Psychology Bull. 1131 (1976).

[59] E. S. Phelps & R. A. Pollack, On Second-Best National Saving and Game-Equilibrium Growth, 35 Rev. Econ. Stud. 185, 188–89 (1968).

[60] The consumer's utility at period 1 is equal to $\ln c_1 + .5\ln c_2 + .5\ln(1{,}000 - c_1 - c_2)$, where c_1 denotes first-period consumption, c_2 denotes second-period consumption, and third-period consumption is $1{,}000 - c_1 - c_2$. (The consumer's $1,000 buys her 1,000 total units of consumption.) Period 1 utility is maximized when $c_1 = 500$ and $c_2 = 250$, and these figures in turn imply that third-period consumption is equal to 250.

and 3, once period 2 has arrived the arrangement that is most desirable to the consumer (given payment of $500 in the first period) is one under which she receives $333 in the second period and $167 in the third period.[61] Because this arrangement is more attractive to the period 2 consumer than the arrangement specified by the original contract, modification creates a surplus to be divided between the consumer and the bank.

3. *Welfare Consequences.* If the consumer and the bank do not take the opportunity for ex post profitable modification into account in designing their original contract, then they will choose as their original contract the welfare-maximizing commitment contract. Since both parties can gain by modifying such a contract once their relationship is under way, however, saving and consumption in subsequent periods will diverge from the arrangement that maximized the welfare of the parties at the time at which the original contract is entered into. The usual assumption in the economics literature on time-varying preferences, however, is that parties anticipate the opportunity for ex post profitable modification and, as a result, select a contract that takes this opportunity into account (a welfare-maximizing no-commitment contract).[62]

If modification is to be unprofitable (or at least not profitable) ex post, then the contract must specify a savings and consumption plan that the parties will actually follow. To illustrate, in the numerical example, the consumer and the bank know that in the third period the consumer will consume whatever remains. They also know that in the second period the consumer will choose the period 2 consumption level that is most desirable to her given the period 1 consumption level and given that she will consume whatever is left in the third period. So any plan that the parties will actually follow must call for second- and third-period consumption levels that satisfy these conditions.

A welfare-maximizing no-commitment contract is a contract that selects from the plans that the parties will actually follow a plan that maximizes their joint welfare at the time at which the contract is entered into. This is the best the parties can do when modification is possible. However, the contractors' welfare is lower *at each point in time* under the welfare-maximizing no-commitment contract than under the welfare-maximizing commitment contract, at least in contexts in which there is a positive interest rate and an infinite horizon, and in which the welfare-maximizing no-com-

[61] Given first-period consumption of 500, the consumer's utility at period 2 is equal to $\ln c_2 + .5\ln(500 - c_2)$. This period 2 utility is maximized when $c_2 = 333$, which in turn implies that third-period consumption is equal to 167.

[62] Pollack, *supra* note 57, at 203; Strotz, *supra* note 23, at 173–76.

mitment contract is ''focal'' in the sense that it specifies equal consumption rates across periods.[63] In this scenario, therefore, the opportunity for ex post profitable modification reduces contractors' welfare regardless of which preferences are taken as the normative benchmark. The intuition for the result is that the savings rate is higher under the welfare-maximizing commitment contract than under the ''focal'' welfare-maximizing no-commitment contract in all but the first period. Succeeding incarnations of the consumer are willing to save more when they can be sure that other succeeding incarnations will do so as well. The situation under the focal welfare-maximizing no-commitment contract is like the ''defect, defect'' outcome in the Prisoner's Dilemma game; the various incarnations of the consumer would prefer to ''cooperate'' by choosing higher savings rates, but such behavior is not individually rational for any given incarnation.[64]

4. *Observed Contracting Patterns.* As discussed at the beginning of this subsection, there is substantial evidence in the psychology literature that individuals' preferences place a priority on the present. This evidence provides some suggestion of the practical significance of the ex post profitable modification problem on which this subsection has focused. Further evidence of the phenomenon is provided by individuals' use of commitment strategies akin to Ulysses' tying himself to the mast to force themselves to save. For instance, the strategy of taking on a large mortgage to purchase a house or condominium may be motivated in part by the forced-saving component of such a decision. Once assumed, the obligation to make mortgage payments can be avoided only by selling the property (or defaulting

