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ABSTRACT

This Article argues that a cornerstone assumption of contemporary contracts scholarship is misleading and limited. Leading academic commentary explicitly assumes that contractual responsibilities are determined in the following way: parties determine many of their duties ex ante, by specifying terms at the time of contract formation, and leave the rest of the terms vague, for a court to specify ex post if any should prove important. This ex ante / ex post dichotomy is the guiding framework in attempts to understand contract design and interpretation. For example, parties use terms like "merchantable" quality when the cost of being more specific up front is higher than the cost of relying on a court to later elaborate its meaning. Yet this dichotomy obscures a third, "real-time" approach to contracting: parties frequently leave terms unspecified and delegate ongoing determination to someone other than a court. This Article identifies this phenomenon, which can be called—as opposed to ex ante and ex post—"ex tempore" contracting.

Using a unique cache of data only recently made available, this Article explores ex tempore contracting through a novel dispute management system now prevalent in the construction industry called a "dispute board." These expert panels radically reduce the

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cost and frequency of litigation by determining the parties' responsibilities whenever the parties wish, including in the course of performance. Ex tempore contracting is not merely a dispute resolution system for the construction industry. Ex tempore contracting is also essential to the massive financial derivatives market and countless other transactions. This Article develops important insights for judicial interpretation of contracts and the scholarly analysis thereof. For example, the possibility of ex tempore contracting casts doubt on the wisdom of information-forcing penalty defaults and urges courts to enforce ex tempore contracting clauses much more often than they currently do.

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INTRODUCTION

This Article argues that the dominant view of contract design and interpretation is fundamentally limited and misleading. This view is that parties have precisely two options with respect to any given future circumstance: clearly specify their responsibilities to one another at contract formation or leave their responsibilities vague, relying on a court to determine them after performance.[1] For example, a construction contract could specify the use of Reading brand pipe in exchange for $77,000.[2] This ex ante contracting approach involves thorough negotiation and drafting. Alternatively, ex post contracting enlists a court to later specify an incomplete contract by calling for "merchantable" pipe in exchange for a "reasonable" fee, and then litigating whether the tendered pipe or payment met the contractual requirement. Concerning interpretation, scholars generally advise courts to interpret in whatever way helps parties to lower the sum of those two costs.[3]

Though intuitive and widely accepted, the ex ante / ex post dichotomy leaves out a third, "real-time" approach to contracting, in which a third-party agent specifies the contract for the parties. Following the language of ex ante, which means "before the fact," and ex post, which means "after the fact," this Article introduces "ex tempore," which means "in the moment."

Parties utilize ex tempore contracting techniques when they draft largely incomplete agreements at contract formation but provide a means for ongoing completion in the course of performance. For

1. *See, e.g.*, Albert Choi & George Triantis, *Strategic Vagueness in Contract Design: The Case of Corporate Acquisitions*, 119 YALE L.J. 848, 852-53 (2010); Ronald J. Gilson et al., *Contracting for Innovation: Vertical Disintegration and Interfirm Collaboration*, 109 COLUM. L. REV. 431, 451-55 (2009); Jody S. Kraus & Robert E. Scott, *Contract Design and the Structure of Contractual Intent*, 84 N.Y.U. L. REV. 1023, 1026-27 (2009); Richard A. Posner, *The Law and Economics of Contract Interpretation*, 83 TEX. L. REV. 1581, 1583 (2005); Robert E. Scott & George G. Triantis, *Anticipating Litigation in Contract Design*, 115 YALE L.J. 814 (2006); *cf.* Alan Schwartz & Robert E. Scott, *Contract Theory and the Limits of Contract Law*, 113 YALE L.J. 541, 594-95 (2003) (arguing that the "default" terms that courts insert into an agreement when the parties do not agree on a term are often inefficient).

2. Jacob & Youngs, Inc. v. Kent, 129 N.E. 889, 890 (N.Y. 1921).

3. *See, e.g.*, Posner, *supra* note 1, at 1584 ("The object of judicial enforcement of contracts is to minimize the sum of these two types or stages of costs, the drafting-stage costs and the litigation-stage costs.").

example, parties might include a vague term, such as "merchantable" or "reasonable," but then stipulate that a certain individual shall define that term as the need may arise. This approach allows the parties to have clarity of obligation at or around performance, avoiding costly disputes while economizing on front-end costs.

Though largely unnoticed, ex tempore contracting is extremely widespread in some industries. The construction industry, which employed 6 percent of all Americans (12 percent if production, hauling, and distribution of equipment and materials are included) prior to the recent economic downturn and contributed 8 percent to GDP,[4] stands at the forefront of ex tempore contracting. It is now common practice for construction contractors to draft incomplete contracts and entrust a cadre of neutral experts, the *dispute board*, to make decisions whenever a given issue becomes salient. Such boards answer questions the parties have not specified, such as: "Is there a duty to help the contractor find qualified employees?"[5] or "Does the contract require the owner to audit and review the subcontractor's costs before disputing them?"[6] Dispute boards are becoming the norm in construction contracts because of their startling effectiveness in improving projects; in an industry in which 25 percent of projects lead to disputes,[7] dispute boards resolve 98 percent of claims brought before them.[8]

Likewise, the credit derivatives market, constituting a titanic $27 trillion in notional value,[9] has turned to ex tempore contracting to allow agile and effective contracting in a time of economic and regulatory change. Complex derivatives routinely include seemingly vague terms combined with techniques for achieving instantaneous

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4. REDUCING CONSTRUCTION COSTS: USES OF BEST DISPUTE RESOLUTION PRACTICES BY PROJECT OWNERS, 149 FED. FACILITIES COUNCIL 1, 1 (2007).

5. *See, e.g.*, CYRIL CHERN, CHERN ON DISPUTE BOARDS 206 (2d ed. 2011).

6. *See Marine Industrial Park Tunnel Case History*, DISP. RESOL. BOARD FOUND. F., May 2004, at 19, 19.

7. REDUCING CONSTRUCTION COSTS, *supra* note 4, at 1. Construction litigation also predominates scholarly attention. *See* Thomas J. Stipanowich, *Reconstructing Construction Law: Reality and Reform in a Transactional System*, 1998 WIS. L. REV. 463, 494 (noting that nearly 20 percent of cases in JOHN P. DAWSON ET AL., CASES AND COMMENT ON CONTRACTS (6th ed. 1993) are construction cases); *id.* (noting substantial emphasis on construction cases in the Restatement (Second) of Contracts).

8. REDUCING CONSTRUCTION COSTS, *supra* note 4, at 16.

9. Vanessa Mock et al., *CDS Case Planned in Europe*, WALL ST. J., Mar. 27, 2013, at C1.

clarification. For example, many owners of Greek bonds had protected themselves against the risk of nonpayment by entering into credit default swaps (CDS).[10] These insurance-like derivatives offered payment to the bondholders if Greece were to renege on its obligations.[11] As Greece grew increasingly reluctant to pay its debts, bondholders did not look to the contract text nor to a court to determine whether they were entitled to payment under the CDS. Instead, a committee of the dominant trade association, the International Swaps and Derivatives Association (ISDA), had authority to rapidly clarify entitlements and define the word "default."[12] Few have noticed the quasi-adjudicative role played by ISDA, which has proven invaluable in facilitating the use of credit default swaps and, at times, reducing systemic risk. Fewer still have noticed that one can best understand this function as an expression of ex tempore contracting.[13]

Despite the prevalence of ex tempore contracting, courts, parties, and scholars have been slow to recognize its significance. As a result, courts misunderstand and frustrate parties' contractual choices and disrupt the usefulness of ex tempore contracting. For example, courts sometimes mistakenly characterize ex tempore contracting as mere mediation[14] and thereby permit parties to frustrate the ex tempore determination process, say, by refusing to select board members[15] or even to attend at all.[16]

At a more abstract level, the failure to notice ex tempore contracting has led scholars to overestimate their understanding of contract design and judges' ability to improve it with simple changes in

10. Otto Sandrock, *The Case for More Arbitration When Sovereign Debt Is to Be Restructured: Greece as an Example*, 23 AM. REV. INT'L ARB. 507, 516 (2012).

11. *See* M. Todd Henderson, *Credit Derivatives Are Not "Insurance,"* 16 CONN. INS. L.J. 1 (2009) (describing the ways in which derivatives are and are not like insurance). Note that one may purchase CDS protection without actually owning Greek bonds.

12. *See* Agustino Fontevecchia, *ISDA Says Greece in Default, CDS Will Trigger*, FORBES (Mar. 9, 2012, 2:51 PM), http://www.forbes.com/sites/afontevecchia/2012/03/09/on-greece-defaults-and-the-future-of-derivatives/ (noting ISDA's decision that Greece's restructuring constituted a default).

13. *See infra* Part III.B.

14. Bombardier Corp. v. Nat'l R.R. Passenger Corp., 298 F. Supp. 2d 1, 4 (D.D.C. 2002).

15. G & T Conveyor Co. v. Port of Seattle, 2008 WL 682242, at *1 (W.D. Wash. Mar. 7, 2008).

16. L.A. Cnty. Metro. Transp. Auth. v. Shea-Kiewit-Kenny, 69 Cal. Rptr. 2d 431, 435 (Ct. App. 1997).

interpretation techniques. For example, courts sometimes apply penalty defaults in cases of contractual silence in order to cause parties to contract more explicitly and thereby disclose important information to one another.[17] In one such case, *Hadley v. Baxendale*, a court denied recovery of unforeseeable consequential damages for a broken crankshaft,[18] even though most parties would probably prefer the defendant to be liable for all such damages.[19] Scholars have defended *Hadley* as encouraging parties to communicate and negotiate.[20] Yet opportunistic parties can circumvent information-forcing defaults if they can instead furtively opt for ex tempore contracting.

In offering a challenge to the dominant contract design paradigm, this Article takes up a call for research extending the existing literature.[21] Oliver Williamson identifies a type of "trilateral governance," in which third-party agents are used to update or modify incomplete contracts on an ongoing basis.[22] He even mentions architects' preliminary adjudicatory role at construction sites, a precursor to the dispute board discussed in Part II.A, as an example of trilateral governance.[23] This foreshadowing of ex tempore contracting allows it to be considered within the family of the relational contracting and transaction costs economics literature. By

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17. *See* Ian Ayres & Robert Gertner, *Filling Gaps in Incomplete Contracts: An Economic Theory of Default Rules*, 99 YALE L.J. 87, 91 (1989).

18. (1854) 156 Eng. Rep. 145, 9 Ex. 341.

19. *Cf.* FRANK H. EASTERBROOK & DANIEL R. FISCHEL, THE ECONOMIC STRUCTURE OF CORPORATE LAW 44 (1991) (proposing that default rules should be what parties would choose if given full information); Eric Maskin, *On the Rationale for Penalty Default Rules*, 33 FLA. ST. U. L. REV. 557, 560 (2006) ("[N]ormal damages are not 'consistent with what fully informed parties would have wanted.'"); Eric A. Posner, *There Are No Penalty Default Rules in Contract Law*, 33 FLA. ST. U. L. REV. 563, 574 (2006) ("Since the *Hadley* rule excludes the unforeseeable portion of any loss, it is not majoritarian.").

20. *See, e.g.*, Ayres & Gertner, *supra* note 17, at 101.

21. *See* Scott & Triantis, *supra* note 1, at 822 ("A more complete theory of contract design would anticipate all possible back-end processes and the interaction among them. Our analysis thus calls for further research into the interaction between contract and litigation, as well as future investigation into the effect of other back-end processes, such as arbitration, renegotiation, and settlement.") (footnotes omitted).

22. Oliver E. Williamson, *Transaction-Cost Economics: The Governance of Contractual Relations*, 22 J.L. & ECON. 233, 249-50 (1979).

23. *Id.* at 250; *accord* Ian R. Macneil, *Contracts: Adjustment of Long-Term Economic Relations Under Classical, Neoclassical, and Relational Contract Law*, 72 NW. U. L. REV. 854, 866 (1978).

providing a detailed discussion of ex tempore contracting in construction and financial derivatives, this Article explores Williamson's insight for its deep potential.[24]

The Article will proceed as follows: Part I reviews recent literature on contractual completeness and the ex ante / ex post dichotomy in order to situate ex tempore contracting. It then introduces ex tempore contracting and analyzes the main drivers of its usefulness. Ex tempore contracting is attractive when interim determination of responsibilities is preferable to doing so at contract formation or after performance and when agent determination of responsibilities is preferred to party or court determination. The former requirement will correspond to circumstances in which uncertainty is high but coordinating is costly for parties. The latter will occur when uncertainty is high and the parties value clarity at the time of performance, post-transaction relief is unlikely to be complete, or it is difficult for the many parties to coordinate a settlement. This analysis is of great importance in continuing to analyze important contracting realities and the forces that drive them. It also guides discussion of subsequent examples of ex tempore contracting.

Part II applies this theory to examples of ex tempore contracting. Section A looks at the use of ex tempore contracting in construction through dispute boards. In addition to its role in advancing this Article's theoretical contribution, the discussion of dispute boards constitutes a significant contribution in its own right as the first extended academic treatment of this fascinating innovation in dispute management. Despite their revolutionary potential, dispute boards are almost unknown to scholars of contracts and dispute resolution[25] and barely examined even by those scholars who care about construction law.[26] This Section explores diverse uses of

24. Yet architect determination is in decline, for reasons that help justify the dispute board. *See infra* note 186 and accompanying text.

25. No doubt, this is because dispute boards are most closely associated with construction, an area that attracts little scholarly interest. *See* William A. Klein & Mitu Gulati, *Economic Organization in the Construction Industry: A Case Study of Collaborative Production Under High Uncertainty*, 1 BERKELEY BUS. L.J. 137, 138 (2004) ("Legal and economic scholars have devoted little attention to an industry—construction—that seems to offer valuable lessons about the organization of economic activity."); Stipanowich, *supra* note 7, at 495-96 (lamenting the state of construction scholarship).

26. *See* 6 PHILLIP L. BRUNER & PATRICK J. O'CONNOR, JR., BRUNER AND O'CONNOR ON

disputes boards, their advantages, and their risks, utilizing a cache of dispute board decisions that the State of Florida recently made public. Section B describes the role of ex tempore contracting in credit derivatives transactions, in which complicated financial relations are governed by apparently incomplete agreements whose clarity and specification come in the course of performance.

Having established the pervasiveness of ex tempore contracting, Part III then draws out the implications of ex tempore contracting. Section A examines the judicial treatment of ex tempore institutions, showing how courts can better support parties informed choice of ex tempore contracting by allowing its use even when a court may find it otherwise futile or unconscionable. Section B problematizes the judicial and scholarly treatment of penalty defaults. Section C then speculates as to how parties might choose to better use ex tempore contracting in the future, such as including it alongside earnout agreements in M&A contracts.

I. CONTRACTUAL COMPLETENESS

A. Ex Ante and Ex Post Contracting

Economic analysis of contracts has long accepted as optimal "the complete contingent contract that [clearly] specifies the obligations of the parties in each possible future state of the world."[27] Complete contracts reduce enforcement costs and encourage efficient investment,[28] create efficient terms of exchange in each state of the world, and facilitate efficient trade.[29] When contracts are vague or incomplete, obligations are unclear and parties risk vexatious litigation and inefficient performance.

CONSTRUCTION LAW § 21.11, at 929 (2002) (noting the rise of dispute boards); 1 JUSTIN SWEET & JONATHAN J. SWEET, SWEET ON CONSTRUCTION INDUSTRY CONTRACTS § 8.01 (5th ed. 2009) (mentioning dispute resolution boards (DRBs) only one time); JUSTIN SWEET, SWEET ON CONSTRUCTION LAW § 12.11, at 474 (1997) (calling for more research into dispute boards).

27. George G. Triantis, *The Efficiency of Vague Contract Terms: A Response to the Schwartz-Scott Theory of UCC Article 2*, 62 LA. L. REV. 1065, 1068 (2002).

28. *See* Scott & Triantis, *supra* note 1.

29. Triantis, *supra* note 27, at 1068.

Given the costs, scholars of contracts have long found the persistence of vague terms "puzzling."[30] If incomplete contracting, in the form of vague or absent terms, leads to so many problems, why not attempt far more complete contracting? Put simply, complete contracting is costly. Parties must imagine,[31] negotiate,[32] and draft specific terms.[33] Demanding completeness can damage trust,[34] limit relational contract enforcement[35] or informal enforcement,[36] or threaten the deal altogether.[37] Guaranteed costs attend drafting a marginally more complete contract, but one must discount the benefits of completeness by the chance that a given contingency never even arises, and so the marginal completeness has no effect on incentives.[38] Finally, some terms are so costly to enforce, and therefore so unlikely to be invoked if at all, that parties see little benefit to including them in the contract.[39] As a result of

30. *E.g.*, *id.* at 1067.

31. *See* Ronald J. Gilson, *Value Creation by Business Lawyers: Legal Skills and Asset Pricing*, 94 YALE L.J. 239, 267-68 (1984); Charles J. Goetz & Robert E. Scott, *Principles of Relational Contracts*, 67 VA. L. REV. 1089, 1090-91 (1981); Jean Tirole, *Incomplete Contracts: Where Do We Stand?*, 67 ECONOMETRICA 741, 771-72 (1999) (explaining the existence of incomplete contracts partially in terms of unforeseen contingencies).

32. *See* Mark P. Gergen, *The Use of Open Terms in Contract*, 92 COLUM. L. REV. 997, 1029-30 (1992) (arguing that haggling over the value of an uncertain asset, or investigating it, is wasteful from a social point of view).

33. Ayres & Gertner, *supra* note 17, at 92-93 & n.30 ("[C]osts may include legal fees, negotiation costs, drafting and printing costs, the costs of researching the effects and probability of a contingency, and the costs to the parties and the courts of verifying whether a contingency occurred.").

34. *See* William C. Whitford, *Relational Contracts and the New Formalism*, 2004 WIS. L. REV. 631, 638.

35. *See* Robert E. Scott, *A Theory of Self-Enforcing Indefinite Agreements*, 103 COLUM. L. REV. 1641, 1650 (2003) [hereinafter Scott, *Indefinite Agreements*]. On relational contracts see Goetz & Scott, *supra* note 31, at 1115-16; Robert E. Scott, *Conflict and Cooperation in Long-Term Contracts*, 75 CALIF. L. REV. 2005, 2039-42 (1987); Oliver E. Williamson, *Assessing Contract*, 1 J.L. ECON. & ORG. 177, 183 (1985).

