Ex Tempore Contracting

Leading contracts scholarship 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 the rest of the terms are left vague, for a court to specify ex post if it should prove important. This ex ante / ex post dichotomy, implicit in contract scholarship for some time, is used to explain attempts to model the optimal contracting and contract interpretation process. 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 court to later elaborate its meaning. Yet this dichotomy obscures a third, "real-time" approach to contracting: parties frequently leave terms unspecified, while delegating 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.

This Article evaluates ex tempore contracting through three case studies. Using a unique cache of data only recently made available, it explores a novel dispute management system now prevalent in the construction industry that calls for the use of "dispute boards." These expert panels radically reduce the cost and frequency of litigation by determining the parties’ responsibilities whenever the parties wish, including in the course of performance. Yet 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, subprime mortgages, industrial supply contracts and countless other transactions.

The pervasiveness of ex tempore contracting has profound implications for judicial interpretation of contracts. Realizing that the parties may have wished to allocate determination to an agent, rather than themselves ex ante or the court ex post, casts doubt on the use of penalty defaults, problematizes the debate about interpretative formalism, and urges judges to accept, rather than hinder, parties’ choice to rely on ex tempore contracting.
I. Introduction

This Article argues that a widespread view about contracting is fundamentally limited and misleading.¹ This view is that contracting 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 a court to determine them later on.

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 the incomplete contract

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and might call for “merchantable” pipe in exchange for a “reasonable” fee.

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 then they draft largely incomplete agreements at contract formation, but provide a means for ongoing completion in the course of performance. For 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. The construction industry, which employed 6% of all Americans (12% if production, hauling and distribution of equipment and materials are included) prior to the recent downturn and contributed 8% to GDP, stands at the forefront of ex tempore contracting. It is now common practice for construction contracts 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 like “Is there a duty of good faith?” or “Does the contract require the owner to audit and review the subcontractor’s costs before disputing them?” Dispute boards are becoming the norm because of their startling effectiveness in improving projects: in an industry in which 25% projects lead to expensive disputes, dispute boards resolve more than 98% of claims brought before them.

4 See, e.g. Chern on dispute boards, 206 (2011).
6 Supra note 3. 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, (noting that 20% of cases in John P. Dawson et al., Cases and comment on contracts (6th ed. 1993) are construction cases.); id. at 494 (noting substantial emphasis on construction cases in Restatement (Second) of Contracts.).
Likewise, the financial derivatives market, constituting a titanic $700 trillion in notional value, 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 clarification. For example, many owners of Greek bonds had protected themselves against the risk of non-payment by entering into credit default swaps (CDS). These insurance-like derivatives offered payment to the bondholders if Greece were to renege on its obligations. As Greece grew increasingly reluctant to pay as expected, bondholders looked not 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), was authorized to rapidly clarify entitlements and define the word “default.” 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 this function is best understood as an expression of *ex tempore* contracting.

Perhaps most surprisingly, *ex tempore* contracting is present in most subprime mortgages, millions of employment contracts, as well as many long-term industrial contracts. This is because the use of a floating rate – be it an interest rate benchmark in an adjustable rate mortgage, a cost-of-living adjustment applied to wages, or a commodity price benchmark – involve the use of agents to update the contract on an ongoing basis. Wherever parties contemplate extended contractual relationships, they are likely to turn to *ex tempore* contracting. Even where quasi-adjudication is not present, parties may enlist agents to continuously determine their duties.

Despite the prevalence of *ex tempore* contracting, courts, parties and scholars have been slow to recognize its significance. This has led courts to misunderstand and frustrate parties’ contractual choices and disrupt the usefulness of *ex tempore* contracting. For example, courts have been urged to apply penalty defaults in some cases of contractual silence in order to cause parties to contract more explicitly, and thereby disclose important information to one another. The effectiveness of this approach, which attempts to raise

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8 See, M. Todd Henderson, *Credit Derivatives Are Not Insurance,* Working Paper (2009) (describing the ways in which derivatives are, and are not, like insurance). Not, that one may purchase CDS protection without actually owning Greek bonds.

9 See infra Part III.B.

the cost of *ex post* contracting in order to encourage *ex ante* contracting, is substantially weakened if opportunistic parties can instead opt for *ex tempore* contracting. Indeed, the dangers of misused *ex tempore* contracting helps explain why sophisticated market participants were duped in the multi-trillion dollar manipulations of Libor, which some have called “the crime of the century.”