[63] Phelps & Pollack, *supra* note 59, at 196 & n.1. The assumption that the welfare-maximizing no-commitment contract is focal in the sense identified in the text may be understood by viewing the different temporal selves that compose the consumer with time-varying preferences as players in a noncooperative game. See Laibson, *supra* note 57, at 1, 3. The condition that the consumer and the bank actually follow a plan is the equilibrium condition that each of the consumer's temporal selves chooses an optimal consumption level for the period in which it is ''in control,'' given the consumption levels chosen by previous temporal selves and given that future temporal selves will choose in accordance with the same optimizing criterion. Not surprisingly, with an infinite horizon, the game between the temporal selves has multiple equilibria. *Id.* at 7–9, 13. As a result of the multiplicity of equilibria, there is no single ''best plan among those [the consumer and the bank] will actually follow.'' Strotz, *supra* note 23, at 165. Which plan is best of the plans that the parties will actually follow depends on what the consumer's future selves do, and multiple possibilities satisfy the requirements of the equilibrium condition. Thus, the welfare-maximizing no-commitment contract is indeterminate. Of the possibilities, however, one can reasonably be thought to be focal: the welfare-maximizing no-commitment contract under which the consumer consumes at a constant rate each period. See Laibson, *supra* note 57, at 18. The primary reason for thinking that this contract is focal is that it is very simple; the consumer's consumption at each period is a constant fraction of the amount available for consumption at that period.

[64] Phelps & Pollack, *supra* note 59, at 195–96, 197.

and watching the bank foreclose). Thus, a mortgage is a substitute for bilateral commitment; while changing position is not impossible, it is quite costly—hopefully, costly enough that it is deterred.

III. Legal Means of Bilateral Commitment

The previous section explained that contractors may sometimes be made worse off by their ability to modify an original contract once their relationship is under way. From the normative perspective of maximizing contractors' welfare, contract law should thus be concerned with enabling bilateral commitment among contractors. The present section identifies ways in which the rules governing contract modification might serve that function.[65]

A. Enforcement of Terms Constraining Modification

One way in which contract law might respond to the concern about ex post profitable modification is by enforcing contractual terms constraining modification. Enforcement of such terms would enhance contractors' welfare by enabling bilateral commitment. First, if the terms can be tailored in such a way that parties are committed not to take advantage of welfare-reducing opportunities for ex post profitable modification, yet remain free to modify in other circumstances, then such terms can do nothing but improve matters for the parties. Meanwhile, even if contractual terms constraining modification also foreclose potentially beneficial sorts of modification, enforcement of such terms, at least in the case of sophisticated contractors, would enhance contractors' welfare in the settings analyzed in this article. In situations in which flexibility is important, the benefit of commitment not to take advantage of ex post profitable modification opportunities may well be outweighed by the cost, but in that case the parties will prefer to leave terms constraining modification out of their original contract. If sophisticated parties *do* decide that the benefit of a term constraining modification outweighs its cost, then allowing them to tie their hands should make them better off.

This conclusion must be qualified in settings in which contractors have asymmetric information at the time the original contract is signed, since in that case the actions of the better informed party might be distorted by sig-

[65] Schelling, *supra* note 21, at 98–103, takes a much dimmer view of the prospect of using contracts to deal with problems arising from time-varying preferences. However, Schelling focuses on settings that are noncontractual (for example, time-varying preferences with regard to smoking). In contrast, the settings examined here involve contracting between parties.

naling concerns.[66] However, in the settings analyzed in this article (and in the economics literature on which the article draws), the parties are symmetrically informed at the time at which the original contract is entered into. Signaling issues therefore do not arise. Of course, if signaling issues were shown to be important across a range of contractual settings not considered in this article, then the need to restrict freedom of contract on signaling grounds would be correspondingly greater.

Enforcement of contractual terms constraining modification would be consistent with the standard efficiency argument for ''nonmandatory'' contract terms (at least where signaling concerns are absent or relatively unimportant).[67] Enforcement is also arguably a logical corollary to the U.C.C.'s partial repudiation (in sec. 2-209(2)) of the common-law notion that parties lack the power to limit their future power to agree differently. Section 2-209(2)'s provision for enforcement of contractual terms requiring written modification is a clear instance of allowing parties to impose contractual limits on their future power to agree differently; the power they would otherwise have had to modify their agreement orally may be taken away by their original agreement.