36. On informal enforcement, see generally Benjamin Klein, *Why Hold-Ups Occur: The Self-Enforcing Range of Contractual Relationships*, 34 ECON. INQUIRY 444 (1996) (explaining that changing market conditions can prevent parties from privately enforcing their own contracts).

37. Posner, *supra* note 1, at 1583 ("Deliberate ambiguity may be a necessary condition of making the contract.").

38. *See id.* at 1583-84.

39. *See* Scott & Triantis, *supra* note 1, at 816 & n.4; *see also* Eric A. Posner, *Economic Analysis of Contract Law After Three Decades: Success or Failure?*, 112 YALE L.J. 829, 857 (2003) ("[I]nvestment is not verifiable by a court, so the parties gain nothing by putting the optimal investment in the contract."); Alan Schwartz, *Relational Contracts in the Courts: An*

these costs, contracts are inevitably somewhat incomplete, with some terms vague and others absent.[40]

Contracts scholars have lately supplemented this account by recognizing that contract specificity can constitute a *choice delegation mechanism*.[41] The degree of contractual completeness is an effort by the parties to regulate *when* and *by whom* their contractual content will be determined.[42] As Robert Scott and George Triantis write, "[T]he choice between precise terms and vague terms thus reduces to who chooses [responsibilities] and when they are chosen: the parties at the time of contracting or the court at trial."[43]

Vague terms can be tools that parties use when they wish for *someone else*—a court—to determine responsibilities *in the future*—at adjudication.[44] Incomplete contracts can be attractive not

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Analysis of Incomplete Agreements and Judicial Strategies, 21 J. LEGAL STUD. 271, 278-79 (1992).

40. Cost is not the only explanation for incompleteness. Choi & Triantis, *supra* note 1, at 884-85 (explaining vagueness as a screen for type); Marcel Kahan & Michael Klausner, *Standardization and Innovation in Corporate Contracting (or "The Economics of Boilerplate")*, 83 VA. L. REV. 713 (1997) (signaling); Kathryn E. Spier, *Incomplete Contracts and Signalling*, 23 RAND J. ECON. 432 (1992) (signaling the principal's type); Triantis, *supra* note 27, at 1067 (explaining vagueness as a result of agency problems).

41. *See* Choi & Triantis, *supra* note 1, at 852; Gilson et al., *supra* note 1, at 454 ("Thus, by using soft terms, parties delegate the specification of performance requirements to a court at the back end of the contracting process.... Alternatively, when the parties agree to precise (hard) terms ... they withdraw authority from courts to determine their particular performance obligations and instead direct enforcement of the obligations specified in advance."); Kraus & Scott, *supra* note 1; Posner, *supra* note 1; Scott & Triantis, *supra* note 1.

42. This perspective resembles the rule/standard distinction in administrative law literature. For example, Kaplow's definitive treatment of rules and standards begins with the assumption that "the only distinction between rules and standards is the extent to which efforts to give content to the law are undertaken before or after individuals act." Louis Kaplow, *Rules Versus Standards: An Economic Analysis*, 42 DUKE L.J. 557, 560 (1992) (footnote omitted). Many recent articles have noted the similarities between the choices contracting parties face in drafting terms and the choices of lawmakers crafting public law. *See, e.g.*, Posner, *supra* note 1, at 1586; Scott & Triantis, *supra* note 1, at 820. Like an administrative agency crafting detailed regulations, precise contract terms leave little for either judicial misinterpretation or judicial supplement if the future renders the old language inefficient. But a broadly written administrative standard, like a vague contract term, leaves the parties uncertain about their duties until a court later specifies it.

43. Scott & Triantis, *supra* note 1, at 818. Note that in this passage, Scott & Triantis actually refer to evidentiary proxy selection, which, for the purposes engaged by this Article, amounts to the same thing as responsibility determination.

44. Kraus & Scott, *supra* note 1, at 1030 ("By framing their agreement in vague terms, the parties embed their legal obligations in broad standards that delegate discretion to courts ex post.").

just because they reduce drafting and negotiation costs, but also because some questions are better answered in the future with the benefit of hindsight.[45]

In addition to calibrating *when* duties will be specified, contractual completeness dictates *by whom* they will be specified. Specific terms, such as "3 lb. widget," make the parties the deciders of contractual responsibility, whereas vague terms, such as "merchantable widget," leave specification to a court. Courts bring a distinctively judicial approach to specifying contracts, with its own advantages and disadvantages.[46]

Importantly, although contracts as a whole mix vague and precise terms, individual terms present the parties with a dichotomous choice. "In selecting a chooser, therefore, the parties have *only two options*: The choice of proxies will be made either at the *time of the contract by the parties*, who enjoy private information, *or after the resolution of uncertainty by the court*, which enjoys the benefit of hindsight."[47]

Thus, parties decide ex ante at contract formation or adjudicators decide ex post in adjudication.[48] Formally, no third choice exists. Using this dichotomy, Richard Posner provides a formal model of contracting costs as the sum of ex ante drafting and ex post enforcement costs and would explain the degree of contractual completeness as a function of cost savings on drafting.[49] Scott and Triantis have a similar approach.[50]

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45. *Id.*

46. The parties likely observe far more than a court can verify, both about their values and the transaction itself, but courts can compel evidence. The parties are also likely to draft to maximize joint surplus, whereas courts may choose another interpretive methodology. Alan Schwartz & Joel Watson, *Conceptualizing Contractual Interpretation*, 42 J. LEGAL STUD. 1, 5-6 (2013) (explaining that courts maximize accuracy at the expense of welfare); *see* Schwartz & Scott, *supra* note 1, at 549, 602-03.

47. Scott & Triantis, *supra* note 1, at 841 (emphasis added).

48. Some may prefer to reserve the term "contracting" for the ex ante moment of contract formation. By contrast, I understand contract writing and contract adjudication to be two phases of the general category of contracting, by which I mean the determination of contractual responsibilities.

49. Posner, *supra* note 1, at 1583-84.

50. Scott & Triantis, *supra* note 1, at 817 ("Indeed, the mix of precise and vague terms that characterize the typical commercial contract can be framed as the product of a tradeoff that the parties have made in investing in the front end or back end of the contracting process, based on their particular circumstances .... [Thus], for any given expenditure of

B. Ex Tempore Contracting

Yet it is clear that parties have three choices, not two, on each axis of contract specification. A contract can specify duties extensively at contract formation, or it can await determination until some subsequent litigation. But the parties can also determine duties on an ongoing basis. For example, the parties could stipulate that an expert committee will determine the contractual meaning of "workmanlike" on a real-time basis.

Likewise, in addition to varying the moment of contractual determination, the parties have several choices as to the identity of the contract-specifying agent. If the parties negotiate and record their agreement in advance, then they have themselves determined the responsibility. If they leave the term vague or absent, they leave it to a court. But when they provide that a third party may act to update their contract, they enlist that agent as an author of their contract. Thus, as Table 1 displays, there are three, not two, relevant pairings.[51]

Table 1

Modes of Contracting		**Timing of Determination**		
		Contract formation	Interim	After Performance
Identity of Determining Actor	Parties	*ex ante*		
	Agent		*ex tempore*	
	Court			*ex post*

contracting costs, the parties can reach the highest possible incentive gains by optimizing the allocation of their investment between the front and back ends.").

51. There are nine possible combinations. Table 3 speculates as to the sort of contract that takes place in the various boxes, and Table 4 describes the contractual language used to achieve it. Still, it is useful to identify these three important pairings, if only for the frequent elision of ex tempore into other categories.

Ex tempore contracting is a conceptually important pairing of selections as to the timing of determination and the identity of the determining actor. Parties utilize it when it suits their ends better than their other options. It is tautological that parties would rationally utilize ex tempore contracting to the extent, and in the instances in which, it costs less than the comparable ex ante and ex post contracting options. The following analysis seeks to further interrogate the conditions in which ex tempore contracting is appropriate.[52]

Because parties utilizing ex tempore contracting make two choices, one must consider what drives each of those choices. That is, when is interim determination preferable to some other timing of determination, and when is agent determination better than party or court determination?

1. Timing of Choice

One factor that militates against front-end contracting is transaction costs: if it is too costly for the parties to agree, perhaps because there are numerous parties involved, then they may proceed without coming to full agreement.[53] Yet the distinctive feature that makes parties turn from front-end contracting is surely uncertainty. When it is impossible or costly to contemplate a rational allocation of responsibilities in the future, parties defer determination.[54] Uncertainty can emerge in long-term contracts, transactions with extremely unpredictable outcomes, or contracts in which the parties' ultimate goal is not clear, such as firms collaborating to discover commercial applications of their research.[55] In

52. As a background assumption, ex ante, ex tempore, and ex post contracting all exist as between separate contracting agents. When contracting costs are too high, parties can vertically integrate and impose an internal governance structure. *See* R. H. Coase, *The Nature of the Firm*, 4 ECONOMICA 386, 388 (1937) (explaining that the firm and the market are "alternative methods of co-ordinating production"); Oliver E. Williamson, *The Vertical Integration of Production: Market Failure Considerations*, 61 AM. ECON. REV. 112 (1971). In that case, the employer or owner essentially defines the content of employee or subsidiaries' responsibilities on an ongoing basis.

53. *See infra* note 209 and accompanying text.

54. *See infra* notes 78-83, 223-25 and accompanying text.

55. *See generally* Gilson et al., *supra* note 1 (providing a theoretical framework to explain how such firms contract by using both explicit and implicit terms that respond to inherent

such cases parties can defer to back-end determination, through absent or vague terms, or they can utilize ex tempore contracting for ongoing determination.

It is sometimes costly to wait for determination, and in these cases, ex tempore contracting may prove useful. Because interim determination allows parties to know their obligations at or around performance, ex tempore contracting is attractive when parties place special value on determination prior to or around performance.

When back-end determination is costly, because courts must exhume degraded evidence and vet conflicting witness testimony, it may be cheaper to resolve disputes closer to the time of performance.[56] But the parties will not incur costly litigation expenses if they can settle their claims in the shadow of adjudication. So transaction costs emerge again as a major driver of ex post contracting costs. Interim determination will prove attractive when coordination for renegotiation or settlement is difficult or costly, and therefore parties more fully bear the brutal costs of adjudication.[57] Projects with many parties may pose complex coordination problems.[58] Likewise, projects for which time is precious increase the cost of patiently coordinating those parties.[59]

Clarity of obligation at performance is of great value when courts are unlikely to award full compensation for breach. If a party can avoid paying the appropriate damages subsequent to determination of breach of a once-unclear duty, she will be less likely to efficiently perform and her counterparty will rationally underinvest in reliance on that performance. By contrast, parties with clear responsibilities at the time of performance may be more likely to efficiently perform, if only because courts are less likely to balk at optimal damages in the case of such willful breach.[60]

In complex and innovative contracting settings, ongoing determination may serve a role in helping the parties to detect and reinforce their degree of mutual trust and commitment. Periodic exchange of

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uncertainties about the product to be produced).

56. *See infra* notes 104-12, 227 and accompanying text.

57. *See infra* notes 113-20, 240 and accompanying text.

58. *See infra* notes 114-20 and accompanying text.

59. *See infra* notes 119-24, 230 and accompanying text.

60. *See infra* notes 129-30 and accompanying text.

information and tests of good faith are crucial in such contexts.[61] A prompt determination can help clear the air where there is doubt, or allow a party to validate its worries by addressing exploitative behavior.[62]

The foregoing constitute benefits the parties enjoy vis-à-vis one another, but clarity of obligation can also benefit the parties in their dealings with others. A prompt determination can be useful in establishing one's contractual fidelity to others.[63]

Interim contracting provides parties with clarity of obligation after contract formation, saving the cost of drafting a contract fit for any possible future. But it can allow determination of responsibilities even when subsequent coordination of parties is costly and when obligational clarity is valuable at the time of performance, such as when courts are unlikely to provide full remedies or when there is independent value to that clarity.

2. Identity of Chooser

Merely opting for real-time determination does not place the parties in the realm of ex tempore contracting, because courts and parties can determine responsibilities in the interim position. Courts can issue preliminary injunctions and declaratory judgments prior to performance. The parties are of course free to renegotiate or clarify their contract at any time, specifying duties to whatever form suits them in changing circumstances. Continual negotiation and accommodation in incomplete contracts is the signature element in "relational contracting."[64] Yet there are distinct advantages to selecting a third-party agent. As with analysis of timing, it makes sense to locate the factors that drive parties to choose one of two well-known options rather than the other and then evaluate agent

61. *See* Ronald J. Gilson et al., *Contract and Innovation: The Limited Role of Generalist Courts in the Evolution of Novel Contractual Forms*, 88 N.Y.U. L. REV. 170, 187, 196 (2013); Gilson et al., *supra* note 1, at 476-79.

62. *See infra* note 149 and accompanying text.

63. *See infra* notes 188, 229-30 and accompanying text.

64. *See infra* notes 72-74 and accompanying text; *see also* Donald J. Smythe, *Bounded Rationality, the Doctrine of Impracticability, and the Governance of Relational Contracting*, 13 S. CAL. INTERDISC. L.J. 227, 230 (2004) ("A relational contract may be defined as an agreement of an ongoing nature between two or more parties that is typically adapted to changing circumstances and unique situations as they arise.") (footnote omitted).

determination in that context. Two factors may lead parties to avoid judicial determination.

First, though state-run courts can make interim determinations, their determination timing cannot be predicted or controlled. There is no mechanism for parties to stipulate deadlines for courts, nor could many courts accommodate requests for timeliness given the existing docket backload.[65] Before final judgment, courts can issue preliminary injuctions, but they are averse to doing so.[66] Second, generalist courts may lack expertise, increasing error and proof costs.[67] Such courts may bring interpretive methodology incompatible with the parties' preferences.[68] When error and proof costs are high, when parties are loath to submit to the court's preferred methodology, and when they want to ensure interim determination, they may opt out of court determination. Party determination, when possible, is clearly more likely to suit the parties' joint intention. And by selecting their agent carefully, the parties can select an expert with the interpretive methodology they most prefer.[69]

Party determination may yet be unattractive when transaction costs are high.[70] After all, the parties are not a single actor with a common interest.[71] When discussing contractual responsibilities in the interim position, each party may be tempted to expropriate

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65. Karen Weise, *U.S. Courts Face Backlogs and Layoffs*, BLOOMBERG BUSINESSWEEK (Apr. 28, 2011), http://www.businessweek.com/magazine/content/11_19/b4227024878939.htm (describing insufficiency of judicial resources to meet demand).

66. *See, e.g.*, Bowen v. Massachusetts, 487 U.S. 879, 925 (1988) (Scalia, J., dissenting) ("[E]ven though a plaintiff may often prefer a judicial order enjoining a harmful act or omission before it occurs, damages after the fact are considered an 'adequate remedy' in all but the most extraordinary cases.").

67. Schwartz & Scott, *supra* note 1, at 615; Schwartz & Watson, *supra* note 46, at 22.

68. Schwartz & Scott, *supra* note 1, at 570-71, 573; Schwartz & Watson, *supra* note 46, at 5. Expert arbitrators may offer the parties the interpretive methodology they prefer, as well as deep industry expertise, though they surely lag behind the parties' knowledge of the particular transaction. In contrast, some ex tempore institutions know almost as much as the parties themselves. *See infra* Part II.A.2.

69. *See infra* notes 151-58 and accompanying text.

70. *See infra* notes 113-20, 209, 310-14 and accompanying text.

71. This analysis discusses joint determination, but the parties may instead allocate discretion to just one party, as in an output contract that gives the seller all the power to determine the quantity. The empowered party gains the ability to exploit any investment by the disempowered party, requiring governance mechanisms to prevent expropriation. *See* VICTOR GOLDBERG, FRAMING CONTRACT LAW 91-141 (2006) (discussing good faith in long-term contracts).

value by driving a hard bargain, concealing asymmetrically held information, or otherwise holding out.

Norms of reciprocity, community reputation, and the like sometimes facilitate relational contracts.[72] When relationships are sufficiently long lived, the parties can also construct governance mechanisms to support cooperation.[73] These systems share information, create symmetric relationship-specific investments, and provide internal and bilateral dispute resolution systems.[74] The use of such an agent may be attractive relative to party-driven governance when transaction costs remain high for the latter, such as when a large number of parties must coordinate[75] or when the cost of using party agents to run the mechanism is higher than hiring an expert.[76] Agent determination may also be attractive when the third-party reputational effects of the governance institution are more credibly conveyed by a third party's determination.[77] This may be a setting in which reputational signals are noisy.

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72. *See* Goetz & Scott, *supra* note 31, at 1092-93; Scott, *Indefinite Agreements*, *supra* note 35, at 1644-46; Scott & Triantis, *supra* note 1, at 844 n.78; Williamson, *supra* note 35, at 197.

73. Ronald J. Gilson et al., *Braiding: The Interaction of Formal and Informal Contracting in Theory, Practice, and Doctrine*, 110 COLUM. L. REV. 1377, 1379 (2010); Iva Bozovic & Gillian K. Hadfield, Scaffolding: Using Formal Contracts to Build Informal Relations in Support of Innovation (Jan. 21, 2013) (unpublished manuscript), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1984915.

74. *See* Gilson et al., *supra* note 1, at 435 ("The explicit and implicit obligations interact within a formal governance structure that regulates the exchange of highly revealing information.... This braiding creates an interactive process that constrains opportunism as the parties' investments in detailed knowledge of each other's character and capabilities raise switching costs—the costs one party to a contract must incur in order to replace the other party to the contract.").

75. *See infra* notes 191-94 and accompanying text. To be sure, Gilson and his coauthors describe cases in which a number of parties collectively agree upon contract change and interpretation. *See, e.g.*, Gilson et al., *supra* note 1, at 458-71. Such mechanisms may be effective in the design of aircraft, when all parties are sufficiently informed and invested to care about making informed changes to the contract, *see id.* at 450, but there is no reason to expect the same dynamics generally. Contractual structure also matters. In construction, the general contractor hires subcontractors who depend upon her for continued business. They may be likely to side with the contractor in contractor-owner disputes, rendering it more difficult in construction than in research contracts to leverage the many party perspectives to make decisions and resolve important disagreements.

76. *See infra* note 189 and accompanying text. Note, however, that the agent can create its own costs, such as a fee. *See infra* note 176 and accompanying text.

77. *See infra* note 188 and accompanying text.

Interim contracting is attractive when error and proof costs are high for generalist adjudicators who lack expertise or depart from the parties' preferred interpretive methodology and when party-centered governance mechanisms cannot cheaply secure agreement. Table 2 summarizes the conditions for interim contracting use.