*Ex tempore* contracting has important implications for the decades-old debate amongst scholars urging more formalistic interpretation of contracts and those who would have courts fill gaps in the contractual text. First, the variety of interpretive techniques used by parties’ agents in *ex tempore* contract terms cautions against simplistic accounts – formalist or anti-formalist – of party preferences.

Second, important litmus test cases for the formalist debate must be completely revisited in light of *ex tempore* contracting. Formalist treatment of *Gulf Oil v. Eastern Airlines* and *ALCOA v. Essex,* both of which concerned out-of-whack price terms, has urged application of the contract text while antiformalists have called for courts to reform the contracts in order to advance parties’ broader objectives. Yet both camps have assumed that *Gulf Oil* and *ALCOA* involved clear, *ex ante* contracting. In reality, these cases exemplified *ex tempore* contracting choices. Vindicating parties’ contractual intents requires courts to transcend the formalist/anti-formalist debate and address the distinctive risk inherent in *ex tempore* contracting – that the parties will have selected a bad agent to update their contract.

The Article will proceed as follows: Section I reviews recent literature on contractual completeness contracting 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. This analysis will guide discussion of subsequent examples of *ex tempore* contracting.

Section II identifies examples of *ex tempore* contracting, both by shedding light on largely unknown contracting phenomena, as in the case of construction dispute boards, and by urging a new understanding of well known contracting techniques, such as the use of floating rate in a price term.

Part A looks at the use of *ex tempore* contracting in construction through dispute boards. In addition to its role in

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advancing this Article’s theoretical contribution, this Article’s 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,\textsuperscript{13} and barely examined even by those scholars who care about construction law.\textsuperscript{14} This Article explores diverse uses of disputes boards, their advantages, and their risks, utilizing a cache of dispute board decisions recently made public by the State of Florida.

Part B describes the role of \textit{ex tempore} contracting in financial derivatives transactions, where complicated financial relations are governed by apparently incomplete agreements, whose clarity and specification come in the course of performance.

Part C then argues that the use of floating and adjustable prices in contracts of all kinds - from home mortgages, to cost of living adjustments to salaries, to commodity supply contracts - are fruitfully analyzed as \textit{ex tempore} contracts. Indexed terms are easily misidentified as specific contract language, an example of \textit{ex ante} contracting, because of their putative precision. Part C argues instead that indexed price terms are better understood as a means by which the parties rely on third parties, index providers, to determine the payer’s responsibilities on an ongoing basis.\textsuperscript{15}

\textsuperscript{13} No doubt, this is because dispute boards most closely associated with construction, an area that attracts little scholarly interest. See Stipanowich, \textit{supra} note 6495-96 (lamenting the state of construction scholarship); William A. Klein and Mitu Gulati, \textit{Economic Organization in the Construction Industry: A Case Study of Collaborative Production under High Uncertainty}, 1 BERKELEY BUS. L.J. 137 (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")

\textsuperscript{14} See 1 SWEET ON CONSTRUCTION INDUSTRY CONTRACTS, § 8.01 (1999) (definitive treatise on construction documentation only mentions DRBs one time); SWEET ON CONSTRUCTION LAW § 12.11 (1997) (calling for more research into dispute boards); 6 BRUNER & O’CONNOR CONSTRUCTION LAW §§ 20:1.50, 21:11 (2011) (noting the rise of dispute boards).

Having established the pervasiveness of *ex tempore* contracting, Section IV then draws out the implications of *ex tempore* contracting for judicial interpretation, scholarly study of contracts, and fruitfully future applications of *ex tempore* contracting, such as earnout agreements in M&A contracts. Section V concludes.

**II. Contractual Completeness**

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. Complete contracts reduce enforcement costs and encourage efficient investment, create efficient terms of exchange in each state of the world, and facilitating efficient trade. Where vague or incomplete contracts exist, obligations are unclear and parties risk vexatious litigation and inefficient performance.