Because the modifications at issue are mutually profitable, however, there remains a very real question about whether a legally enforceable contractual term constraining modification would ever be utilized by the parties to disallow a modification. As one recent commentator noted, ''[B]y definition [the] modifications are in the interests of both parties. It is therefore difficult to see why either party would ever challenge such a modification.''[68] It turns out, however, that parties will in fact want to enforce terms constraining modification in the settings analyzed in this article. Consider a term providing that the parties are bound to perform the original contract notwithstanding any subsequent agreement to the contrary, and that any subsequent agreement (modification) is unenforceable. (The analysis would be qualitatively unchanged if the term made an exception for a certain category of subsequent agreements—for example, agreements made in response to specified types of changed circumstances.) Such a term would

[66] Philippe Aghion & Benjamin Hermalin, Legal Restrictions on Private Contracts Can Enhance Efficiency, 6 J. L. Econ. & Org. 381 (1990); Benjamin E. Hermalin & Michael L. Katz, Judicial Modification of Contracts between Sophisticated Parties: A More Complete View of Incomplete Contracts and Their Breach, 9 J. L. Econ. & Org. 230 (1991).

[67] Ian Ayres & Robert Gertner, Filling Gaps in Incomplete Contracts: An Economic Theory of Default Rules, 99 Yale L. J. 87, 89 (1989); Anthony Kronman, Specific Performance, 45 U. Chi. L. Rev. 351, 370 (1978).

[68] Jason Scott Johnston, Default Rules/Mandatory Principles: A Game Theoretic Analysis of Good Faith and the Contract Modification Problem, 3 S. Cal. Interdisciplinary L. J. 335, 348 (1993).

seem to give each party the right to demand performance of the original contract and avoid performance of any modification that has not already been fully performed on both sides.[69] The term would then commit the parties to stick with the original contract as long as the following are true: first, some party will always wish to enforce the right just described, and second, enforcement of the right makes performing any modification that will not be undone (because it will have been fully performed by the time enforcement occurs) unattractive to one of the parties.

These conditions for achieving bilateral commitment are satisfied in both the moral hazard context and the time-varying preferences context examined above. To illustrate the point for the moral hazard context, consider the example of *Feldman v. Fox,* in which the original contract gave the sharecropper the right to half of the proceeds of the crop, while the modification (under the sharecropper's interpretation) gave the sharecropper the right to a flat payment of $300. Suppose first that the modification had not already been fully performed on both sides. Then the contractual term described above gives each party the right to demand performance of the original contract and to avoid performance of the modification. If half of the proceeds of the crop turned out to amount to more than $300, then the sharecropper would want to enforce this right. Meanwhile, if half of the proceeds of the crop turned out to amount to less than $300, then the landowner would want to enforce the right. The latter is what occurred in *Feldman.*

Suppose second that the modification (as interpreted by the sharecropper) had already been fully performed on both sides. Then coming forward to demand performance of the original contract would result in enforcement

[69] This statement assumes (i) that once a modification has been fully performed on both sides (without either party being under duress), the modification is not open to challenge; and (ii) that the fact that a modification no longer can be undone does not extinguish the right to demand performance of the original contract. With regard to the first assumption, the general rule in contract law is that a modification which is unenforceable because of lack of consideration cannot be challenged once it has been fully performed on both sides. See Angel v. Murray, 322 A.2d 630, 634 (R.I. 1974) (citing cases). However, where one party has performed her side of the modification under duress, the modification may be challenged even after it has been fully performed on both sides. See Austin Instrument, Inc. v. Loral Corp., 272 N.E.2d 533, 537 (N.Y. 1971); E. Allen Farnsworth, Farnsworth on Contracts § 4.19 (1990). A modification that is unenforceable because of a term in the original contract would seem to fit into the former category rather than the latter.

With regard to the second assumption, a contrary view—that the impossibility of undoing a modification extinguishes the right to demand performance of the original contract—would contravene the parties' express wish to bind themselves to performance of the original contract. The assumption as stated above is needed to give effect to the parties' clear intent. This assumption does require, however, that a modification be conceptualized, not as a replacement of the original contract, but rather as a distinct contract—one that is unenforceable but not subject to challenge once fully performed on both sides.

of the original contract without any undoing of the modification. Here, the sharecropper would always want to come forward; doing so would allow him to collect half of the proceeds from the crop, above and beyond the $300 already received. But given this, the landowner clearly will not agree to the modification under which the shareholder receives the $300 payment.