Table 2

	Ex Ante	Ex Tempore	Ex Post
Uncertainty	Low	High	High
Transaction Costs	Low	High	Low
Duration	Low	High	High
Clarity at Performance Value	High	High	Low
Litigation Costs	High	High	Low

The following Sections go on to demonstrate these observations about ex tempore contracting. Part III concretizes these observations and validates their applicability through two examples of settings of ex tempore contracting that largely conform to these relevant features.

II. LOCATING EX TEMPORE CONTRACTING

A. Construction

1. Ex Ante / Ex Post

Construction contracting is characterized by high ex ante and ex post contracting costs. It is not feasible for parties to draft complete contracts at contract formation because of the uncertainty involved in large projects and transactions costs. Yet, judicial intervention is costly, error prone, and difficult. Transaction costs are often too high for parties to avoid litigation through settlement, and performance of disputed responsibilities may be inefficient until clarified.

Many factors raise the cost of ex ante contractual completeness in construction. Most important must be uncertainty about the variety of potential problems, with resultantly high variance in cost.

Who could predict that a golden eagle nest might be found on the construction site,[78] necessitating a delay to obtain a permit to move the bird?[79] It is difficult for parties to decide in advance what shall be done if a given animal is found,[80] who shall have responsibility to obtain the permit,[81] and who shall bear the costs of consequent delays.[82] Problems and surprises multiply once contractors open up the ground.[83] With such variation of problems, the appropriate resolution may be better handled at or after its discovery, rather than as a hypothetical contemplated years prior.

Complex contracts are also at odds with the construction industry's emphasis on standard form contracts.[84] The typical construction project buyer has never before commissioned a project.[85] These inexpert parties rationally choose to rely on industry standard

78. SR 25/US 27 - Recovery of Idle Equipment & Mobilization Costs (Fla. Dep't of Transp. Sept. 18, 2011) (recommendation), *available at* http://www.dot.state.fl.us/Construction/CONSTADM/drb/decisions/D1/2011/T1328_197706-1_SR25-US27_RecoveryOfIdleEquipmentAndMobilizationCosts.pdf.

79. Bald and Golden Eagle Protection Act, 50 C.F.R. §§ 22.3, 22.26 (2012).

80. Should a contractual eagle clause include other endangered bird finds? *See* SR 60 (Osceola Blvd) - Added Time for Caracara Bird Suspension, Extra Work Asphalt Rutting & Mitered End Section (Fla. Dep't of Transp. May 28, 2008) (recommendation), *available at* http://www.dot.state.fl.us/construction/CONSTADM/drb/decisions/D4/2008/D4FPN228596SR60OsceolaBlvd.pdf.

81. *Cf.* I-75 & Alico Rd. Interchange - Water Use Permit Responsibility (Fla. Dep't of Transp. Dec. 20, 2005) (recommendation), *available at* http://www.dot.state.fl.us/construction/CONSTADM/drb/decisions/D1/2007/D1I-75&AlicoRdInterchangeWaterUsePermit.pdf (discussing a dispute as to which party is responsible for obtaining a dewatering permit).

82. After a nineteen-day pause to obtain the permit, the weather became too cold for construction work, resulting in a delay for several months. Projects typically penalize contractors for weather delays, but should eagle-preceded weather delays be treated differently? *See* SR 25/US 27 - Recovery of Idle Equipment & Mobilization Costs, *supra* note 78.

83. *See, e.g.*, *Marine Industrial Park Tunnel Case History*, *supra* note 6, at 19 (noting that one contract to move an estimated 10,000 tons of excavated materials subsequently required the contractor to move 85,000 tons); *see also* Klein & Gulati, *supra* note 25, at 174 ("[C]onstruction planning prior to groundbreaking is characterized by considerable difficulty of specification.").

84. Surajeet Chakravarty & W. Bentley MacLeod, *Contracting in the Shadow of the Law*, 40 RAND J. ECON. 533, 554 (2009) ("[T]he form construction contracts sold by the American Institute of Architects … and contracts quite similar to them in form[ ] are widely used in the construction industry to allocate billions of dollars of resources."). Standardized contracts are to be expected when many parties execute largely similar transactions. *See* Gilson et al., *supra* note 61, at 176-77.

85. Stipanowich, *supra* note 7, at 477 ("The typical construction buyer is someone who has never built capital construction before.").

terms rather than take risks in drafting their own terms. Others, such as a state transportation authority, may frequently procure works but opt for form contracts in order to constrain their negotiating agents.[86] Standard contracts facilitate the use of open bidding, which may engender citizen confidence in the contracting process.[87] The public tendency towards form contracts creates network externalities in favor of private adoption.[88]

Though standard form contracts can economize on otherwise daunting coordination and drafting costs, they will usually be cast at a higher level of generality than a bespoke contract would.[89] Construction projects are bespoke products with commodity contracts. Failing to particularize the terms ex ante implicitly leaves that task to someone else—very often a court ex post.[90]

Relatively complete contracts are possible under uncertainty and with relatively general contracts only if risks are allocated in broad strokes, but such contracts may result in bad incentives.[91] All cost risks—eagle removal included—could be assigned to the contractor, making the contractor's bid an "all-in" price.[92] Fixed prices, however, tend to be unsatisfactory in long-term contracts, when changing circumstances can create a divergence between cost and bid.[93] Fear

86. *See* Randy E. Barnett, *Consenting to Form Contracts*, 71 FORDHAM L. REV. 627, 631 (2002) (explaining that firms constrain agents by binding them to unwaivable terms in a form contract).

87. *See* Donavan Bezer, *The Inadequacy of Surety Bid Bonds in Public Construction Contracting*, 40 PUB. CONT. L.J. 87, 91 (2010) ("[B]ids are opened publicly to instill public confidence in the bidding process.").

88. *See* Kahan & Klausner, *supra* note 40, at 716, 725-27; *cf.* Philip L. Bruner, *The Historical Emergence of Construction Law*, 34 WM. MITCHELL L. REV. 1, 8 (2007) (discussing the enactment of competitive bidding laws).

89. *See* Karen Eggleston et al., *The Design and Interpretation of Contracts: Why Complexity Matters*, 95 NW. U. L. REV. 91, 112-13 (2000) (explaining that forms tend towards simplicity).

90. *See* Daniel Markovits, *Arbitration's Arbitrage: Social Solidarity at the Nexus of Adjudication and Contract*, 59 DEPAUL L. REV. 431, 477-78 (2010) (arguing that arbitration clauses are especially useful in contracts of adhesion precisely because of the need to determine boilerplates' meaning for parties' transactions).

91. *See* OLIVER HART, FIRMS, CONTRACTS, AND FINANCIAL STRUCTURE 15-17 (1995).

92. This is the default at common law. *See* JUSTIN SWEET & MARC M. SCHNEIER, LEGAL ASPECTS OF ARCHITECTURE, ENGINEERING AND THE CONSTRUCTION PROCESS § 14.02, at 349 (9th ed. 2013).

93. Oliver E. Williamson, *Franchise Bidding for Natural Monopolies—In General and with Respect to CATV*, 7 BELL J. ECON. 73, 82 (1976).

of such divergence may encourage excessive pre-bid research, particularly if contractors are at all risk averse.[94]

Alternatively, a cost-plus contract assigns all risks to the owner.[95] Yet, in the context of asymmetric information, cost-plus contracts pose serious agency costs. A contractor may not pursue the best price for supplies because she is spending the owner's money. Suppliers—employees or other sellers—may reward her in subsequent fixed-price contracts for being generous with cost-plus contracts. Worse yet, if her "plus" is a percentage of the total cost, then she has an incentive to increase costs in order to increase her payment.[96]

It is therefore unsurprising that construction contracts routinely leave unaddressed the resolution of some of the most common potential disputes. Consider some terms within the FIDIC Red Book contract, which is the predominant form contract for international construction projects.[97] The Red Book assigns duties through many quintessential vague contract terms, such as a requirement of

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94. Suppose that a project's costs vary between 0 and 1. Every contractor's bid in an auction for the project should be 0.5. Now imagine that the contractor can invest r in order to know the project's cost prior to bidding. If research reveals the project's cost to be less than 0.5, the contractor can bid 0.5 - e, winning the auction. Her expected surplus in those cases is 0.75 - 0.5 - e or 0.25 - e and is never negative. That occurs half of the time. The other half of the time, the project would cost more than 0.5, and she does not bid, and another bidder takes the project at 0.5. The contractor's payoff is thus $0.5(0.75 - 0.5 - e) + 0.5(0) - r = 0.125 - e - r$. A rational contractor will thus invest r up to 0.125 in order to know the project's cost.

This is a type of "fishing problem." One solution is for the owner to research costs herself and then share the answers with all bidders. But the contractors' bids will reflect their distrust of the owner's proffer. *See* Anthony T. Kronman, *Mistake, Disclosure, Information, and the Law of Contracts*, 7 J. LEGAL STUD. 1 (1978). Moreover, for some projects, *any* amount of cost investigation—even if credible and nonduplicative—is excessive. If the range of cost possibilities all lie below the level of benefit the project generates, the owner will want to pursue the project without any research.

95. Lump-sum contracts with a cost-plus component are said to be "virtually unknown in the design and construction field." Eggleston et al., *supra* note 89, at 95.

96. Cost-plus contracts also frustrate owners' preference for competitive bidding. Owners would like to be able to select the cheapest bid for comparable services, and with fixed prices that is a simple matter. With cost-plus, owners can look at the "plus" but cannot compare overall price without forming opinions about the contractors' various—and likely different—costs.

97. *See* Christopher R. Seppala, *The New FIDIC International Civil Engineering Subcontract*, CONSTRUCTION LAW., Aug. 1995, at 25, 25; Gabriel Swiney, *The Dubious Upgrade of International Development Contracts*, 3 BYU INT'L L. & MGMT. REV. 145, 147 (2007).

"proper workmanlike and careful manner" of execution, with "recognised good practice."[98]

Beyond being just vague, construction contracts may include conscious gaps. Red Book section 4.12 provides that the contractor is entitled to extension of time and payments of additional costs arising out of adverse physical conditions that are "unforeseeable."[99] The FIDIC Guidebook then provides that an event is (i) unforeseeable if it happens less often than once every ten years, and (ii) foreseeable if it happens more often than once every six years.[100] The official guidance is silent on events happening between six and ten years frequency, leaving a gap for delays more frequent than the national census but less frequent than a senatorial reelection. Suppose Hurricane Wilma disrupts and delays construction[101] in an area in which hurricanes occur every seven years.[102] Is the contractor due additional compensation for managing it? Or is this just one of those foreseeable risks contractors are meant to manage at their own cost? The contract is silent as to responsibility.

The guidance makes debatably unforeseeable circumstances quite frequent. If a given problem occurs every six years, then a given three-year project has nearly a 50 percent chance of experiencing it. Presuming that there are a large number of potentially unforeseeable adverse physical conditions, it is overwhelmingly likely that a contractor will have reason to make a claim. It becomes not a question of whether, but rather of how often, a contractor will make claims and whether the owner will agree that the problem was a fluke. "Reasonable foreseeability" is unsurprisingly the heart of many construction disputes.[103]

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98. FDIC CONDITIONS OF CONTRACT FOR CONSTRUCTION § 7.1(b), at 24 (1999).

99. *Id.* § 4.12, at 16-17.

100. FIDIC GUIDEBOOK (defining "reasonably foreseeable"). Unforeseeable is defined in sub-clause 1.1.6.8 as "not reasonably foreseeable by an experienced contractor by the date for submission of the Tender." *Id.*

101. *See* I-95 (SR 9) Payment & Time for Hurricane Wilma & Tropical Storm Gamma (Fla. Dep't of Transp. June 19, 2006) (recommendation), *available at* http://www.dot.state.fl.us/construction/CONSTADM/drb/decisions/D4/03Thru06/T4016_231918-2_SR9_I95_P3_HurricaneWilmaPaymentExtension_061906.pdf.

102. *See* Barry D. Keim & Robert A. Muller, *Spatiotemporal Patterns and Return Periods of Tropical Storm and Hurricane Strikes from Texas to Maine*, 20 J. CLIMATE 3498, 3506 (2007) (citing a study finding that Palm Beach has a hurricane return frequency of seven years).

103. MICHAEL D. ROBINSON, A CONTRACTOR'S GUIDE TO THE FIDIC CONDITIONS OF

Though parties extensively use courts to determine their contractual duties, ex post contracting is costly in construction. In litigation, proof costs are high and errors may be frequent.[104] Though the parties may be able to observe quality of performance,[105] a court must look to noisy or costly proxies, such as testimony from witnesses who may not remember the state of the site at a particular time in the past.[106] Yet with the stakes high, parties may be willing to expend substantial resources on adjudication.[107]

The resultant litigation costs are staggering. Estimates of annual dispute resolution costs in the U.S. construction industry begin at $4 billion and rise as high as $12 billion.[108] Anecdotal evidence from Australia suggests that almost 50 percent of all legal costs in construction are connected with disputes.[109] In nearly one-tenth of all projects, 8-10 percent of total project costs are legal costs.[110] At any moment, "one-third of practicing architects are involved in litigation."[111] Construction has earned its reputation for litigiousness.[112]

CONTRACT 24 (2011). Similar terms give rise to litigation in domestic construction contracts. *See, e.g.*, Kiewit-Atkinson-Kenny v. Mass. Water Res. Auth., No. 01-1920 BLS, 2002 WL 311876911, at *4 (Mass. Super. Ct. Sep. 2, 2002) (discussing whether contractor's increased costs were due to differing site conditions warranting an equitable adjustment).

104. *See* Scott & Triantis, *supra* note 1, at 816 n.4; *see also Kiewit-Atkinson-Kenny*, 2002 WL 311876911, at *33 ("The contract language, however, is sprawled over hundreds of pages and contained in several documents, not all speaking consistently with one another; and the 'record' is massive, covering literally thousands of pages. The burden placed upon this Court is immense.").

105. AVINASH K. DIXIT, LAWLESSNESS AND ECONOMICS 26-27 (2004). As with perishable goods, *see* Eggleston et al., *supra* note 89, at 119-20, the court may be unable to verify the flux of the construction site.

106. Litigation is often delayed because of contractual clauses requiring late adjudication, because of a desire to economize on proceedings, because defects become evident only near to or after completion, or out of parties' hope early on that they can salvage the relationship without hostile lawsuits.

107. THOMAS E. WILLGING & EMERY G. LEE III, FED. JUDICIAL CTR., IN THEIR WORDS: ATTORNEY VIEWS ABOUT COSTS AND PROCEDURES IN FEDERAL CIVIL LITIGATION 5 (2010), *available at* http://www.fjc.gov/public/pdf.nsf/lookup/costciv3.pdf/$file/costciv3.pdf.

108. REDUCING CONSTRUCTION COSTS, *supra* note 4, at 1.

109. Peter H.J. Chapman, Dispute Boards for Major Infrastructure Projects (Nov. 2011) (unpublished manuscript), *available at* http://www.peterhjchapman.com/peterhjchapman/Dispute_Resolution_Board.html. This figure may be unsurprising, given the definition of "reasonable foreseeability" in contracts. *See supra* notes 99-100 and accompanying text.

110. Chapman, *supra* note 109, at 5-6.

111. Stipanowich, *supra* note 7, at 476 (citations omitted).

112. *See, e.g.*, BUSINESS ROUNDTABLE, MORE CONSTRUCTION FOR THE MONEY 13 (1983),

Incomplete contracting need not lead to costly disputes if parties can cheaply resolve disagreements, specify vague terms, and settle claims,[113] but overall transaction costs may still be too high. Coordination is costly due to the multi-party nature of the construction project, which has been called the "legal Achilles heel of the construction process."[114] Since the nineteenth century, the historical responsibilities of the "master builder" have devolved into a plethora of separate functions.[115] These separate functions have in turn been performed by a variety of separate firms.[116]

For large projects, these many parties will inevitably represent many jurisdictions with accordingly different expectations.[117] Relational contracting may be less effective because most parties will not work together again and will communicate with one another only through the general contractor.[118] Holdout problems may be exacerbated by the granting of a mechanic's lien, a security interest with the power to compel auction in order to recover fees, to anyone who contributes to the construction of a building.[119] The risk of

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available at http://www.ce.berkeley.edu/~tommelein/BRTMoreConstructionForTheMoney.pdf ("The bottom line of this adversarial dance is a constant state of confrontation."); *Build to Suit?*, CONSTRUCTION DIMENSIONS, June 1989, at 13, 13 (lamenting the "awful litigious nature of this industry").

113. *See, e.g.*, Scott & Triantis, *supra* note 1, at 819; *accord* Kathryn E. Spier, *Economics of Litigation*, *in* 5 THE NEW PALGRAVE DICTIONARY OF ECONOMICS 162, 162 (Steven N. Durlauf & Lawrence E. Blume eds., 2d ed. 2008) ("[L]itigation costs … represent a deadweight loss. Any out-of-court transfer … from the defendant to the plaintiff would be a Pareto improvement.").

114. SWEET & SCHNEIER, *supra* note 92, § 23.01, at 644.

115. 1 BRUNER & O'CONNOR, *supra* note 26, § 1:2 n.1 (discussing the fragmented nature of the industry).

116. John W. Hinchey, *Visions for the Next Millenium*, *in* 1 ROBERT F. CUSHMAN & JAMES J. MYERS, CONSTRUCTION LAW HANDBOOK § 2.01[A], at 32 (1999) (calling the construction industry "exceptionally fragmented").

117. Bryan M. Seifert, *International Construction Dispute Adjudication Under International Federation of Consulting Engineers Conditions of Contract and the Dispute Adjudication Board*, 131 J. PROF. ISSUES ENGINEERING EDUC. & PRAC. 149, 150 (2005).

118. *See* Stipanowich, *supra* note 7, at 473 n.27 (describing the construction industry as "fragmented, consisting primarily of relatively small contractors operating on a local or regional basis"); *see also* Blake Constr. Co. v. C. J. Coakley Co., 431 A.2d 569, 575 (D.C. 1981) ("We note ... that, except in the middle of a battlefield, nowhere must men coordinate the movement of other men and all materials in the midst of such chaos and with such limited certainty of present facts and future occurrences as in a huge construction project.").

119. *See* Blake Nelson, *Construction Liens: A National Review and Template for a Uniform Lien Act*, 34 WM. MITCHELL L. REV. 245, 246 (2007).

endangering the project may be a small subcontractor's best chance at getting paid in full.[120]

Disagreements as to entitlements can lead to inefficient performance. Project completion can be substantially delayed, and equipment and workers wastefully idled, due to the difficulty of coordinating agreement among the many subcontractors and related parties. In the interest of keeping the project moving, most construction projects assign some provisional control over performance to the project architect so that she can order performance even before renegotiation.[121] We might characterize this as one form of a party-driven governance mechanism, assigning the owner's agent the power to make contract determinations in the moment. This can help overcome wasteful holdout problems, but it brings its own problems.