One might say in response that the owner and the worker, anticipating performance of both the modification and the original contract, would choose a modification that, together with the original contract, would achieve the same outcome as the modification to which the parties would have agreed *if* the modification were going to replace, rather than exist alongside, the original contract. However, a modification with this ''undoing'' effect would not be performed. The modification would have to be contingent on the owner's profit in order to achieve the undoing effect just described, but, once the owner's profit is realized, one of the parties would always prefer not to perform the modification.

To illustrate the infeasibility of an ''undoing'' modification, return to the facts of *Feldman.* Suppose that the landowner and the sharecropper, anticipating that both the modification and the original contract would be performed, agreed to a modification that achieves the undoing effect just described. The modification would require the landowner to pay the sharecropper $300 in exchange for the sharecropper's half of the crop proceeds, once these proceeds were realized. (This way, the combined effect of the original contract and the modification would be just the same as the effect of the modification (as interpreted by the sharecropper) in *Feldman;* the landowner gets all of the crop proceeds, and the sharecropper gets $300.) However, either the owner or the worker will always prefer not to perform the modification. If the crop proceeds exceed $300, then the sharecropper will prefer not to perform, while if the crop proceeds fall short of $300, then the landowner will prefer not to perform.

The conditions for the effectiveness of contractual terms constraining modification are also satisfied in the time-varying preferences example involving consumer-bank contracting. In the numerical version of the example, the original contract provided for payments by the bank to the consumer of $500 in the first period and $250 in each of the two subsequent periods. Meanwhile, the period 2 modification provided for payments of $333 in the second period and $167 in the third period. Suppose that the modification had already been fully performed on both sides. Then coming forward to demand performance of the original contract would result in enforcement of the original contract without any undoing of the modification. Here, the consumer would always want to come forward; doing so would allow her to collect $250 for the second period and another $250 for the third period, above and beyond the amounts already received under the

modification. But given this, the bank clearly will not agree to the modification. There is also no possibility of an ''undoing'' modification that would return the parties to the positions they would have occupied under the modification to which they would have agreed if the modification were going to replace, rather than coexist with, the original contract. For instance, in the numerical example, the ''undoing'' modification would call for the bank to pay the consumer $83 (the difference between $333 and $250) in the second period and for the consumer to pay the bank $83 (the difference between $250 and $167) in the third period, but it is clear that at period 3 the consumer would not wish to perform her side of this modification.

Finally, courts enforcing contractual terms constraining modification would not face any need, apart from standard background interpretive issues, to pick and choose which modifications should be deemed unenforceable.[70] Courts would simply be enforcing the parties' own agreement concerning the circumstances (if any) under which a modification should be given effect. As explained at the beginning of this subsection, permitting the parties to tie their own hands if they desire to do so would enhance their welfare in the settings analyzed in this article.[71]

B. Unanticipated-Change-in-Circumstances Requirement

Enforcement of contractual terms constraining modification, as just described, involves allowing parties to design their own modification rules. Other ways in which contract law might facilitate bilateral commitment among contractors involve the background rules governing modification. This subsection and the next discuss possibilities for bilateral commitment through these rules.

One means of facilitating bilateral commitment is the requirement of section 89(a) of the *Restatement (Second) of Contracts* that the modification result from ''circumstances not anticipated by the parties when the contract was made.''[72] The U.C.C. commentary accompanying the provision governing modification of sales contracts similarly states that enforcement of modifications ''may in some situations require an objectively demonstrable rea-

[70] This paragraph seeks to respond to another of Jason Johnston's objections (apart from the objection about whether parties would challenge ex post profitable modifications) to my argument for enforcement of contractual terms constraining modification. See Johnston, *supra* note 68, at 348 & n.25.

[71] In contrast, in the situation on which Johnston focuses in his article, the parties are asymmetrically informed at the time the original contract is entered into. *Id.* at 368–73. As noted above, in such situations it may not be possible to rely on the parties to reach agreement on efficient terms.

[72] Restatement (Second) of Contracts § 89(a) (1979).

son for seeking a modification.''[73] Under the unanticipated-change-in-circumstances requirement, modifications that are profitable not because of circumstances the parties did not anticipate when the original contract was entered into, but because of changes in the trade-off between incentives and risk sharing in principal-agent relationships, or changes in the preferences of individuals with time-varying preferences, are unenforceable. This is a desirable outcome from the normative perspective of maximizing contractors' welfare because, as described above, the latter sorts of modifications are welfare-reducing.