The contractor will have little bargaining power to demand payment later on because she cannot retrieve the compelled effort and materials invested in the project.[122] She may elect a form of reluctant or low-quality performance,[123] leading even an honest owner to retaliate against perceived shirking. Asymmetric information can exacerbate this cycle of distrust.[124] Even if litigation later clarifies contractual duties in this case, losses mount in the meantime.

Parties value clarity of obligation at the time of performance because courts do not always provide adequate damages for breach, and therefore the shadow of litigation may not provide optimal incentives at the time of performance. Consider Justice (then judge)

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120. *See* Ian Ayres & Kristin Madison, *Threatening Inefficient Performance of Injunctions and Contracts*, 148 U. PA. L. REV. 45, 46 & n.1 (1999).

121. *See* Adrian L. Bastanielli III, *The DRB and the New Standard Form Contract Documents*, DISP. RESOL. BOARD FOUND. F., Aug. 2008, at 10, 12. FIDIC and ICE contracts similarly empower the engineer. *See* Chapman, *supra* note 109, at 3.

122. This risk is particularly salient because the architect, who provisionally directs the work and decides compensation, is paid by the owner and may be perceived as biased by the contractor. *See* Christopher R. Seppala, *Contractor's Claims Under the FIDIC International Civil Engineering Contract*, 14 INT'L BUS. LAW. 179, 180 (1986).

123. *See* GOLDBERG, *supra* note 71, at 328-29; Keith J. Crocker & Thomas P. Lyon, *What Do "Facilitating Practices" Facilitate? An Empirical Investigation of Most-Favored-Nation Clauses in Natural Gas Contracts*, 37 J.L. & ECON. 297, 303 (1994); Paul L. Joskow, *Price Adjustments in Long-Term Contracts: The Case of Coal*, 31 J.L. & ECON. 47, 52 (1988).

124. *See* AVINASH K. DIXIT & BARRY J. NALEBUFF, THINKING STRATEGICALLY 106-13 (1991); DAVID D. FRIEDMAN, LAW'S ORDER 164 (2000).

Cardozo's touchstone treatment of substantial performance, *Jacob & Youngs, Inc. v. Kent*, in which a contractor used a different brand of pipe than that specified by the contract, but of similar quality.[125] Given the wastefulness of rebuilding the house with the correct pipe, Cardozo found it would have been "harshness" and "oppression" to require specific performance[126] and suggested that appropriate damages for pipe so similar would be "nominal or nothing."[127] Yet this result blunts performance incentives because contractors learn that they can ignore low-salience contract provisions.[128] Courts are more willing to impose large awards against those who willfully breach.[129] Such a determination seems more likely when the breaching party knew unambiguously what duties the contract assigned.[130] Construction is therefore an area in which contractual clarity at the time of performance lets parties know they stand a reasonable chance of paying appropriate damages, thus reducing their incentive for inefficient breach.

To translate the foregoing into the language of the ex ante / ex post dichotomy, one finds terms like "reasonably foreseeable" in construction contracts, despite their contribution toward blunted incentive and litigation costs, because greater initial specificity would be unduly costly. The transaction costs and uncertainty are just too daunting. The court's hindsight may make it cheaper than attempting ex ante to agree upon the best allocation of duties for the uncertain future. Yet litigation costs, incentive costs, and the transaction costs to avoid them are all high. If those are the parties'

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125. 129 N.E. 889, 890 (N.Y. 1921).

126. *Id.* at 890-91.

127. *Id.* at 891; *cf.* Montgomery v. Karavas, 114 P.2d 776, 781-82 (N.M. 1941) (agreeing with Cardozo's holding but finding in this case that specific performance would not be "grossly and unfairly out of proportion to the benefits").

128. *Kent* was not a case of a vague term because the parties clearly specified the pipe brand. *Kent*, 129 N.E. at 890.

129. George M. Cohen, *The Fault Lines in Contract Damages*, 80 VA. L. REV. 1225 (1994); *cf. Kent*, 129 N.E. at 890 (finding that contractor's breach was not willful).

130. Richard Crasswell, *When Is a Willful Breach "Willful"? The Link Between Definitions and Damages*, 107 MICH. L. REV. 1501, 1502-04 (2009) (critically examining the factors of knowledge and intention in willful breach); Patricia H. Marschall, *Willfulness: A Crucial Factor in Choosing Remedies for Breach of Contract*, 24 ARIZ. L. REV. 733, 760 (1982) (arguing that when a breach is knowing and unexcused, courts should grant the aggrieved party "either specific performance or the highest possible measure of expectation damages") (footnote omitted).

only two options, as the ex ante / ex post dichotomy implies, then the disputatious present may be a rational equilibrium.

2. Ex Tempore & Dispute Boards

The construction industry had long accepted substantial back-end costs by way of the logic of the ex ante / ex post dichotomy. Yet remarkable strides have been made through the use of a new contracting technology: neutral expert panels called dispute boards.[131] These boards promise a third way of addressing contractual specification, through ex tempore contracting.

Dispute boards are panels of neutral experts, typically three, chosen by the parties and convened at the start of a construction project.[132] Thereafter, the board visits frequently during the life of the construction project, often at least three times per year.[133] During their visits they ferret out potential conflicts and budding disputes even when projects are going well. They write opinions concerning quality, responsibility, and remedy. These opinions are contractually binding on the parties, though either party may reject the board's decision upon proper notice.[134] Board decisions are not

131. European-style boards are often called dispute *adjudication* boards, contrasted to the American-style dispute *review* boards or dispute *resolution* boards. *See* Swiney, *supra* note 97, at 161.

132. *Dispute Resolution Board (DRB)*, AM. ARBITRATION ASS'N, http://www.adr.org/aaa/faces/services/disputeavoidanceservices/disputeresolutionboards (last visited Mar. 8, 2014). The typical board has one member selected by the contractor, one by the owner, and a chairman chosen by the first two members. Board members are not supposed to act as agents of the nominating party. *Id.* Genuinely neutral board members may be easier to find at the start of the contractual relationship, prior to disputes, while the parties are still trying to establish an efficient working procedure.

133. CHERN, *supra* note 5, at 187 (noting that in most contracts, "three site meetings per year is the minimum"). For example, the Ertan Dam project board in China made more than twenty site visits. *China's Ertan Hydroelectric Project: A Dispute Resolution Board Case Study*, DISP. RESOL. BOARD FOUND. F., May 2004, at 1, 18, *available at* http://www.drb.org/newsletter/Forum05-04FullColor.pdf.

134. The effect of rejection or acceptance varies depending on the clause. In Europe and internationally the board's decision is commonly contractually binding though not final. Jesse B. Grove & Richard Appuhn, *Comparative Experience with Dispute Boards in the United States and Abroad*, CONSTRUCTION LAW., Summer 2012, at 6, 8. That is, once the board makes its recommendation, the parties are contractually bound to act accordingly for now, though either party may still seek review from a court or adjudicator. The contract, however, will typically provide that, in the subsequent adjudication, the board's recommendation will be admitted as evidence. L.A. Cnty. Metro. Transp. Auth. v. Shea-Kiewit-Kenny, 69 Cal. Rptr.

adjudicatory judgments, subject to execution.[135] Rather, the parties have agreed that an unchallenged opinion board decision becomes a part of the contract, binding and available in any subsequent adjudication.[136]

Formal recommendations are timely, available within a few weeks of the board's meeting with the parties, which itself promises to be at most a few months after conflict arises.[137] Boards can make informal recommendations even faster, perhaps contemporaneously with their visit to the site.[138]

Dispute boards exemplify ex tempore contracting because of their distinctive function in determining contractual responsibilities on an ongoing basis. Dispute boards allow parties to draft an apparently incomplete contract without suffering for long the ills of

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2d 431, 433 (Ct. App. 1997).

In the United States, dispute boards exert less overt influence over the parties because rejected (and sometimes even accepted) board recommendations may not be provisionally binding. *See* Grove & Appuhn, *supra* note 134, at 8; *see, e.g.*, Sehulster Tunnels/Pre-Con v. Traylor Bros., Inc./Obayashi Corp., 4 Cal. Rptr. 3d 655, 667 (Ct. App. 2003) ("The Prime Contract provided that either City or TBO could refer a dispute to the DRB, which was charged with impartially and promptly considering referenced disputes and providing written nonbinding recommendations to assist their resolution."). The board decision has teeth in greater part from its publicity to future adjudication bodies.

135. The fact that boards lack enforcement powers definitively distinguishes them from ex post adjudication. Yet the fact that they are willing to assign blame and make substantive recommendations distinguishes them from ordinary mediation. *See* Jennifer Gerarda Brown & Ian Ayres, *Economic Rationales for Mediation*, 80 VA. L. REV. 323, 324 (1994) ("A mediator, by contrast, stops short of recommending how the dispute should be resolved.") (footnote omitted).

136. *Dispute Board Rules*, INT'L CHAMBER OF COMMERCE, http://www.iccwbo.org/products-and-services/arbitration-and-adr/dispute-boards/dispute-board-rules/#article_1 (last visited Mar. 30, 2014) ("Dispute Boards are not arbitral tribunals and their Determinations are not enforceable like arbitral awards. Rather, the Parties contractually agree to be bound by the Determinations under certain specific conditions set forth herein.").

137. *See, e.g.*, SR 559 (over CSX RR) - Differing Subsurface Conditions for End Bent 4, Shaft No. 1 (Fla. Dep't of Transp. Jan. 2, 2012) (recommendation), *available at* http://www.dot.state.fl.us/construction/CONSTADM/drb/decisions/D1/2012/T1393_197701-4_Differing Conditions_EndBent4_DrilledShaft1.pdf (showing that the formal board recommendation was available just thirteen days after the dispute review board hearing).

138. The immediacy of their response seems to be vital to their usefulness. *See* Cyril Chern, *The Dispute Board Federation and the Role of Dispute Boards in Construction - Benefits Without Burden*, 2010 SPAIN ARB. REV. 5, 9 ("All the other forms of dispute resolution generally involve a delay whilst the parties fight it out."); *see also* Kathleen M. J. Harmon, *Case Study as to the Effectiveness of Dispute Review Boards on the Central Artery/Tunnel Project*, 1 J. LEGAL AFF. & DISP. RESOL. ENGINEERING & CONSTRUCTION 18, 25 (2009) (agreeing that timely use of DRBs appears to help resolve disputes).

incompleteness. Yet they need not pay for this obligational clarity in advance of it being necessary, say, by specifying how precisely a golden eagle discovery will change the plan. If an eagle is found, the parties do not have to pause the construction project for protracted litigation, nor reluctantly continue the project with judicial intervention pending. They need not wait until costly adjudication, nor perform in the shadow of obligational uncertainty, nor draft complete contracts ex ante. They can have a dispute board determination right away. These determinations may be informed by hindsight, in that they may impose more efficient or desirable allocations than the parties might have written had they set their minds to it at contract formation.

The dispute board clause converts seemingly vague terms, such as "equitable," "reasonably anticipated," or "workmanlike quality," into *interim* terms, which have no fixed meaning at drafting but have a determined meaning around performance, prior to adjudication. They answer questions like whether an owner has a duty to mitigate damages, and whether its actions satisfy that duty.[139] They specify duties, as might the parties or a court.[140]

The parties can provide that the project deadline may be extended due to unforeseeable delays, but not due to those that are reasonably foreseeable.[141] They can adopt this drafting strategy, rather than an ex ante schedule of results for each conceivable cause for delay and rather than costly ambiguity and litigation, because a dispute board is available to immediately give content to the apparently vague clause.[142] The contract can excuse delayed

139. *See, e.g.*, SR 70 - Time Extension Due to Shortage of Thermoplastic Material 1, 4-5 (Fla. Dep't of Transp. Nov. 14, 2010) (recommendation), *available at* http://www.dot.state.fl.us/Construction/CONSTADM/drb/decisions/D1/2010/T1341_422403-1_ThermoplasticMaterialShortage.pdf.

140. Note that it does not follow that the board's methodology is that of a party or a court. Part III.B discusses the many determinative frameworks used by interim agents.

141. *See, e.g.*, Cheryl Semple et al., *Construction Claims and Disputes: Causes and Cost/Time Overruns*, 120 J. CONSTRUCTION ENGINEERING & MGMT. 785 (1994); *see also* FENIOSKY PEÑA-MORA ET AL., INTRODUCTION TO CONSTRUCTION DISPUTE RESOLUTION 14-15 (2003) (discussing methods of handling internal and external uncertainties in contracts).

142. *See, e.g.*, SR 70 - Time Extension Due to Shortage of Thermoplastic Material, *supra* note 139; SR 5A (Nova Rd.) - Area Wide Cement Shortage 2, 4, 16 (Fla. Dep't of Transp. Nov. 22, 2004) (recommendation), *available at* http://www.dot.state.fl.us/construction/CONSTADM/drb/decisions/D5/Dist%205%20SR-5A%20MCS%20Cement%20Shortage%20Impact.pdf (concerning cement shortage); SR15 (US 441) - Base Material Shortage (Fla. Dep't of Transp.

construction when there is an "area-wide shortage" of materials, leaving the board to specify the geographic and conceptual size of the "area."[143] The parties need not specify the contractual implications of an unanticipated conflict between the proposed location of a project and an existing electrical power line because they can trust that either they or a neutral third party will update the plan in a timely fashion.[144]

Dispute resolution boards can address countless other contingencies, without anticipating them at contract formation. The parties can learn whether unexpected changes in port security policies excuse a contractor from late delivery.[145] The parties need not specify which emergency repairs will entitle the contractor to additional compensation,[146] nor how the contract will apportion the cost of damage by third parties,[147] leaving it to the dispute board to rapidly evaluate the repairs presented.

The parties can give the owner the right to modify the project as its needs change, so long as the contractor is reasonably compensated for any additional work or expenses.[148] They can do this

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Nov. 15, 2004) (recommendation), *available at* http://www.dot.state.fl.us/construction/CONSTADM/drb/decisions/D5/40917315201%20Base%20Shortage.pdf (concerning coquina and limerock shortage).

143. *See, e.g.*, FLA. DEP'T OF TRANSP., STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION § 8-7.3.2 (2013).

144. *See* SR 366 - Utility Conflict (Fla. Dep't of Transp. June 13, 2000) (recommendation), *available at* http://www.dot.state.fl.us/construction/CONSTADM/drb/decisions/D3/drb73.pdf.

145. *See, e.g.*, SR 50 & SR 45 - Time Adjustment Due to Delays from Tampa Port Security (Fla. Dep't of Transp. Dec. 2, 2003) (recommendation), *available at* http://www.dot.state.fl.us/construction/CONSTADM/drb/decisions/D7/D7%20Tampa%20Security%20Delays.pdf.

146. *See, e.g.*, (Apalachicola River Bridge) - Payment for Repair of Expansion Joints (Fla. Dep't of Transp. May 10, 2000) (recommendation), *available at* http://www.dot.state.fl.us/construction/CONSTADM/drb/decisions/D3/drb74.pdf.

147. *See, e.g.*, I-95 Express Lanes - Third Party Damages, Incident Management, Fuel Spill Clean-Up, Routine Maintenance (Fla. Dep't of Transp. Oct. 7, 2012) (recommendation), *available at* http://www.dot.state.fl.us/construction/CONSTADM/drb/decisions/D4/12-13/E4K49_422796-1_I-95_MultipleIssues.pdf; SR 9 (I-95) Payment for Guardrails Damaged by Third Parties (Fla. Dep't of Transp. Dec. 22, 2011) (recommendation), *available at* http://www.dot.state.fl.us/construction/CONSTADM/drb/decisions/D4/2011/T4190_406870-1_SR9_I95_RepairsToDamagedGuardrail.pdf.

148. *See, e.g.*, SR 45 (US 41) - Changes to Luminaries (Fla. Dep't of Transp. Oct. 12, 2008) (recommendation), *available at* http://www.dot.state.fl.us/construction/CONSTADM/drb/decisions/D1/2008/DRB22-ACC27-Luminaires.pdf (discussing owner's request for more powerful streetlights); SR 50 & SR 45 - Significant Change in Work (JPA Fittings, Water & Force Mains) (Fla. Dep't of Transp. Nov. 7, 2002) (recommendation), *available at* http://www.

without extensive ex ante description of what changes will result in what fees for the contractor, and they can still avoid inefficient litigation and holdups.[149] Likewise, the contract can give the contractor some ability to initiate changes, like substituting an alternative infrastructure system for the propriety system mentioned in the contract.[150] These allowances give long-term contracts the flexibility they need to remain rational as the world changes.

Unlike with a court, the parties choose the composition of the dispute board[151] and can use that as an opportunity to select its interpretative methodology from among the many options. Some boards exhibit formalist preferences, with the agency attempting to divine the appropriate determination on the basis of the written contract.[152] Other agents are inclined to evaluate extensive implied duties. Chern describes one construction contract that required the use of local labor whenever possible. The contractor alleged an implied right to have the owner help find local labor and forgive the obligation to whatever degree the owner was competing with the contractor by hiring from the same labor pool for other matters.[153] There was no textual basis for this claim, but the dispute board found the question to be a reasonable one.[154]

In contracts in which relationships matter and formal proceedings risk crowding out relational cooperation, parties may select a dispute board that is inclined to help the contractual relationship.

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dot.state.fl.us/Construction/CONSTADM/drb/decisions/D7/Dist%207%20SR-50%20Smith%20Significant%20Change.pdf.

149. Without contractual protection, it may be possible for one party to exploit the other. Either the contractor will be able to extort a high fee from the owner who will have difficulty obtaining a competing bid in the course of construction, or the contract may allow the owner to excessively alter the project without sufficient compensation to the contractor.

150. *See, e.g.*, SR 5/US 1 - Obligation to Utilize Proprietary Irrigation System Specified (Fla. Dep't of Transp. Feb. 16, 1999) (recommendation), *available at* http://www.dot.state.fl.us/construction/CONSTADM/drb/decisions/D4/drb37.pdf; *see also* SR A1A - Acceptance of Material (Steel Beams) Not in Conformity with Plans & Specs (Fla. Dep't of Transp. June 24, 1998) (recommendation), *available at* http://www.dot.state.fl.us/construction/CONSTADM/drb/decisions/D4/drb110.pdf.