The unanticipated-change-in-circumstances requirement would not render unenforceable modifications that parties find profitable because of the materialization of remotely foreseen contingencies. The comment to section 89(a) of the *Restatement* provides that ''a frustrating event may be unanticipated for [the purpose of section 89(a)] if it was not adequately covered, even though it was foreseen as a remote possibility.''[74] Even so, the possibility that a perfectly innocuous modification would not pass muster with the unanticipated-change-in-circumstances requirement in place cannot be ruled out. However, several courts and commentators have spoken approvingly of the unanticipated-change-in-circumstances test (on the ground that it is a good means for distinguishing between modifications that are voluntarily entered into and those that are coerced),[75] providing at least some support for the view that the test is not unduly restrictive.

In terms of the mechanics of achieving bilateral commitment by means of the unanticipated-change-in-circumstances requirement, the question is again whether either party would step forward to challenge an unenforceable modification. If the unenforceability of a modification has the same effect as a contractual term constraining modification, then, by the reasoning given above, the contractors can be counted on to bring an unenforceable modification to a court's attention. However, it may be that in the absence of such a contractual term, a court would not allow the parties to enforce the original contract in a situation in which the modification had already been performed. In this case, unenforceability of the modification means only that each party has the right to demand performance of the original contract in lieu of the modification, and only so long as the modifica-

[73] U.C.C. § 2-209 cmt. 2 (1987); see also Johnston, *supra* note 68, at 375–83 (arguing that the U.C.C. test largely coincides with the *Restatement* formulation).

[74] Restatement (Second) of Contracts § 89 cmt. b (1979).

[75] Pittsburgh Testing Lab. v. Farnsworth & Chambers Co., 251 F.2d 77, 79 (10th Cir. 1958); Varouj A. Aivazian et al., The Law of Contract Modifications: The Uncertain Quest for a Benchmark of Enforceability, 22 Osgood Hall L. J. 173, 205 (1984); Johnston, *supra* note 68, at 375–83; Richard A. Posner, Gratuitous Promises in Economics and Law, 6 J. Legal Stud. 411, 423–24 (1977).

tion has not yet been fully performed. Then, as a review of the analysis above makes clear, bilateral commitment is potentially achieved in the moral hazard context but is not achieved in the time-varying preferences context. The reason is that only in the former context is there a point of time at which some party will always prefer that the original contract, rather than the modification, be performed.

C. Reliance-Based Enforcement

Reliance-based enforcement of a modification, which can occur under section 89(c) of the *Restatement (Second) of Contracts* and section 2-209(5) of the U.C.C., enables a party to *undo* contractual terms and legal rules constraining modification by relying on the terms of a modified agreement. The corollary of this ability to undo is the inability to achieve bilateral commitment. Thus, an additional possible response to the ex post profitable modification problem is judicial caution in enforcing modifications on the basis of reliance in situations in which bilateral commitment may enhance contractors' welfare. Limiting reliance-based enforcement of modifications (which would achieve bilateral commitment under the same conditions as would the unanticipated-change-in-circumstances requirement) carries a benefit alongside the costs that it may involve. From a practical standpoint, however, courts are unlikely to be able to determine with accuracy whether reliance-based enforcement would interfere with desirable bilateral commitment in a particular contracting relationship.

D. A Note on Side Contracting

The analysis in this section has focused on legal responses to the ex post profitable modification problem. A distinct issue is posed by ''side contracting'' between one of the parties to the original contract and an outsider. Imagine, for example, that the sharecropper in *Feldman v. Fox* agreed with a third party that the sharecropper would turn over his one-half of the crop proceeds in exchange for $300. The effect of this side contract on the sharecropper's incentives would be exactly the same as the effect on these incentives of the modification asserted by the sharecropper in the case. Likewise, in the consumer-bank example, the concern would be that the consumer might simply go to a different bank and borrow against next period's payment from the first bank. In practice, however, undesirable incentive effects of such side contracts are ordinarily addressed by contractual terms that are enforceable under current law. As an example, insurance contracts typically

seek to deter side contracts by providing that the original contract is void if the insured ever holds other insurance during the term.[76]

IV. Nonlegal Means of Bilateral Commitment

The preceding section focused on legal rules as means of enabling bilateral commitment. Alternatively, such commitment may be achieved through the threat of nonlegal sanctions for failing to stick with the original contract.[77] Nonlegal sanctions include refusal to continue the contracting relationship, loss of profitable future opportunities with outside parties, and individual or social condemnation.[78] Such sanctions clearly are of substantial practical importance.[79] However, while the threat of nonlegal sanctions may provide a means of bilateral commitment in some contracting relationships, it leaves important gaps in parties' ability to commit.