151. *See* Shani Wallis, *DRBs in North America: Knowing and Playing by the Rules*, DISP. RESOL. BOARD FOUND. F., Aug. 2008, at 1, 1.

152. *See, e.g.*, Russel P. Rudden, *Assessing 10 Years of Dispute Resolution Boards at BART*, DISP. RESOL. BOARD FOUND. F., Aug. 2004, at 1, 18.

153. CHERN, *supra* note 5, at 216-19.

154. *Id.*

In one dispute, a board determined that the contractor was not entitled to avoid penalties for its late completion, but the board also *suggested* that the department consider allowing thirty to thirty-two days of additional credit to the contractor.[155] Why? "To partner normally suggest [sic] both parties conceding to somewhere around mid-point."[156] So the entitlement goes to the owner, but a suggestion to split the baby also goes in the record.

Other parties wish for boards to err in favor of the contractor, so as to encourage other contractors to make quick, low bids. One Canadian court expressed a government policy to ratify board-determined awards even when fresh litigation would surely yield a lower award to the contractor. The court justified the bias by asserting that it encourages contractors to feel safe in offering quick, low bids.[157] The benefit of so many methodologies is that the parties have great freedom to select whatever they like, but there is a risk that one or both parties will fail to appreciate the consequences of selecting a particular board.[158]

Dispute boards' effectiveness no doubt comes from many causes in addition to their role in ex tempore contracting. They may help parties to mediate emotional disputes.[159] Their opinion can serve to preserve contemporaneous evidence for later judicial verification.[160] Periodic board reports help the parties gauge one another's commitment to the project.[161] But boards are not just mediators or expert witnesses, though by wearing these hats they may serve an

155. SR-78 (Dike Rd. to Okeechobee Co.) Additional Time (Fla. Dep't of Transp. Nov. 15, 2003) (recommendation), *available at* http://www.dot.state.fl.us/construction/CONSTADM/drb/decisions/D1/PastYears/D1%20SR-78%20Dike%20Rd%20to%20Okeechobee%20Co%20Add%20Time.pdf.

156. *Id.*

157. *See* Welcon (1976) Ltd. v. Town Council of S. River, 2006 CarswellNfld. & P.E.I.R. 199, para. 4 (Can. Nfld.) (WL) (explaining why the government defers to board decisions), *aff'd*, 2009 CarswellNfld & P.E.I.R. 269 (Can. Nfld.) (WL).

158. *See*, *e.g.*, Rudden, *supra* note 152, at 18 ("It may be that BART's expectation that a DRB will strictly enforce a contract is unrealistic and fails to consider that a DRB weighs heavily the risks a contractor takes in preparing its bid.").

159. *See* Robert H. Mnookin, *Why Negotiations Fail: An Exploration of Barriers to the Resolution of Conflict*, 8 OHIO ST. J. ON DISP. RESOL. 235, 248-49 (1993).

160. *See* Seifert, *supra* note 117, at 151-52. ("The [board] acts as an expert and not as an adjudicator."); *supra* note 134.

161. This is therefore part of the braiding of formal and informal contracting techniques described by Gilson, Scott, and Sabel. *See* Gilson et al., *supra* note 73, at 1403.

ex tempore contracting function. The board's frequent site visits allow the board to hear updates and complaints from the parties involved in day-to-day operations. Industry expertise allows the board to credibly respond to queries without the delay necessary to obtain technical advice.

Boards frequently decline to use their expert industry knowledge to resolve matters when independent legal grounds exist for a decision,[162] even going so far as to cite judicial authority for their views.[163] Parties frequently concede the more technically complicated factual questions, such as whether a project has all of its ADA tiles or traffic signals have achieved "full actuation,"[164] leaving the board to situate those factual questions into the context of the

162. For example, in one case the contractor argued that the owner's timeline was both nonsensical—that is, the owner's calculations did not make sense on their own terms—and unrealistic. *See* SR 555/US 17 - Golden Eagle - Contract Time Issue 9 (Fla. Dep't of Transp. Aug. 19, 2002) (recommendation), *available at* http://www.dot.state.fl.us/construction/CONSTADM/drb/decisions/D1/PastYears/Dist%201%20US-17%20Golden%20Eagle%20Contract%20Time%20Impacts.pdf.

163. *See, e.g.*, Appeal of J. Lawson Jones Constr. Co., 86-1 BCA P 18, 719, at *45 (1986); *see also* Municipality of Anchorage v. Frank Coluccio Constr. Co., 826 P.2d 316, 319-20 (Alaska 1992) (noting that the contract provided that "[t]he panel shall enter formal Findings of Fact and Conclusions of Law to identify its decision-making process"). Parties may also cite judicial authority to convince boards. *See, e.g.*, SR 555/US 17 - Golden Eagle - Contract Time Issue, *supra* note 162, at 12 (noting that the contractor cited *Rumsey v. United States*, 88 Ct. Cl. 254 (1939), among others, in its rebuttal).

164. Actuation is the process by which lights can be configured to change in response to traffic, such as using sub-surface induction loops to detect cars and trigger light changes. *See generally* KITTLESON & ASSOCIATES, INC., SIGNAL TIMING MANUAL (2008) (describing actuation techniques). The FDOT argued that full actuation would have required induction loops to be installed on the main roads and infrared detectors on the minor streets. SR 26 Critical End Dates 2 (Fla. Dep't of Transp. Nov. 30, 2006) (recommendation), *available at* http://www.dot.state.fl.us/construction/CONSTADM/drb/decisions/D2/D2SR26CriticalEndDates.pdf.

contract.[165] When boards make technical evaluations,[166] they often do so to reach legal or contractual matters.[167]

The dispute board's predilection for determining contract duties, rather than simply making technical assessments, is consistent with what other scholars have noted about construction disputes: they are overwhelmingly contractual in nature.[168] One study of government construction contracts found that nearly one-third of all disputes between 1980 and 2004 concerned either contract interpretation or modification of the contract to accommodate unexpected problems and additional work.[169] Relatively few turn on factual disputes on highly technical matters, such as a claim that the owner

165. For example, one contract exempted from deadline any "minor signal work, friction course, and patterned textured pavement." SR 26 Critical End Dates, *supra* note 164, at 2. The contractor argued that ADA tiles are traditionally added *after* the friction course because tiles can crack in the process of adding that final layer of asphalt. *Id.* The friction course is a top layer of asphalt that provides traction and drainage. *Definition: Friction Course*, N. FLA. ROADS, http://www.northfloridaroads.com/glossary/details.asp?GlossaryID=4 (last visited Mar. 2, 2014). If the friction course can be added after September 1 without penalty, the contractor argued, so too could the ADA tiles. SR 26 Critical End Dates, *supra* note 164, at 3. The contractor also argued that the remaining effort to achieve full actuation was only "minor signal work." *Id.* Though the dispute was factually dense, the facts were not in dispute. Instead the board was called upon to evaluate whether late installation was penalized under the contract. *Id.*

166. *See, e.g.*, SR 200 (A1A) - Differing Site Conditions Concerning Muck Removal & Subsurface Clay 11 (Fla. Dep't of Transp. Nov. 12, 2011) (recommendation), *available at* http://www.dot.state.fl.us/Construction/CONSTADM/drb/decisions/D2/2011/E2N36_210687-3_SR200_DiffSiteCondition_MuckRemoval.pdf (noting that "[b]orings data was not reported for right offsets" and that "anticipated muck depth information was taken from muck probes, which … are not reliable").

167. *See, e.g.*, *id.* at 11-12 (concluding that "the muck depth condition" was not a "differing site condition" entitling the contractor to additional compensation).

168. *See* Kurt L. Dettman et al., *Resolving Megaproject Claims: Lessons from Boston's "Big Dig,"* CONSTRUCTION LAW., Spring 2010, at 5, 47 n.28 ("In the early phase of the Project, it was assumed that the majority of claims would involve technical, rather than legal, issues. As the Project gained experience in how claims were handled by the [board], the Project concluded that ... many claims involved legal issues.").

169. J. Cletus Goetz II & G. Edward Gibson Jr., *Construction Litigation, U.S. General Services Administration, 1980-2004*, *in* 1 J. LEGAL AFF. & DISP. RESOL. ENGINEERING & CONSTRUCTION 40, 43-44 (2009) (finding contract interpretation to be the second most important subject of litigation of government construction contracts after modifications); *see also* Jeffrey Joseph Kilian, A Forensic Analysis of Construction Litigation, U.S. Navy Engineering Command 39 (May 2003) (unpublished M.S. thesis, University of Texas at Austin)("The majority of cases were assigned to the category of 'Interpretation of Contracts.'").

furnished problematic equipment or that the finished project was of unacceptable quality.[170]

This procedure can have dramatic results. Dispute boards are lauded as remarkably effective in swiftly preventing, reducing, or eliminating conflict.[171] One paper noting a marked decline in disputes and litigation from 1980 to 2004 among U.S. government-sponsored projects, particularly contract disputes, attributes the decline in part to increasing use of dispute board-type procedures.[172] Dispute boards are able to resolve 98 percent of potential disputes without subsequent mediation, arbitration, or litigation.[173]

Dispute resolution costs are widely believed to be far lower with a dispute board in place.[174] One study of the Big Dig[175] found that the cost of dispute board procedures averaged about $30,000-$40,000 per dispute, about $20,000 less than mediation and substantially less than litigation.[176] Another dispute board expert estimated that the typical cost of a dispute board is about 2 percent of the disputed amount, as opposed to 12 percent for arbitration.[177]

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170. *See* Goetz & Gibson, *supra* note 169 (noting that acceptance and owner's equipment disputes made up less than forty disputes of the more than 600 surveyed).

171. *See, e.g.*, BARRY B. BRAMBLE & MARK D. CIPOLLINI, SYNTHESIS OF HIGHWAY PRACTICE 214: RESOLUTION OF DISPUTES TO AVOID CONSTRUCTION CLAIMS 20-21, 27 (1995).

172. Goetz & Gibson, *supra* note 169, at 45-46. *Compare* Christopher R. Seppala, *International Construction Contract Disputes—Commentary on ICC Awards Dealing with the FIDIC International Conditions of Contract*, 16 INT'L CONSTRUCTION L. REV. 339, 340 (1999) (noting that construction made up over 20 percent of ICC arbitration in the 1980s), *with Publication of Construction Arbitration Report*, INT'L CHAMBER OF COMMERCE (2001), https://web.archive.org/web/20090109134006/http://www.iccwbo.org/court/arbitration/id4141/index.html (noting that construction is down to 14-20 percent of cases referred to ICC arbitration).

173. REDUCING CONSTRUCTION COSTS, *supra* note 4, at 16.

174. *See* Kathleen M. J. Harmon, *Construction Conflicts and Dispute Review Boards: Attitudes and Opinions of Construction Industry Members*, DISP. RESOL. J., Nov. 2003-Jan. 2004, at 66, 71 (reporting that 77 percent of survey respondents thought it keeps dispute costs down, 84 percent said it reduces the cost of outside counsel, and 55 percent said it reduces the costs of consultants); *accord* Harold V. McKittrick, *The Dispute Resolution Board Process: A Report Card*, DISP. RESOL. BOARD FOUND. F., Feb. 2005, at 1, 1.

175. The Big Dig, an excavation project rerouting Boston's Interstate 93, is among the largest engineering works in history and is sometimes compared to the Panama Canal. Michael Grunwald, *Dig the Big Dig*, WASH. POST, Aug. 6, 2006, http://www.washingtonpost.com/wp-dyn/content/article/2006/08/04/AR2006080401755.html.

176. Harmon, *supra* note 138, at 24.

177. Chern, *supra* note 138, at 5.

These costs do not include the intangible cost of the time, attention, and emotional well-being of key employees.[178] Dispute boards score better on these axes as well.[179] The engineer or architect in particular has a lessened adjudicatory function under this scheme, freeing a high-value professional to focus on her core competencies.[180] This is one way in which agent determination can sometimes be less costly than party-driven mechanisms.

Many believe that dispute boards reduce bid price[181] by signaling the owner as nonlitigious[182] and contractors reduce their risk premium for capricious or difficult claims processes.[183] Low bid prices are attractive indicia of dispute boards' merits for many public owners who may be less sensitive to subsequent savings than initial price.

Traditionally, project architects have provided on-site resolutions of disputes. Many scholars have described the architect on terms similar to this discussion of dispute boards, at least on the temporal axis of providing determination in the interim position.[184] Yet the architect is an agent of the owner. The rise of *independent* dispute boards highlights the value in ex tempore contracting of interim determination *by a third party*. First, contractors have been increasingly aware of the architect's incentive to side with the owner and have therefore found her determinations to be less satisfactory.[185] If architects ever were the neutral third parties that

178. *See* Harmon, *supra* note 174, at 69 (observing that 85 percent of respondents agreed that DRBs reduce the indirect costs, such as management focus and manpower that might otherwise be deployed to other projects). Like most nonlawyers, construction professionals generally dislike conflict and legal engagement. *Id.* at 70 (noting that 89 percent of professionals interviewed said disputes have emotional costs).

179. *See id.* (finding that 58 percent said DRB use increased their job satisfaction and 69 percent said it reduced stress).

180. *See* Chapman, *supra* note 109, at 17-18.

181. *See, e.g.*, James Denning, *More Than an Underground Success*, CIV. ENGINEERING., Dec. 1993, at 42.

182. *See* Harmon, *supra* note 174, at 71 (noting that 95 percent of those polled indicated that dispute board use indicates willingness in the owner to resolve disputes without arbitration and litigation).

183. *See* Chapman, *supra* note 109, at 14.

184. *See* Macneil, *supra* note 23, at 866; Williamson, *supra* note 22, at 249-50.

185. The recent rise of the dispute board comes with the waning influence of the architect on job sites. One reason may be the growing importance of the Middle Eastern and former Soviet bloc countries as construction sites. Owners in those countries frequently exercise active control over day-to-day management of the project and more directly constrain the

dispute boards are, that time has passed.[186] When legitimacy matters to determination, one can no longer obtain it from architect determination. Likewise, credible determinations may matter more as the industry becomes more fragmented. When the firms become smaller, more specialized, or international, parties may become less able to directly evaluate the quality of their counterparty.[187] Clearer signals of past behavior may be required. In such contexts, third-party determinations of credibility matter outside of the instant transaction. Dispute boards offer parties the neutral determination they cannot get from internal governance mechanisms.[188]

The specialization of the architectural profession—its separation from the role of engineer, general contractor, and the rest—has raised the cost and lowered the benefit of using them for dispute management. They no longer possess cross-disciplinary expertise nor have unrivaled on-the-ground knowledge. They are also not experts in dispute management. The use of specialized dispute management bodies, obtained by contract with others, can be an effective way for the project to relieve architects of a job they no longer provide most cheaply. Thus, the American Institute of Architect's (AIA) adoption of dispute boards "was an acknowledgement of long-running criticism from nearly all quarters that questioned the designer's independence, competence, and desire to serve in this capacity."[189]

Dispute boards are also a means of controlling multi-party disputes in cases that might have been daunting projects to complete at all, let alone at an attractive price. Although dispute boards are popular in developed markets, some of their earliest and most prominent uses were high-risk international projects. For example, the Ertan Hydroelectric Project in China's Szechuan Province was

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independence of the engineer, limiting their appearance of neutrality. ROBINSON, *supra* note 103, at 98.

186. *But see* Bastanielli, *supra* note 121, at 12-13.

187. *See, e.g.*, *infra* note 191 and accompanying text. Project owners in jurisdictions in the developing world that lack credible courts use dispute boards to signal their quality to international donors and lenders. Pierre M. Genton, *DRB/DAV: An Attractive Procedure if One Takes Certain Precautions*, DISP. RESOL. BOARD FOUND. F., 2000.

188. *See* Thomas J. Stipanowich, *The Multi-Door Contract and Other Possibilities*, 13 OHIO ST. J. ON DISP. RESOL. 303, 360 (1998).

189. 2 BRUNER & O'CONNOR, *supra* note 26, § 5:20.20, at 17 (footnote omitted).

huge, costing $2 billion and taking nine years.[190] The project was organizationally complex—designed by one Chinese firm, with another Chinese firm as engineer, an Italian firm heading the dam construction, a German firm leading the drilling effort, as well as three other international contractors supporting both tasks, *and then* the subcontractors and suppliers—all in a complicated political and commercial environment.[191] Forty claims went to the dispute review board for formal review by the Swedish, UK, and Columbian board.[192] All of the decisions were either accepted or settled.[193] Within six months of project completion, there were no outstanding disputes.[194]

Dispute boards are relatively new contracting tools,[195] but they have gained endorsement from governments, international organizations, and scholars.[196] Essentially unused twenty years ago, dispute boards are now in place in more than $140 billion in projects.[197] The standard form construction documents from the four principal providers of these forms now include dispute boards by default.[198] Four U.S. states require dispute boards in nearly all transportation projects,[199] and the U.S. Department of Transportation Federal

190. *China's Ertan Hydroelectric Project*, *supra* note 133, at 18.

191. *See id.*

192. *Id.*

193. *Id.*

194. Chapman, *supra* note 109, at 6-7.

195. The first use of a dispute board may have been the Boundary Dam in Washington in the 1960s, which had a "Joint Consulting Board." *Id.* at 3.

196. *See, e.g.*, Stipanowich, *supra* note 7, at 500.

197. *See* Chapman, *supra* note 109, at 5.

198. FIDIC began including dispute boards in several of its form documents beginning in 1999. *Id.* at 4. AIA's standard form document, as of 2008, provided for an Initial Decision Maker (IDM), which is similar to a DRB. Bastanielli, *supra* note 121, at 10. The Construction Owners Association of America (COAA) and the Associated General Contractors of America (AGC) have provided on their standard form documents for parties to choose between either mediation or a DRB. *Id.* at 10.

199. *See* DISP. RESOL. BOARD FOUND., PRACTICES & PROCEDURES § 1.3, at 3 (2007), *available at* http://www.drb.org/manual/Section_1_QuickPrint_11-07.pdf ("California, Florida, Massachusetts and Washington are the largest users [of DRBs].... The California Department of Transportation (Caltrans) and Florida Department of Transportation (FDOT) use DRBs on almost all projects."); *see also* CALTRANS, CPB 10-5, CHANGES TO THE DISPUTE REVIEW BOARD PROCESS 1 (2010), *available at* http://www.dot.ca.gov/hq/construc/cpb/CPB10-5.pdf (noting that the California Department of Transportation has used DRBs since 1994); DISP. RESOL. BOARD FOUND., *supra* § 1.3, at 3 ("Idaho, Minnesota, Mississippi, Ohio, Oregon, South Carolina, Utah, Virginia and Wisconsin have active DRBs.").

Highway Administration strongly endorses the practice.[200] The World Bank, the Asian Development Bank, and other multinational development banks all require use of dispute boards at essentially all projects they fund.[201] Even the 2012 Olympics made use of a dispute board.[202]

Dispute boards are marvelously successful, and their main activity seems to be determination of contractual responsibilities, quite apart from any fact-finding or expert evaluation. Parties prize the ability to determine their obligations and entitlements on an ongoing basis. This assistance matters a great deal in construction when ex post determination through adjudication is costly due to incentive problems, adjudication costs, and transaction costs.[203] But ex ante contracting can be more costly still because of uncertainty.[204] Parties seem to like that they can leave the contract unresolved on some issues, but they need not wait until adjudication to clarify the contract. They trust the board to fill in the gaps and sharpen the vague terms when, and only when, questions as to duties arise.[205] A dispute board clause combines an apparently vague term, like "workmanlike" or "unforeseeable," with a mechanism for specifying it on an ongoing basis. By including both the vague term and the dispute board clause, the parties have included an ex tempore contracting structure in their relationship.

B. Credit Derivatives

Construction contracts increasingly utilize a technique of including putatively vague terms, coupled with a mechanism for rapid specification, thereby saving on both ex ante and ex post

200. *See* U.S. DEP'T OF TRANSP., DISPUTE REVIEW BOARDS: RESOLVING CONSTRUCTION CONFLICTS (2001), *available at* http://www.fhwa.dot.gov/construction/fs02009.pdf.

201. *See* CHERN, *supra* note 5, at 9-10; Carrol S. Dorgan, *The ICC's New Dispute Board Rules*, 22 INT'L CONSTRUCTION L. REV. 142, 143 (2005).

202. Joshua Rozenberg, *London 2012: Lawyers Poised for Olympic Disputes*, BBC (Mar. 6, 2012), http://www.bbc.co.uk/news/uk-17261126.

203. *See* Harmon, *supra* note 174, at 69, 71.

204. *See* Tirole, *supra* note 31, at 743.

205. *See* Chapman, *supra* note 109, at 2; Christopher R. Drahozal & Keith N. Hylton, *The Economics of Litigation and Arbitration: An Application to Franchise Contracts*, 32 J. LEGAL STUD. 549, 551 (2003).

costs.[206] High finance increasingly turns to similar techniques, for similar reasons. Consider the contracts constituting a credit default swap. This contract provides the buyer with insurance against the default of some other financial asset, such as a bond.[207] The insured individual receives payment from the seller if the bond is in default.[208]

The transaction costs to draft and agree to such contracts are quite high,[209] but when the market is relatively thick, parties may be able to institutionalize their common contracting problems with the help of institutions.[210] ISDA provides standard form contracts that document the majority of the world's financial derivatives.[211] ISDA employs about 3000 people in its documentation committee,[212] which reacts quickly to modify documents—striking terms, redefining them—to remain efficient as legal and economic circumstances change.[213] Parties have overwhelmingly availed themselves of ISDA's documentation.[214]

Preference for ISDA documentation is partially a result of strong network externalities in the form of comprehensibility and fungibil-

206. *See supra* Part II.A.

207. *See* Shikha Gupta, *Credit Default Swap: Regulations, Changes and Systemic Risk*, 3 RES. J. FIN. & ACCT. 27, 29 (2012).

208. *Id.* at 28.

209. *E.g.*, Jeffrey Golden, *Setting Standards in the Evolution of Swap Documentation*, INT'L FIN. L. REV., May 1994, at 18, 18 ("Market participants fought about everything."); Sean Vanatta, *Libor's Risks Emerged from Clubby London Banking Culture*, BLOOMBERG (Aug. 14, 2012), http://www.bloomberg.com/news/2012-08-14/libor-s-risks-emerged-from-clubby-london-banking-culture.html ("Nonuniformity was a significant problem."); Sean M. Flanagan, Note, *The Rise of a Trade Association: Group Interactions Within the International Swaps and Derivatives Association*, 6 HARV. NEGOT. L. REV. 211, 235-36 (2001) ("[D]ifferences between the participants were too great for a consensus to be reached.").

210. Gilson et al., *supra* note 61, at 176-77.

211. Frank Partnoy & David A. Skeel, Jr., *The Promise and Perils of Credit Derivatives*, 75 U. CIN. L. REV. 1019, 1025 (2007).

212. Anna Gelpern, Commentary, *Contracts as Organizations*, 51 ARIZ. L. REV. 57, 65 (2009).

213. *See, e.g.*, Stephen J. Choi & G. Mitu Gulati, *Contract as Statute*, 104 MICH. L. REV. 1129, 1144 (2006).

214. *See* INT'L SWAPS & DERIVATIVES ASS'N, ISDA MARGIN SURVEY 2012, at 3 (2012), *available at* http://www2.isda.org/functional-areas/research/surveys/margin-surveys/ (follow "ISDA Margin Survey 2012" PDF link) (stating that 85 percent of the approximately 138,000 collateral agreements in use in the OTC derivative market at 2011's end were ISDA agreements).

ity in the eyes of other market participants.[215] Widespread use and ISDA's careful intervention in the law-making process in many nations have resulted in privileged regulatory treatment; deviation from standard form contracts limits preferential treatment in bankruptcy.[216] ISDA contracts have been tested in courts and are supplemented by legal opinions permitting enforceability and netting.[217] Netting allows swap participants to aggregate the net payments or obligations under a series of swaps, canceling out offsetting entitlements, to arrive at a single operative sum.[218] Without netting, a bankrupt's estate may be able to cherry-pick among its derivative transactions, modifying or canceling some that require the bankrupt to pay, while continuing to collect on others.[219] For example, suppose Bank had agreed to an interest swap in which Bank will pay to Company 6 percent of a given sum, and Company will pay to Bank a floating rate that fluctuates around 6 percent. Company then files for bankruptcy. With netting, Company's estate owes, or is owed, an amount close to zero, because the two swaps were of equal and offsetting value. Without netting, Company's estate might sue to continue to collect the fixed 6 percent payment from Bank as an asset of the estate, but might not pay its variable

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215. *See* James C. duPont, Comment, *A Second Chance at Legal Uncertainty: AIG Collapse Provides Impetus to Regulate Credit Default Swaps*, 61 ADMIN. L. REV. 843, 865-66 (2009) ("Standardization of contract terms.... would render CDSs more fungible for purposes of exchange trading. Efforts to create standardized CDS contracts to facilitate exchange trading could be undertaken without substantial difficulty by referencing the ISDA's Master Swap Agreement.") (footnote omitted); *see also* Barry Le Vine, Comment, *The Derivative Market's Black Sheep*, 31 NW. J. INT'L L. & BUS. 699, 713 (2011) (noting lack of fungibility as a cost of customized contracts).

216. *See* Gelpern, *supra* note 212, at 66-67.

217. *Id.* ("ISDA ... has obtained legal opinions from local counsel in over forty countries attesting to the enforceability of netting provisions in their contracts."); *see also Opinions*, INT'L SWAPS & DERIVATIVES ASS'N, https://www2.isda.org/functional-areas/legal-and-documentation/opinions/ (last visited Mar. 8, 2014) ("[T]he ISDA opinions address the enforceability of the termination, bilateral close-out netting and multibranch netting provisions of the 1992 and 2002 Master Agreements.... ISDA also solicits legal opinions on the enforceability of the ISDA Credit Support Documents in various jurisdictions, also updated on an annual basis.").

218. *See* Nathaniel G. Dutt, *Current United States Credit Default Swap Regulatory Initiatives: A New World Standard or Just a Ploy?*, 16 ILSA J. INT'L & COMP. L. 169, 180-81 & n.62 (2009).

219. INT'L SWAPS & DERIVATIVES ASS'N, ISDA RESEARCH NOTES 7 (2009), *available at* http://www.isda.org/researchnotes/pdf/ISDA-Research-Notes2.pdf.

obligation to Bank in full if the estate did not have enough assets to make all creditors whole. Netting is one of several benefits afforded ISDA swaps.

As with construction, the preference for standard contracts raises the cost for those who wish to greatly particularize the document for their own purposes. Participants who excessively modify their swap contracts cannot be guaranteed that the law or market participants will treat their agreements with the same deference given ISDA documents.[220] Thus, industry solutions to the transaction costs associated with front-end contracting raises the costs for those parties who wish to contract for non-standard arrangements.[221] The standardization is only greater in the exchange-traded market, where no negotiation is allowed at all.[222]

In addition to transaction costs, the derivatives space contemplates the challenges of substantial uncertainty. These contracts are used precisely in markets in which uncertain risk is deemed difficult to control, making elaborated contracts impossible.[223]

ISDA's documentation does not provide a fully articulated definition of the term "default." How could it? The universe of potential defaults is infinite, as is the universe of items that could be the subject of a credit default swap. Is default triggered when the issuer misses a payment? What if the bonds are current, but the issuer uses the threat of dilution under domestic law to coerce voluntary forbearance, as in the case of Greece?[224] What if the bond documents allow a grace period of thirty days, whereas related loan agreements provided for only three days, as in the case of Italian firm SEAT Pagine Gialle?[225] Even if it were possible to anticipate

220. *See* Choi & Gulati, *supra* note 213, at 1142 ("The deference courts give to the intent and guidance of a standard setter [such as ISDA] is important.").

221. *See* Partnoy & Skeel, *supra* note 211, at 1025.

222. *See Treasury's Proposal Mandating Clearing of "Standardized" Swaps*, INT'L SWAPS & DERIVATIVES ASS'N (Sept. 2009), http://www.isda.org/c_and_a/pdf/isda-mandated-clearing-standardized-swaps.pdf.

223. *See* Anna Gelpern & Mitu Gulati, *CDS Zombies*, 13 EUR. BUS. ORG. L. REV. 347, 350-51 (2012) ("[S]overeign defaults are tail-risk events."); *cf.* Partnoy & Skeel, *supra* note 211, at 1025 ("[C]redit default agreements have become standardized.") (footnote omitted).

224. Gretchen Morgenson, *Scare Tactics in Greece*, N.Y. TIMES (Nov. 19, 2011), http://www.nytimes.com/2011/11/20/business/credit-default-swaps-as-a-scare-tactic-in-greece.html.

225. Chris Whittall, *Dealers Slam CDS Committee "Bias,"* REUTERS (Dec. 12, 2011, 4:36 AM), http://www.reuters.com/article/2011/12/12/seat-cds-idUSL6E7NC14E20111212.

every potential fact pattern, it is plain that the best explication of "default" might differ from transaction to transaction, but the form contract must be written with ample generality.

If it is costly to determine responsibilities ex ante, ex post determination in court later is costlier still.[226] Generalist courts may not understand complex financial arrangements, making errors more likely.[227] Financial firms have fewer hard assets for a plaintiff to eventually seize, particularly in a time of financial insecurity, which decreases the chance that plaintiffs can be made whole.[228]

Obligational clarity is also important for regulatory reasons: banks and other financial firms may be required to raise additional capital if they cannot claim that their swap-related assets, or CDS-insured bonds, are in good standing.[229] Financial assets can change in value quickly,[230] making prompt determination vital.

Because ex ante contracting that anticipates the many futures of the contract and ex post determination are both undesirable, the derivatives space has increasingly relied on ex tempore contracting. Like construction contracts, ISDA contracts include numerous underspecified provisions, like "default." ISDA has for decades played a role in determining the meaning of its contracts for members on a going forward basis and has recently increased its role in doing so even for existing contracts, acting as a kind of agent for ex tempore contracting.[231]

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226. *Supra* Part II.A.1.

227. *See* Gilson et al., *supra* note 61, at 200-01; *supra* note 67 and accompanying text.

228. *See* ANNELISE RILES, COLLATERAL KNOWLEDGE 38-40 (2011) (discussing debt proceedings involving financial institutions and the role of collateral).

229. *See* Associated Press, *Terms, Players in the Goldman Sachs Fraud Charges*, SEATTLE TIMES (Apr. 16, 2010), http://seattletimes.com/html/businesstechnology/2011627771_apussecgoldmansachsglossary.html ("[In a CDS transaction,] one side buys protection from the other that a loan or other obligation will stay in good standing. If it doesn't, the party that bought the protection must be paid.").

230. *See* RISK MANAGEMENT IN VOLATILE FINANCIAL MARKETS 89 (Franco Bruni et al. eds., 1996) ("[T]he degree of financial asset price volatility may have increased over recent decades.").

231. Choi and Gulati have called for ISDA to play a role in updating existing contracts, a function similar to the ex tempore contracting role now described. Choi & Gulati, *supra* note 213, at 1162 (proposing a framework that would allow ISDA or another third-party "to revise constantly the meaning of boilerplate terms not only for contracts negotiated in the future but also all previously negotiated contracts").

Anna Gelpern describes the power ISDA held in determining default conditions for a variety of ISDA-drafted swaps when Japan sought to nationalize Long-Term Credit Bank (LTCB).[232] Once one of the ten largest banks in the world, LTCB was on the verge of disaster in 1998.[233] Its default would have let its swap counterparties close out their positions, forcing a fire sale of yen-denominated assets.[234] Tokyo negotiated with ISDA to find a means of nationalization that ISDA could endorse as not constituting a default.[235] ISDA acted as an interim agent in specifying the meaning of "default" in response to detailed fact patterns without adjudication. It was not feasible to completely define "default" ex ante, but it would have been a mess for courts to define it ex post, making ex tempore an attractive technique.

Since that time, ISDA has formalized its interim agency role through its 2009 adoption of the Credit Derivative Determination Committee process.[236] Under this process, an ISDA credit default swap contract provides that "the determinations of the relevant [Determination Committee] will be binding on the contract" in determining the terms of the contract.[237] Any party to a swap contract can request a determination from the Committee at any time and receive a prompt, public answer.[238] Key terms, such as the definition of "default" in credit default swaps, are not thoroughly drafted, leaving important determinations to the Determination Committee.[239] Thus, when Greece attempts to coerce investors into tendering their sovereign bond holdings for replacements with new terms, a credit default swap contract may give little indication of whether this counts as a default, but parties can turn to ISDA for an immediate answer.

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232. Gelpern, *supra* note 212, at 60-61.

233. *See id.* at 60.

234. *Id.* at 61.

235. *Id.*

236. Colleen M. Baker, *Regulating the Invisible: The Case of Over-the-Counter Derivatives*, 85 NOTRE DAME L. REV. 1287, 1359-60 (2010); *The ISDA Credit Derivatives Determinations Committees*, INT'L SWAPS & DERIVATIVES ASS'N (May 2012), http://www2.isda.org/attachment/NDM1NA==/AGM%202012_DC%20anniversary_appendix_043012.pdf.

237. *The ISDA Credit Derivatives Determinations Committees*, *supra* note 236, at 1.

238. *See* Gelpern & Gulati, *supra* note 223, at 350.

239. Partnoy & Skeel, *supra* note 211, at 1039.

Whereas construction dispute boards solve *intra*-transactional coordination problems by helping the multi-party construction project to act in concert, ISDA boards help with *inter*-transactional coordination.[240] When ISDA specifies a CDS contract, the answer will be the same from contract to contract, allowing market-wide harmony and certainty.[241] These determinations can be a means of coordinating market response to shocks and perhaps to mitigate systemic risk. Recall that ISDA's actions in light of the LTCB nationalization were not purely textualist,[242] nor even motivated perhaps by the interest of any particular party to the contract. Instead, parties to ISDA swaps might be authorizing an interpretive methodology that explicitly takes into account the effect of the interpretation on third parties. The parties might accept such an approach because others do, allowing ISDA to help steer the market.

The rise of Determination Committees in high finance highlights what is and is not essential to ex tempore contracting. Determination Committees are experts in the financial markets and in the type of transaction under consideration;[243] they may know more than either of the parties about the state of the market. But they are not familiar with the course of dealings of every contract they interpret; by definition, they are deciding for a whole class of transactions. This reinforces the notion that a dispute board's familiarity with the construction project is not of intrinsic importance,

240. These coordination powers are lodged in a quasi-adjudicative apparatus, but ISDA also has quasi-legislative power. *See* Gabriel V. Rauterberg & Andrew Verstein, *Assessing Transnational Private Regulation of the OTC Derivatives Market: ISDA, the BBA, and the Future of Financial Reform*, 54 VA. J. INT'L L. 9, 22 (2013).

241. *See* Choi & Gulati, *supra* note 213, at 1141; *see also* Gilson et al., *supra* note 61, at 210 ("The goal of the multilateral regime thus is to bring members together to create bilateral arrangements that minimize the risk of general harm."); Charles F. Sabel & William H. Simon, *Contextualizing Regimes: Institutionalization as a Response to the Limits of Interpretation and Policy Engineering*, 110 MICH. L. REV. 1265, 1298 (2012); *cf.* 6 BRUNER & O'CONNOR, *supra* note 26, § 21:10 (explaining that the construction industry has only started moving towards harmonization because while international form contracts are widely used, they "address the same basic issues but, for the most part, address them differently").

242. *Cf.* Gerald Gunther, *The Subtle Vices of the "Passive Virtues"—A Comment on Principle and Expediency in Judicial Review*, 64 COLUM. L. REV. 1, 3 (1964) (characterizing Alexander Bickel's passive virtues theory as an argument that the Supreme Court should be strategically principled: "100% principle[d] 20% of the time"). *But see* Gelpern & Gulati, *supra* note 223 (arguing that ISDA's Greek bond treatment was strategically textualist).

243. *The ISDA Credit Derivatives Determinations Committees*, *supra* note 236, at 2.

but is extrinsically valuable as a means to expedite efficacious determinations. It also underscores the fact that ex tempore contracting is not simply a new form of bilateral adjudication.

III. THEORIZING EX TEMPORE CONTRACTING

This Part explores the theoretical and practical implications of the pervasiveness and importance of ex tempore contracting.[244] Scholars, courts, and contracting parties frequently use the ex ante / ex post dichotomy to understand the contractual landscape. This Part identifies three areas in which observers typically reason from only two of the three relevant contracting options. Once one identifies ex tempore contracting as a pervasive and useful concept, all of these conclusions stand ready for re-examination.