To begin, the fact that parties choose initially to specify their obligations in a contract implies that the threat of nonlegal sanctions does not suffice to eliminate the need for legal enforceability of these obligations. (If it did, then the obligations would not need to be specified in a contract.) The threat of nonlegal sanctions thus may well not be enough to eliminate the need for legal means of bilateral commitment.

More importantly, at least with regard to the first two types of nonlegal sanctions noted above, the assumptions behind economic models in which the threat of nonlegal sanctions is an effective means of commitment are far from innocuous. First, the threat of nonlegal sanctions can constrain an actor's behavior only if that behavior is at least imperfectly observable to outsiders.[80] In addition, the more imperfect the observability of the behavior, the harder it is to constrain the behavior by the threat of nonlegal sanctions. Moreover, nonlegal sanctions will not be effective unless the time horizon for an actor's market participation is infinite or uncertain or, alternatively, potential trading partners have incomplete information about the actor's propensity to misbehave, or ''type.''[81] Without either an infinite or

[76] Christine Jolls, Side-Contracting in Economic Relationships: Legal Solutions 16 n.9 (Discussion Paper No. 129, Harvard Law School, Program in Law and Economics, June 1993).

[77] David Charny, Nonlegal Sanctions in Commercial Relationships, 104 Harv. L. Rev. 375 (1990); Stewart Macaulay, Non-contractual Relations in Business, 28 Am. Soc. Rev. 55 (1963).

[78] Charny, *supra* note 77, at 392–94.

[79] See generally Macaulay, *supra* note 77.

[80] Drew Fudenberg & Jean Tirole, Game Theory 146–48, 182–97 (1991).

[81] Oliver Hart & Bengt Holmstrom, The Theory of Contracts, in Advances in Economic Theory 71, 143 (Truman Bewley ed. 1987).

uncertain horizon or incomplete information, all players will know that as the end of the horizon approaches, the threat of nonlegal sanctions will not be an effective deterrent. Reasoning backward from the endgame, this knowledge implies that the deterrent will be ineffective to begin with.[82] Furthermore, in the case of incomplete information, while the actor has an incentive to establish a reputation as the ''type'' of player that adheres to promises, if in fact she is only *pretending* to be that type of player, she will deviate from these promises as the end of the horizon approaches.[83] Thus, nonlegal sanctions are effective only so long as parties do not foresee an end to an actor's market participation and, in the case of a finite and certain horizon, only if the additional requirement of incomplete information about the actor's ''type'' is met.

A separate means of achieving commitment to an original contract (apart from legal means of commitment) is to write the contract in such a way that transaction costs eliminate the attractiveness of otherwise ex post profitable modifications. As described in Section I of this article, contractual terms imposing formal requirements for modification are typically unenforceable. However, the transaction costs of modification may also be raised by requiring the consent of additional parties for modification. Requiring such parties' consent can never absolutely preclude an ex post profitable modification, since the parties who stand to profit from modification can always pay off the additional parties whose consent is required.[84] However, the strategy can make modification sufficiently costly that it is no longer attractive to the original parties.

Contractors do occasionally require the consent of additional parties for modification of contracts.[85] In general, however, the strategy of requiring additional parties' consent to deter modification is unlikely to be an effective one. To begin, an agreement among contractors that they will not modify their contract unless they get the consent of certain additional parties who are not signatories to the original contract is worthless as a means of deterring modification; if the contractors wish to modify, they will simply agree to rescind their prior agreement to get the additional parties' consent for modification. To subject modification of the prior agreement to the additional parties' consent, the contractors would have to include the additional

[82] R. Duncan Luce & Howard Raiffa, Games and Decisions: Introduction and Critical Survey 97–102 (1957).

[83] Hart & Holmstrom, *supra* note 81, at 144.

[84] *Id.* at 138 n.43.

[85] See, for example, Roberta Romano, The Shareholder Suit: Litigation without Foundation? 7 J. L. Econ. & Org. 56, 64 (1991) (describing derivative suit in which shareholders were given the right to approve or disapprove changes in the managers' stock compensation plan).

parties in the prior agreement, which would require these parties' consent. The transaction costs associated with getting all of the additional parties together for entry into the original contract might well eat up the gains from bilateral commitment. Put differently, including additional parties in the original contract and making modification of that contract subject to these parties' consent may well be a highly imperfect (costly) substitute for legal means of bilateral commitment.

The shortcomings of nonlegal means of bilateral commitment are suggested empirically by the evidence and reported cases discussed in Section II above. The evidence and reported cases are consistent with the view that real-world contractors do in fact respond to welfare-reducing opportunities for ex post profitable modification, either by taking advantage of these opportunities when they arise or by adjusting their original contract to take account of them. Thus, observed patterns of contracting provide at least some practical support for the conclusion that nonlegal means of bilateral commitment leave important gaps in parties' ability to commit and would be usefully complemented by legal counterparts.

V. Nonefficiency Goals of Contract Law

The normative goal on which this article has focused is the efficiency goal of maximizing contractors' welfare. The reason for this focus is that welfare maximization is the normative perspective emphasized by the economics literature on which the article is based. In the present section, I turn to other normative dimensions of the bilateral commitment problem. Subsection *A* suggests that enforcement of contractual terms constraining modification is consistent with nonefficiency goals of contract law. Subsection *B* addresses philosophical opposition to the use of the welfare-maximization criterion in the specific context of intertemporal decision making.

A. Enforcement of Terms Constraining Modification: Nonefficiency Goals

This subsection discusses how enforcement of contractual terms constraining modification fits with autonomy-based theories of contract and with theories that emphasize protecting disadvantaged parties or otherwise furthering community standards of justice. I focus on enforcement of contractual terms constraining modification, rather than looking also at the other potential contract-law responses outlined in Section III, because I believe that the case for enforcement of terms constraining modification is stronger than the case for the other potential responses.

The basic premise of autonomy-based theories of contract is that individuals should be permitted to make the contracts they wish to make, so long

as the rights of others are left intact.[86] The right to contract is a component of personal autonomy: ''In order that . . . my will have the greatest possible range consistent with the similar will of others, it is necessary that there be a way in which I may commit myself.''[87] At least at this level of generality, an autonomy-based theory of contract seems to counsel in favor of enforcing contractual terms constraining modification. If the parties to a contract choose freely to tie their hands, why should a court refuse to prevent them from later untying themselves? Charles Fried has written that autonomy requires ''that I be able to make nonoptimal a course of conduct that would otherwise be optimal for me.''[88] Enforcement of contractual terms constraining modification has precisely this effect, except that the ''me'' is an ''us.'' Enforcement of such terms makes nonoptimal a course of conduct—modification—that would otherwise be optimal for the contractors.

The strand of autonomy reasoning that cuts *against* enforcement of contractual terms constraining modification is the strand of Justice Cardozo's reasoning which posits that individuals lack the power to take away their future right to recontract as they see fit. In his view, ''Whenever two men contract, no limitation self-imposed can destroy their power to contract again.''[89] Implicit in this idea, it seems to me, is a notion of an absolute right to contract, a right that cannot be limited by existing contractual arrangements, much as the right to one's labor (freedom from slavery) is not subject to contractual limitation under a (typical) autonomy-based view. However, it is not clear why the right to recontract in the future should be seen as the same sort of inalienable entitlement as the right to one's labor. As noted above, the choice is between present and future contractual power—more an issue of chronology than autonomy. Why would autonomy support an absolute priority for future contractual power over present contractual power? I see no reason.

Theories of contract that emphasize protecting disadvantaged parties or otherwise furthering community standards of justice reject the view, central to autonomy-based theories, that the parties' agreement necessarily has controlling force.[90] The role of contract law is to do justice between the parties, and justice is defined, not by reference to parties' ''rights,'' but by community standards, with distributive considerations often figuring prominently.[91]

[86] Fried, *supra* note 1, at 7–8.

[87] *Id.* at 13; see also Schelling, *supra* note 21, at 98.

[88] Fried, *supra* note 1, at 13.

[89] Beatty v. Guggenheim Exploration Co., 122 N.E. 378, 387–88 (N.Y. 1919).

[90] Roberto M. Unger, The Critical Legal Studies Movement 61, 69 (1986).

[91] Unger, *supra* note 90, at 70; Duncan Kennedy, Form and Substance in Private Law Adjudication, 89 Harv. L. Rev. 1685, 1717–22 (1976).