First, courts sometimes characterize dispute boards as adjunct to party-led contracting, say, as mere mediators.[245] Other times, they incorporate dispute boards as full-on arbitrators.[246] Neither approach accurately characterizes dispute boards or their role in ex tempore contracting. Acute awareness of the parties' choice to use ex tempore contracting enables judges to interpret in a manner that facilitates that choice.[247]

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244. Ex tempore contracting has important implications for scholars far beyond contract theory. The ex ante / ex post dichotomy draws on administrative lawyers' discussions of rules versus standards. On rules and standards, see Colin S. Diver, *The Optimal Precision of Administrative Rules*, 93 YALE L.J. 65, 73 (1983); Isaac Ehrlich & Richard A. Posner, *An Economic Analysis of Legal Rulemaking*, 3 J. LEGAL STUD. 257 (1974); Kaplow, *supra* note 42; Carol M. Rose, *Crystals and Mud in Property Law*, 40 STAN. L. REV. 577, 592-93 (1988). Thus ex tempore contracting's lessons should have implications far beyond the study of contracts. Interestingly, the rules/standards literature was already sensitized to some of these concerns: Kaplow was aware that there is a difference between timing of choice and choice of chooser (as between legislature, regulator, or court). Kaplow, *supra* note 42, at 608-11. Other scholars have hinted at ex tempore features in corporate law and regulation generally. *See* Gilson et al., *supra* note 61, at 185-89; Henry Hansmann, *Corporation and Contract*, 8 AM. L. & ECON. REV. 1, 14 (2006); Darryl Biggar, Why Regulate? The Transaction Cost Approach to Public Utility Regulation, Workshop at the Center for Research in Regulated Industries 31st Annual Eastern Conference (May 18, 2012) (on file with author).

245. *E.g.*, L.A. Cnty. Metro. Transp. Auth. v. Shea-Kiewit-Kenny, 69 Cal. Rptr. 2d 431, 435 (Ct. App. 1997).

246. *Cf.* Welcon (1976) Ltd. v. Town Council of S. River, 2006 CarswellNfld. & P.E.I.R. 199, para. 4 (Can. Nfld.) (WL), *aff'd*, 2009 CarswellNfld. & P.E.I.R. 269 (Can. Nfld.) (WL).

247. *Infra* Part III.A.

Second, scholars unaware of ex tempore contracting are likely to accept a direct relationship between ex ante and ex post contracting, in which a decrease in the cost of one will rationally result in the decreased use of the other.[248] This direct relationship is easy to model and seductive in its promised normative insights. If we wish parties to engage in more of one type of contracting, we can raise the cost of the other. Parties with three contracting tools, however, may respond unpredictably, shifting into or out of ex tempore contracting instead of the desired effect. Ex tempore contracting allows parties to frustrate the prescribed intervention, often to the benefit of the more sophisticated party.[249] Courts must stand ready to police fraudulent or extractive use of ex tempore contracting.

Finally, parties who accept the ex ante / ex post dichotomy seek to balance ex ante and ex post costs.[250] In this framework, many complex transactions must invite the sort of litigation and incentive costs that characterized pre-dispute board construction projects. Yet many relationships would be improved by a shift to ex tempore contracting.[251]

A. Supporting Interim Institutions

Courts have sometimes expressed outright hostility to ex tempore contracting.[252] Courts too quickly free a party of her contractual duty to use a dispute board, often because they misunderstand the nature of dispute boards.

Sometimes courts mistakenly think of ex tempore contracting as a form of mediation or structured bargaining and infer that there is

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248. *See* Scott & Triantis, *supra* note 1, at 818 ("[R]eduction in back-end enforcement costs should lead the parties to substitute more back-end for front-end investment by replacing precise provisions with vague terms.") (citations omitted); *see also* Drahozal & Hylton, *supra* note 205, at 551 ("The choice of dispute resolution forum .... affects contracting costs, since parties are more likely to leave contract provisions vague, opting for relational governance when they have chosen a dispute resolution forum that can be trusted to reach value-maximizing results.") (citation omitted).

249. *Infra* Part III.B.

250. *See* Choi & Triantis, *supra* note 1, at 852.

251. *Infra* Part III.C.

252. *Cf.* Choi & Gulati, *supra* note 213, at 1162-63 (suggesting that judicial hostility to parties opting *now* to let someone update their contract later comes from undue prioritization of the instant of contract formation, and with it the "meeting of the minds").

no advantage to forcing a party to attend a mediation if the party expresses unwillingness to find a consensus solution or to abide by the mediator's judgment.[253] On that basis, the court in *Bombardier Corp. v. National Railroad Passengers Corp.* allowed a party to avoid using the dispute board once the party indicated that it was unlikely to respect the board's eventual determination.[254]

This approach is flawed for two reasons. First, the *Bombardier* court's position is that there is no advantage to letting the dispute board make determinations if one party signals her reluctance to listen to the board's determination. But as a theoretical matter, ex tempore contracting constitutes an agreement by the parties to participate in a process, the outcome of which will determine their contractual duties.[255] One party's threat to later disregard those duties or to withdraw from the process does not invalidate those duties, just as ex ante contractual responsibilities are not less legally significant if one party announces that she no longer considers them binding on her. So it remains important for the court to allow the dispute board to make its determination so that it can be clear what duties, precisely, the reluctant party is disregarding.[256]

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253. *See, e.g.*, Bombardier Corp. v. Nat'l Passenger R.R. Corp., 298 F. Supp. 2d 1, 5 (D.D.C. 2002); John Carlo, Inc. v. Greater Orlando Aviation Auth., No. 6:06-cv-164-Orl-22DABB, 2007 WL 430647, at *3 n.1 (M.D. Fla. Jan. 24, 2007) (describing a DRB as a "structure [sic] mediation"); *cf.* Gilson et al., *supra* note 73, at 1422 ("A refusal to proceed further if a party determines that a project has negative present value should not be grounds for declaring the contract in breach.").

254. 298 F. Supp. 2d at 4; *see also* L.A. Cnty. Metro. Transp. Auth. v. Shea-Kiewit-Kenny, 69 Cal. Rptr. 2d 431, 435 (Ct. App. 1997) (explaining that a tribunal is effective only if it has parties' trust).

255. *Cf.* Markovits, *supra* note 90, at 478 ("The outcome of the arbitration is therefore, from the perspective of the parties, just like another printed clause, save that it is post-printed rather than pre-printed.").

256. To be sure, in the cases in which parties may dismiss the board recommendation without any consequence or record, courts should be more reluctant to order specific performance in the form of permitting the board to conduct its investigation and issue an opinion. Instead, the court should award reliance damages to the nonobstinate party in an amount reflecting her investment in the dispute management system. *See* Gilson et al., *supra* note 61, at 195. *But see* Markovits, s*upra* note 90, at 479 ("[W]hen courts refuse to hear a claim consigned to arbitration, they are not specifically enforcing the arbitral agreement any more than they would be issuing specific performance were they directly to apply a price-formula in a contract rather than deciding the price themselves.").

Second, as a practical matter, mediation may be futile when one party signals a lack of openness, but dispute boards are interim institutions with abundant nonmediation effects. The court in *Sehulster Tunnels/Pre-Con v. Traylor Bros., Inc./Obayashi Corp.* noted this and found that "although the [dispute board's] recommendation is nonbinding, it is not without precedential effect and evidentiary influence because the Prime Contract provides for its admissibility into evidence in any later dispute resolution or legal proceeding."[257]

Although correct to take seriously the parties' indication to use ex tempore contracting institutions, the *Traylor Bros.* court then invalidated the dispute board for precisely the opposite reason as *Bombardier*. The court found a dispute board clause unconscionable as applied to a subcontractor who had no right to appoint her own member to the board.[258] The court deemed it unfair for her to be bound by a process in which only the contractor and owner selected the so-called "neutral" panel.[259] As though evaluating an adjudicatory tribunal, the *Traylor Bros.* court held the dispute board to procedural standards befitting adjudication.

Both the *Traylor Bros.* and *Bombardier* approaches needlessly limit the utility of dispute boards. Better decisions have correctly understood the ex tempore contracting function of dispute boards, requiring even grumbling parties to participate in the dispute board process[260] and allowing dispute board clauses to apply to subcontractors.[261] This is the right result as a practical matter because the utility of dispute boards comes largely from their ability to constitute a contractual structure for a large number of actors. Dispute boards would be hobbled if silent to all subcontractor claims, or they would be bloated and exorbitantly expensive if procedural justice required boards to represent each constituency.

This is also the jurisprudentially legitimate result. Daniel Markovits has described arbitration as coming in two varieties:

257. 4 Cal. Rptr. 3d 655, 667 (Ct. App. 2003).

258. *Id.*

259. *Id.*

260. John Carlo, Inc. v. Greater Orlando Aviation Auth., No. 6:06-cv-164-Orl-22DAB, 2007 U.S. Dist. LEXIS 7739, at *2 (M.D. Fla. Jan. 7, 2007); BAE Automated Sys. v. Morse Diesel Int'l, Inc., No. 01 Civ. 0217, 2001 U.S. Dist. LEXIS 6682, at *2 (S.D.N.Y. May 21, 2001).

261. *E.g.*, Dart Mech. Corp. v. XL Specialty Ins., 593 F. Supp. 2d 464, 470 (E.D.N.Y. 2008).

third-party arbitration, in which the parties have essentially exercised a right of forum selection, and first-party or "gap-filling" arbitration, in which the tribunal acts to write the parties' incomplete contract for them.[262] He persuasively argues that when arbitrators act as substitutes for courts in third-party arbitration, they must meet equivalent due process standards as court-conducted adjudication.[263] Of such arbitration, one might object to unfair procedures, such as the panel being chosen and paid solely by one's counterparty.[264] But when arbitrators act only as the parties' agents to spell out the parties' particularized duties, the arbitration need not meet the highest standards of procedural due process. Instead, the *agreement to arbitrate* must meet different standards: "the procedural standards that govern contracts namely fraud, duress, and procedural unconscionability in contract negotiations and good faith in contract performance."[265] The question ceases to be one of the arbitration's fairness and becomes one of the process by which one agreed to the arbitration.

Ex tempore contracting is not arbitration because it operates in the interim position and generally does not produce an executable judgment,[266] but Markovits's analysis is applicable here. The ex ante / ex post framework, into which ex tempore contracting is situated, contemplates delegation of contract specification.[267] Ex tempore contracting is analogous to first-party arbitral activity and should be judged by the relevant standard. That means subcontractors cannot readily complain about the composition of the dispute board or its determinations, but they can object if they did not consent to the dispute board or if they did subject to it under fraud or duress.

That is not to say that courts should be indifferent to the conduct of the interim institution. When parties use mechanisms like these, one of a court's most important jobs is to prevent one party from using ex tempore contracting to opportunistically expropriate

262. Markovits, s*upra* note 90, at 470-71, 475.

263. *Id.* at 477.

264. Whether any particular challenge will be meritorious is another matter. *See* AT&T Mobility LLC v. Concepcion, 131 S. Ct. 1740, 1743 (2011).

265. Markovits, s*upra* note 90, at 477.

266. *Supra* note 135 and accompanying text.

267. *See supra* notes 41-48 and accompanying text.

wealth from its counterparty.[268] Courts must be on the watch for interim institutions that act to one party's benefit in a way the other party should not have expected or was led to not expect.[269] This may seem commonsensical, but it runs counter to advice frequently given to courts. This Article discusses this notion presently in the next Section.

Courts must take some other steps to support dispute boards as interim institutions. They must stay the statute of limitations at least for a reasonable time while parties engage the dispute board.[270] They should resist interpretations that allow parties to frustrate the dispute board process, such as by firing their board member and refusing to appoint a new one.[271]

Finally, when parties have made their intention to use a dispute board clear, the court should take the board's determination seriously. That means letting the dispute board determination enter the factual record without live testimony. Those parties that create a public record will usually prefer that the court use the report generated. Treating the board members as witnesses, or treating their report as hearsay, undermines the parties' intentions.

When a board has already issued an opinion on a dispute, the court must not consider the dispute de novo. Rather, courts should do as the parties instructed, and include dispute board determinations in the record as part of the contract, to be read in conjunction with the rest of the contract in determining its meaning. In practice, courts will tend to be grateful for the clarifying power of these reports.[272] That does not mean slavish deference to the opinion—if

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268. *See* Gilson et al., *supra* note 61, at 176.

269. *See* Markovits, s*upra* note 90, at 477 ("Alternatively, first-party arbitration may be structurally designed by one party to deprive the other of the very benefits that the contract establishing the tribunal was designed to secure. This may occur, for example, because the arbitrator is simply in the pocket of the designing party.").

270. *See* Honeywell Int'l, Inc. v. Clark Constr. Grp., No. SA-06-CV-0125-XR, 2006 WL 2932217, at *10 (W.D. Tex. Oct. 11, 2006) (relying on evidence that the parties were "participating in the contractually mandated dispute resolution framework" within the statute of limitations to deny defendant's motion for summary judgment).

271. *Cf.* L.A. Cnty. Metro. Transp. Auth. v. Shea-Kiewit-Kenny, 69 Cal. Rptr. 2d 431, 434 (Ct. App. 1997) (MTA fired their own DRB appointee "for cause," as defined in the contract, to terminate a board member).

272. *See, e.g.*, Kiewit-Atkinson-Kenny v. Mass. Water Res. Auth., No. 01-1920 BLS, 2002 Mass. Super. LEXIS 329, *52-53 (Sept. 3, 2002) (stating that dispute board's conclusion "makes sense" and accepting it).

the parties wished that, they could have opted for arbitration.[273] The parties have struck a balance between giving away determination power to an adjudicator and reserving it for themselves at contract formation because they valued the type of determination the interim agent would make.

This advice is applicable to interim institutions outside of dispute boards: when parties defer to ISDA or a dispute board, courts must interpret the contract in a way that facilitates such a choice.

B. Frustrating Penalty Defaults

Scholars frequently use the ex ante / ex post dichotomy to make predictions.[274] For example, if ex post costs fall, perhaps because adjudicators become more effective, one may predict that parties may shift to back-end enforcement through vague language.[275] Yet these results do not follow deductively. Parties may maintain the same degree of ex ante contracting and instead shift away from ex tempore institutions in favor of ex post adjudication. The relationship between these three elements is dynamic and not yet theorized.

Invalid predictive inferences lead to invalid normative inferences. Many interpretive proposals ignore the cost effect of proposals for ex tempore contracting. It is common to say of courts that "any socially desirable interpretive rule would trade off accuracy against contract-writing and adjudication costs."[276] This is close to right, but an interpretive rule that reduces ex ante costs with little effect on ex post costs is not a priori defensible; it might come with a overwhelming increase in ex tempore costs.

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273. Though courts should honor parties' desire for provisionally binding boards if they so indicate. Several international jurisdictions regularly consider board decisions to be provisionally binding. *Supra* note 134. *But see, e.g.*, PT Perusahaan Gas Negara (Persero) TBK v. CRW Joint Operation, [2010] SGHC 202, paras. 15-16, *available at* http://www.singaporelaw.sg/sglaw/laws-of-singapore/case-law/free-law/high-court-judgements/14230-pt-perusahaan-gas-negara-pesero-tbk-v-crw-joint-operation-2010-sghc-202 (reading FIDIC contract to not be provisionally binding).

274. *See, e.g.*, sources cited *supra* note 248.

275. Drahozal & Hylton, *supra* note 205, at 550-51 (predicting, and then finding, more vague terms when parties were able to lower their expected adjudication costs).

276. Alan Schwartz & Robert E. Scott, *Contract Interpretation Redux*, 119 YALE L.J. 926, 930 (2010); *see* Schwartz & Watson, *supra* note 46, at 2-3.

The prevalence of ex tempore contracting chastens our confidence about the use of certain tools, such as information-forcing penalty defaults. Courts sometimes resort to penalty defaults, judicial gap-filling with terms that are contrary to what the parties would likely have chosen, in order to encourage ex ante contracting.[277] This approach can be "justified as a way to encourage the production of information."[278] For example, in *Hadley v. Baxendale* a miller paid to have a crankshaft transported for repairs.[279] The shipment was delayed, resulting in substantial lost profits.[280] The contract was silent as to the appropriate damage calculation, and the carrier was held liable only for foreseeable damages, which were far lower than lost profits.[281]

By penalizing those who ship valuable items without communicating their value to carriers, *Hadley* encourages candid discussions of shipment values, which help carriers to respond with socially efficient levels of precautions. If the default rule allowed all consequential damages, the miller would have had no incentive to communicate the value of her package. In addition to knowledge about the package, some millers may be legally sophisticated and know the law better than some carriers. By selecting a default rule against the more legally knowledgeable, a court strongly encourages the parties to discuss the law, rather than letting the less sophisticated party fall into surprising risks and duties.

Even if most parties would prefer for the carrier to be liable for all damages, the *Hadley* rule incentivizes the better-informed party to share information that will allow more efficient transactions. The lesson of *Hadley* is that courts should sometimes increase ex post contracting costs as a means of encouraging information production through ex ante contracting.

Yet, knowledgeable parties may not reveal information if they can avoid the default by using ex tempore contracting. That is, instead of responding to the judicial penalty default by candidly negotiating a precise term, the sophisticated party may require contract

277. *See* Ayres & Gertner, *supra* note 17, at 97.
278. *Id.* (footnote omitted).
279. (1854) 156 Eng. Rep. 145, 9 Ex. 341.
280. *Id.* at 146, 9 Ex. 341.
281. *See id.* at 145, 147-48, 151-52, 9 Ex. 341.

specification by way of a trusted agent. Just as one party may have superior knowledge of the default rule, or of its intention to use it, a party may also have greater knowledge about how a given agent will determine the terms. If a buyer is just as ignorant of the pro-seller leanings of an interim agent as it would be of a pro-seller default rule, then shifting the default conveys no information.

Credit default swaps prove instructive. When nations wish to restructure their debt, they often threaten to default on any bonds that are not exchanged for less valuable ones, thus coercing participation and reducing holdout problems.[282] When Greece made tender offers on its bonds at discount prices, many bondholders resisted, trusting that they would be financially protected by CDS contracts that they had purchased.[283]

Yet Determination Committees appear to have been reluctant to find a default.[284] Perhaps this was out of fear of causing broad damage to the financial system that could result from such a finding.[285] Alternatively, their reluctance may have been self-interested because many members of the Determination Committees were swap dealers who would likely have had to pay billions if they found a default.[286] Others had conflicting roles. For example, Belle Yank simultaneously (1) worked for BNP Paribas, which represented Greece in its coercive tender offer, (2) sat on the ISDA Determination Committee that would evaluate whether the tender offer would trigger CDS payments, and (3) warned investors that ISDA might not deem the arm-twisting tender as warranting CDS payments.[287]

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282. *See, e.g.*, Mitu Gulati & Jeromin Zettelmeyer, *Making a Voluntary Greek Debt Exchange Work*, 7 CAPITAL MARKETS L.J. 169 (2012).