The fit of enforcement of contractual terms constraining modification with such a theory would presumably vary with context. I do not see any reason to believe that enforcement of such terms would systematically violate community standards of justice (though the possibility that it would violate these standards in a particular situation cannot, of course, be ruled out a priori). Moreover, in the context of time-varying preferences, enforcement of contractual terms constraining modification might help to *protect* parties worried about giving in to temptation during the course of a contracting relationship. Finally, to the extent that exploitation of unsophisticated parties by more worldly-wise contracting partners would be a concern with enforcement of contractual terms constraining modification, a partial response might lie in adoption of a ''separate signing'' requirement analogous to that imposed by section 2-209(2) of the U.C.C. As discussed earlier in the article, section 2-209(2) provides that contractual terms requiring a writing for modification are enforceable. Section 2-209(2) further provides that written modification terms in form contracts must be separately signed by the non-drafting party.[92] Extension of this sort of requirement to terms constraining modification more generally might provide some measure of protection against improvident commitments by uninformed or otherwise disadvantaged parties.

B. Welfare Maximization and Intertemporal Decision Making

Many philosophers, and at least one economist, view discounting of future time periods in intertemporal choice as ''irrational'' or immoral.[93] On this view, contractors' welfare—measured against *any* temporal preferences—is not the right normative criterion for assessing contract-law rules in intertemporal settings. Certain preferences—in particular, preferences that accord different weights to different time periods solely based on their temporal positions—are simply wrong and should not be taken as given. The appropriate normative criterion is ''rationality'' or morality, defined in terms of the absence of time discounting.

How does enabling bilateral commitment measure up against this rationality or morality criterion? It is clear that, in general, there is no perfect congruence between bilateral commitment and the rationality or morality criterion; bilateral commitment addresses the issue of ''how to cope with my predictable lack of ability to act upon my present intentions, and not

[92] U.C.C. § 2-209(2) (1987).

[93] John Rawls, A Theory of Justice § 45 (1971); Henry Sidgwick, The Methods of Ethics 381 (1907); Frank P. Ramsey, A Mathematical Theory of Saving, 38 Econ. J. 543, 543 (1928).

[the issue of how] to cope with the irrational component of these intentions themselves.''[94] At the same time, however, bilateral commitment may not be completely independent of the rationality or morality criterion. In the time-varying preferences context analyzed above, the welfare-maximizing commitment contract in the numerical example tended to level saving and consumption across periods other than the first, relative to the welfare-maximizing no-commitment contract. While it is not immediately obvious how to measure whether, as a result of this leveling, the welfare-maximizing commitment contract comes ''closer to'' the non-time-discounted ideal, one logical approach is to compare the consumer's non-time-discounted utility when consumption is the same in all periods (the non-time-discounted outcome) with the consumer's non-time-discounted utility under the welfare-maximizing commitment and no-commitment contracts.[95] In the numerical example from above, the consumer's non-time-discounted utility under the welfare-maximizing commitment contract turns out to be closer to the non-time-discounted ideal than the consumer's non-time-discounted utility under the welfare-maximizing no-commitment contract is to that ideal.[96] Thus, savings and consumption behavior is closer to the non-time-discounted ideal under the welfare-maximizing commitment contract than under the welfare-maximizing no-commitment contract. Enabling bilateral commitment may therefore bring savings and consumption behavior closer to the non-time-discounted ideal.

VI. Conclusion

A basic premise of the law's treatment of contract modification is that only potentially coerced modifications are an appropriate subject of legal censure. As explained above, however, bilateral commitment to an original contract, even if *both parties* later want to modify that contract, may make the parties better off. From the normative perspective of maximizing contractors' welfare, there is at least an a priori case for a reorientation of the legal perspective on contract modification; the law should reflect not only the traditional concern about coercion but also the goal of enabling bilateral commitment among contractors. This article has examined several ways in which contract law might better facilitate such commitment, including enforcement of contractual terms constraining modification.

[94] Elster, *supra* note 56, at 73.

[95] See *id.* at 69.

[96] The consumer's non-time-discounted utility when consumption is the same in all periods is $\ln(333.33) + \ln(333.33) + \ln(333.33) = 17.42$; this utility under the welfare-maximizing commitment contract is $\ln(500) + \ln(250) + \ln(250) = 17.26$; and this utility under the welfare-maximizing no-commitment contract is $\ln(500) + \ln(333) + \ln(167) = 17.14$.

A contract has always been recognized as an individual commitment—a means by which a party may commit herself to take actions that, in the absence of the contract, she would not take. My argument comes down to this: the recognition of a contract as a commitment ought to extend beyond the individual to the parties as a group; a contract ought to be recognized as a potential bilateral commitment as well as an individual commitment.