283. Sandrock, *supra* note 10, at 516.

284. *See* Steve Schaefer, *Greek CDS Won't Trigger: ISDA Says No Default Yet*, FORBES (Mar. 1, 2012, 9:16 AM), http://www.forbes.com/sites/steveschaefer/2012/03/01/no-default-in-greece-according-to-isda-cds-wont-trigger/ (noting ISDA decision that Greece had not defaulted despite its restructuring causing creditors to take "53.5% haircuts on their holdings … without triggering insurance payouts on instruments intended to protect investors from just such a turn of events" and stating that Standard & Poor had declared Greece to be in "selective default").

285. *Cf.* Gelpern & Gulati, *supra* note 223, at 348 (noting "fears of systemic shock" existing prior to ISDA decision that Greece had defaulted).

286. Lisa Pollack, *The Conflicted Isda Committee*, FT ALPHAVILLE: THE BLOG (Dec. 14, 2011, 4:55 PM), http://ftalphaville.ft.com/2011/12/14/799341/the-conflicted-isda-committee/.

287. Morgenson, *supra* note 224. For another example of alleged conflicts in the

Swap sellers, as the most sophisticated financial institutions, and as the majority of the members of the Determination Committees,[288] may have been more likely than swap buyers to anticipate the Derivative Committee's reluctance to declare a default. Courts would be naïve to think that an expansive judicial interpretation of the word "default" will force a candid ex ante discussion between swap buyer and swap seller. If swap sellers wish to covertly restrict the payment conditions, they can achieve this result through proposing their preferred interim institution rather than explicit contracting. Whereas in the past courts might have been inclined to trust in a penalty default, they must now scrutinize to see whether parties are circumventing it with ex tempore contracting.

Crafting ideal interpretive rules for a game with three players becomes quite complex, especially when the presence of ex tempore contracting creates potential avenues for abuse by unscrupulous and sophisticated parties. Whenever parties routinely look to a third party for their contract, and whenever an interpretive strategy leads them to do so, a cost is associated with that choice.[289] Awareness of ex tempore contracting encourages a more granular treatment of contracts going forward to examine where parties may be utilizing it to divert their joint contractual goals or deprive the other party of the benefit of her bargain.

Determination Committee, see Whittall, *supra* note 225.

288. *See* Pollack, *supra* note 286.

289. The use of indexed price terms in long-term contracts—from alumina supply contracts to home mortgages—constitutes a use of ex tempore contracting. Use of such an index allows parties to avoid specifying the price ex ante without having to wait for ex post adjudication to know the price, by placing the task of setting the price in the hands of a third party agent, the index provider. *See generally* Gabriel Rauterberg & Andrew Verstein, *Index Theory: The Law, Promise and Failure of Financial Indices*, 30 YALE J. ON REG. 1, 15-25 (2013) (describing the extensive editorial and discretionary process used to create financial indices like the Consumer Price Index and the S&P 500). Future work will apply ex tempore contracting to the use of financial indices in contracts. *See* Andrew Verstein, The Ghost in the Machine: The Legal Treatment of Indices in Contracts (2013) (unpublished manuscript) (on file with author). Ex tempore contracting gone wrong will be shown to be one of the key variables in explaining the manipulation of the world's most important benchmark—Libor. *See* Rauterberg & Verstein, *supra* note 240, at 2-5 (describing Libor's importance); *see also* Liam Vaughan & Gavin Finch, *Libor Lies Revealed in Rigging of $300 Trillion Benchmark*, BLOOMBERG (Jan. 28, 2013, 4:54 PM), http://www.bloomberg.com/news/2013-01-28/libor-lies-revealed-in-rigging-of-300-trillion-benchmark.html (describing manipulation).

Fortunately, generalist courts have long established their capacity to oversee and police exploitation in contractual relations. Even in a dynamic system, courts can be confident that lowering the cost of ex tempore contracting tends to lower the total cost of contracting. If courts can help parties protect their investments in transactions by protecting them from the cost of bad interim contracting agents, they give parties better options to vindicate their ends. Thus, although awareness of ex tempore contracting urges caution in theories of contract design and construction, it leaves neither scholars nor courts rudderless.

Another promising avenue in light of ex tempore contracting is the role of nonjudicial actors in contract design.[290] Courts remain important, but they are only one of three players in contractual determination. Scholars may want to consider advising interim agents how best to fulfill their role[291] or advising parties how best to utilize ex tempore contracting.[292] The next Section goes to the latter purpose.

C. Prospective Applications

Ex tempore contracting is used extensively in certain industries, but perhaps too rarely elsewhere. Dispute boards, for example, are unique to construction.[293] Recognition of ex tempore contracting

290. On the role of third party agents in front-end contracting, see Justin Sweet, *Standard Construction Contracts in the USA*, 28 INT'L CONSTRUCTION L. REV. 101 (2011).

291. *See* Avery Katz, *Taking Private Ordering Seriously*, 144 U. PA. L. REV. 1745, 1757 (1996) ("[Legal scholars] could study trade association rules, not for the purpose of advising courts and legislators whether to defer to such rules, but for the purpose of helping other trade associations decide whether to imitate them or instead to draft their own new forms."). The conflicts of interest in ISDA, as a drafting agent with members acting as interim agents and contract parties, underscore that ex tempore contracting has costs. Construction dispute boards do not seem to have experienced similar problems. Professional organizations like AIA and FIDIC, which draft form contracts, do not provide dispute boards and neither the organizations nor the boards themselves will stand as owner or contractor in a construction contract. Instead, parties select their own board members in whatever manner they see fit. Best practices in ex tempore contracting involve managing ex tempore contracting costs, such as those agency costs that emerge from conflicts of interest.

292. *See id.* ("We could help potential litigants design and learn to use dispute-resolution devices with better incentive properties.").

293. John Barkai, Mediation of Construction Disputes in the United States 2 (2008) (unpublished manuscript), *available at* http://ssrn.com/abstract=1435380.

should expand parties' menu of options in difficult contracting settings, some of which this Section now proposes.[294] In addition, this Section addresses cases in which ex tempore contracting is preferable to party-led governance systems.

Ex tempore contracting may be useful in some business acquisitions, particularly those contemplating the use of an earnout provision. Earnouts make the sale price, often of a business, contingent upon some measure of performance, often profits.[295] Earnout agreements can serve several economic purposes, such as helping the parties agree upon a price despite information asymmetry. The buyer need not come to believe the seller's proposed valuation.[296] The fixed price can be the seller's lower estimate, and the seller can receive a bonus if the business does as well as the seller promises. For example, in the well-known *Bloor v. Falstaff Brewing Corp.* case, Falstaff agreed to pay $4 million for Ballantine Breweries, plus $0.50 per barrel sold in the next six years.[297] Ballantine was then selling about 2.2 million barrels per year, making the purchase price something like $10 million if the sales stayed up, as a seller would promise, but less if sales slowed, as a buyer would fear.[298]

Economists love earnouts, but parties rarely use them because they pose risks of opportunism.[299] In *Bloor*, Falstaff might have diverted Ballantine Beer sales in favor of its own product. Falstaff need not have bought Ballantine just to destroy it; the earnout gave Falstaff an incentive to divert for the first six years and then begin optimal investment once the earnout period was over.[300]

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294. Scholars rarely lead practitioners in contractual innovation, but it is always possible that a practice is so new or so closely identified with one domain that it is clearer from a distance how it might work. *Cf.* NICOLÒ MACHIAVELLI, THE PRINCE 2 (W.K. Marriott trans., 1992) ("[T]hose who draw landscapes place themselves below in the plain to contemplate the nature of the mountains.").

295. GOLDBERG, *supra* note 71, at 152.

296. *See* Gilson, *supra* note 31, at 262-63.

297. 601 F.2d 609, 610 (2d Cir. 1979).

298. *See* GOLDBERG, *supra* note 71, at 144.

299. *See id.* at 152 (finding only 153 earnout provisions in a set of over 9000 acquisitions); Scott R. Peppet, *Contract Formation in Imperfect Markets: Should We Use Mediators in Deals?*, 19 OHIO ST. J. ON DISP. RESOL. 283, 319 (2004) (explaining that earnouts are often bought out of M&A deals just prior to closing, due in part to mistrust and fear of opportunism).

300. When the seller retains some control over the business, seller opportunism is just as

A fully state-contingent sales contract, with a complex formula modifying purchase price for every event that might occur in the earnout period, can align the parties' incentives for efficient performance.[301] But such ex ante contracting specificity is not feasible,[302] so parties often use "best efforts" clauses.[303] Ex post adjudication of such vague duties is expensive. First, such terms invite the parties to provide costly economic and legal analysis to the court. Second, the acquired party is likely to lose corporate existence before too long, making it an unlikely plaintiff or defendant for ex post determination. Ongoing determinations could provide guidance before the seller is gone.

Finally, any ex post mechanism powerful enough to deter wasteful and self-serving actions is likely to chill good actions that both parties should want to encourage. Suppose the manager of an acquired seller contemplates paying a retention bonus to its employees, which she believes is a prudent outlay that supports the whole venture. She may worry that the buyer will later allege that this is shortsighted opportunism, pushing employees to make sales within the earnout window that will come at the expense of next year's order.[304] Or suppose a buyer contemplates offering customers a discount on purchases that include both the seller's division's product and the buyer's primary product. The buyer believes this is surplus generating and good for all parties, but she may fear that it will later appear to have been chiseling the seller's division's profits. The seller may allege that the buyer violated the contract by using the seller's product as a loss leader in order to encourage sales of the buyer's products in the bundle.[305] Such litigation is particularly likely if either strategy fails. In either case, the risk that the actor

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much of a problem because the earnout gives the seller a myopic view of enterprise success. She is rewarded for profits during the earnout period, but not after, so she may underinvest in long-term quality. She may defer maintenance and reinvestment, or engage in "channel stuffing" in order to improve profits now at the expense of post-earnout period profits.

301. *See* Gilson, *supra* note 31, at 266.

302. *Id.* at 267.

303. *See, e.g.*, Sonoran Scanners, Inc. v. Perkinelmer, Inc., 585 F.3d 535, 544 (1st Cir. 2009) (finding an implied duty to exert "reasonable efforts to develop and promote [seller's] technology"); Bloor v. Falstaff Brewing Corp., 601 F.2d 609, 610 (2d Cir. 1979).

304. *See, e.g.*, Comet Sys., Inc. v. MIVA, Inc., 980 A.2d 1024, 1027-28 (Del. Ch. 2008).

305. *See, e.g.*, LaPoint v. AmerisourceBergen Corp., No. 327-CC, 2007 Del. Ch. LEXIS 131, at *23-24 (2007), *aff'd*, 956 A.2d 642 (Del. 2008).

could be later adjudged to have violated the earnout might deter efficient behavior. The foregoing demonstrates that ex ante and ex post contracting is costly for earnouts, and that determination at performance is much better than a later determination.[306]

Before parties give up on earnouts, they might consider appointing an "earnout board." A board of neutral experts could convene at the consummation of a large acquisition to periodically observe the performance of the sale in transition. They could interview the managers, examine compensation structures, and query any changes to sales and maintenance practices. They could make provisionally binding modifications to the sale price to reflect buyer or seller opportunism or determine whether the manager's behavior efficiently supports the venture as a whole. Although it is difficult to predict the future or to second-guess business decisions, the boards could provide contemporaneous guidance on many cases. By determining in the moment that a manager's strategy appears intended to grow the business or in conformance with ordinary practices, they could give comfort to managers who might otherwise fear strategic, post-performance litigation. Likewise, a board's determination of opportunism could help lead to early remedial efforts.

Many other candidates for ex tempore contracting use may present themselves.[307] Infrastructure projects and government contracting have structural features that intuitively parallel construction. The entertainment industry, automobile production, and legal services have been likened to construction because of their dynamic projects and ever-changing teams.[308] We might add business and technology outsourcing and labor relations to the list of long-term collaborations in which ex ante specification of duties is unfeasible, but ex post determination comes too late and at too

306. If the analogy between corporate acquisitions and construction remains unconvincing, consider the following: an acquirer purchases a firm that is engaging in its own construction project. For the duration of the earnout, the seller's in-house construction team and the buyer stand in relation of contractor and owner.

307. For other suggestions that agents be permitted to update contracts on an ongoing basis, see Oren Bar-Gill & Kevin Davis, *Empty Promises*, 84 S. CAL. L. REV. 1, 37 (2010); Yoon-Ho Alex Lee & K. Jeremy Ko, *Consumer Mistakes in the Mortgage Market: Choosing Unwisely Versus Not Switching Wisely*, 14 U. PA. J. BUS. L. 417, 456-57 (2012).

308. *See* Klein & Gulati, *supra* note 25, at 143.

great a cost. It is rarely feasible for either a hospital or patient to ex ante contract for services rendered, but ex post contracting may be unsatisfactory;[309] perhaps one could introduce healthcare dispute boards.

Substantial intellectual energy is currently devoted to studying how parties can contract for innovation.[310] Research and development partnerships and patent pools exemplify inter-firm sharing and collaboration, but the potential future product is too little known to permit reasonable contracting. Who can say what applications might be found once our patents are pooled for research, and what profit and control allocation would be most efficient? It is impractical to engage in extensive ex ante contracting here;[311] but ex post enforcement is likely to be costly, if only because adjudicators are unlikely to understand the twists and turns of this particular partnering relationship. Governance systems for real-time determination already thrive in this space, with procedures for information exchange and for cross-party dispute management.[312] Gilson and his coauthors describe two pharmaceutical companies' procedures: lower-level employees try to reach unanimous agreement on how to proceed, and if they cannot do so the disagreement moves up the hierarchy, all the way to the CEOs if necessary.[313]

Yet there are times when independent, third-party determination might be valuable. For example, when the parties are numerous, it may be costly to come to agreement. The CEOs may be happy to work out their subordinates' problems in a bilateral joint venture, but a multilateral agreement could prove taxing on the C-suite's time.

Likewise, when many parties' interests are aligned against an outlier, as with construction when so many subcontractors stand to lose whenever the contractor loses, multilateral majoritarianism

309. *See* Mark A. Hall & Carl E. Schneider, *Patients as Consumers: Courts, Contracts, and the New Medical Marketplace*, 106 MICH. L. REV. 643, 666-67 (2008).

310. *See, e.g.*, Bozovic & Hadfield, *supra* note 73, at 6; Gilson et al., *supra* note 73, at 1383.

311. *Cf.* George T. Heery, *Employing Standing Dispute Resolution Panels with the Bridging Method of Design and Construction Procurement*, *in* REDUCING CONSTRUCTION COSTS, *supra* note 4, at 25 (noting the flaws in believing that one can determine particular details of a construction contract before the design phase of the project).

312. *See* Gilson et al., *supra* note 1 (providing a theory to explain the "braiding" of explicit and implicit contracts that occurs in many firms).

313. *Id.* at 469-70.

may lack legitimacy. A neutral third party may be more effective and garner greater acceptance.

Third-party determinations may be helpful in order to establish legitimacy to future contracting partners who may trust an independent board. This may be more important when parties may not repeat interactions with one another or when poor quality and bad faith activity are not evident to third parties.[314]

As with the derivatives space, boards can also be a mechanism for coordinating an industry. A board that serves in many innovative spaces could provide nonproprietary guidance as to industry norms and best practices to guide the instant transaction and set standards. Conforming to industry norms may matter little to some entrepreneurial Silicon Valley collaborations, but it may matter more in government-led projects or healthcare pricing.

Finally, independent boards may be helpful in disencumbering the parties themselves from handling this operation. Although invoking the CEOs may help resolve disagreements, the CEO's time is valuable. Further, a good CEO may not be a good dispute manager, lacking either the appropriate personal or scientific skills. Further, the time necessary to educate each level of management as to the content of the dispute may quickly mount. A specialized body familiar with the project, the relevant science, and the art of managing disputes could help, and companies may be able to procure such a body more cheaply outside of the firms. This sort of economizing becomes attractive as disputes become more likely and more costly.

CONCLUSION

Parties to contracts are commonly thought to have two options to formally determine their responsibilities. They may specify terms themselves on the front end, or they may leave terms vague or absent so that a judge might specify them on the back end. This ex ante / ex post framework has proven attractive in many contexts but remains fundamentally limited. In fact, parties frequently delegate

314. *See id.* at 454.

to a noncourt agent the responsibility of specifying their responsibilities on an ongoing basis.

This Article introduced the term "ex tempore" contracting to describe the choice by parties to leave terms unspecified but provide for ongoing specification by a trusted, noncourt agent. This phenomenon is more prevalent than it may have been thought. This Article introduced the use of dispute boards in construction, showing that ex tempore contracting is rapidly taming construction's infamous litigation costs. Ex tempore contracting is likewise common in financial derivatives.

Recognizing the widespread use of ex tempore contracting is the first step toward a rational treatment of it. Therefore, a solid theoretical understanding of ex tempore contracting has important implications. Aware of ex tempore contracting, courts can support parties' choice by neither understating its legal significance as mere mediation nor overstating its procedural requirements as befitting arbitration. The existence of ex tempore contracting destabilizes many scholarly inferences, such as an endorsement of penalty defaults, while reinforcing courts' role in policing fraudulent uses of ex tempore contracting. Finally, contracting parties should consider whether increased use of ex tempore contracting could support their objectives.

Whereas many scholars think of contract design as on a line from ex ante to ex post, the correct metaphor is a triangle, with ex tempore providing a genuinely different option from the ones usually discussed. Future work is required to explore the implications for ex tempore contracting for particular areas of contract design, and to update settled assumptions in recent contract literature to accommodate this third point in the triangle.

TABLES

Table 3

Examples		Timing of Choice		
		Contract formation	Performance	After transaction
Identity of Chooser	Parties	#1 Dickered, precise contract	#2 Conditional Term; modification	#3 Settlement; subsequent contracting
	Agent	#4 Standard form contract; Negotiating agent	#5 Dispute Boards, ISDA derivatives;	#6 Arbitration
	Court	#7 Default contractual terms	#8 Preliminary Injunctions; Declaratory Judgments	#9 Litigation

Table 4

Method of expressing intent to use this determinative selection in contract		Timing of Choice		
		Contract formation	Performance	After transaction
Identity of Chooser	Parties	#1 Precise term	#2 Conditional Term, agreement to agree, party-driven governance agreement	#3 Short term contracts
	Agent	#4 Standard form contract	#5 Interim terms: vague language with interim agent	#6 Vague contract language plus arbitration clause
	Court	#7 Choice of law clause	#8 Vague contract language	#9 Vague contract language