Given the costs, scholars of contracts have long found the persistence of vague terms “puzzling.” 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. Specific terms must be imagined, negotiated, and drafted. Demanding completeness

18 Triantis, *supra* note 16 at 1068
19 Id. at 1067.
21 See Mark P. Gergen, *The Use of Open Terms in Contract*, 92 COLUM. L. REV. 997, 1030 (1992) (Haggling over the value of an uncertain asset, or investigating it, is wasteful from a social point of view)
22 Ayres & Gertner, *supra* note10 at 92-93 & n. 30 (costs include “legal fees, negotiation costs, drafting and printing costs, the costs of researching the effects and probability of a contingency, and the cost to the parties and the courts of verifying whether a contingency has occurred.”)
can damage trust, limit relational or informal enforcement, or threaten the deal altogether. Guaranteed costs attend drafting a marginally more complete contract, but completeness’ benefits must be discounted by the chance that a given contingency never even arises, and so the marginal completeness has no effect on incentives. Finally, some terms are costly to enforce, so they would rarely be invoked even if included in the contract. As a result of these costs, contracts are inevitably somewhat incomplete, with some terms vague and others absent.

Contracts scholars have lately supplemented this account by recognizing that contract specificity can constitute a choice delegation.

26 Richard Posner, The Law and Economics of Contract Interpretation, 83 TEX. L. REV. 1581, 1583 (2002) (“Deliberate ambiguity may be a necessary condition of making the contract”); see e.g. United Rentals, Inc. v. RAM Holdings, 2007 Del Ch. LEXIS 181 (Del. Ch. 2007).
27 Id.
mechanism. The degree of contractual completeness is an effort by the parties to regulate when and by whom their contractual content will be determined. As Scott & Triantis write

The 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.

Vague terms can be tools that parties use when they wish responsibilities to be determined in the future (at adjudication) by someone else (an adjudicator). Incomplete contracts can be attractive not just because they reduce drafting and negotiation costs, but also because some questions are better answered in the future with the benefit of hindsight.


30 This perspective has found happy resemblance to 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 v. Standards, 42 DUKES L.J. 557, 559 (1992) (emphasis removed) Many recent articles have noted the similarities between the choices contracting parties face in drafting terms, and the choices of lawmakers crafting public law. Posner, supra note 26, at 1587; Scott & Triantis, supra note 29, 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.

31 Scott & Triantis, supra note 29 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.

32 Kraus & Scott, supra note 29, 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 . . . .”)

33 Id.
In addition to calibrating when duties will be specified, contractual completeness dictates by whom they will be specified. Specific terms, like “3 lb. widget,” make the parties the deciders of contractual responsibility, while vague terms, like "merchantable widget," leave specification to a court. Courts bring a distinctively judicial approach to specifying contracts, with its own advantages and disadvantages.34

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. 35

Thus, parties decide ex ante at contract formation or adjudicators decide ex post in adjudication. 36 Formally, there is no third choice. 37 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. 38 Scott and Triantis have similar approaches. 39

34 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, while court may choose another interpretive methodology. Alan Schwartz & Joel Watson, Conceptualizing Contractual Interpretation, 5 (2012) (courts maximize accuracy at the expense of welfare). Alan Schwartz & Robert E Scott, Contract Theory and the Limits of Contract Law, 113 YALE L.J. 541, 549, 602-03 (2003)
35 Id. at 841 (emphasis added)
36 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.
37 Table 1, columns 1 and 3, display these two options for contracting and their defining features.
38 Posner, supra note 26, 1583-84.
39 Scott & Triantis, supra note 17, 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
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 it can also be determined on an ongoing basis. For example the parties could stipulate that the contractual meaning of “workmanlike” will be determined by an expert committee on a real-time basis.

Likewise, in addition to varying the moment of contractual determination, the parties are given 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 where 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.\textsuperscript{40}

\[^{40}\text{There are nine possible combinations. The SSRN version of this paper includes Table 3, which speculates as to the sort of contract that takes place in the various boxes, and Table 4, which describes the contractual language used to achieve it. These tables are helpful to understand why ex tempore is a distinctive method even though courts may sometimes provide preliminary injunctions and the like. These case are contained in Table 3’s box #8. There, the court provides ongoing contractual specification, as would be available in ex tempore contracting. Some parties might prefer such an approach relative to ex tempore contracting. They might value the court’s independence, relative to some self-serving agents, see infra Part IV.D. Or they might value the coercive power of a judgment. But, as Table 4 reveals, parties cannot reliably choose to have courts provide ongoing determination, since courts do not honor parties’ contractual request for timely, pre-performance determinations, nor is it obvious that they could commit to do so, given substantial docket backlog.}\]
Table 1

<table>
<thead>
<tr>
<th>Categories</th>
<th>Timing of Choice</th>
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<tr>
<td></td>
<td>Contract formation</td>
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<tr>
<td>Identity of Chooser</td>
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<tr>
<td>Parties</td>
<td>ex ante</td>
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<td>Agent</td>
<td>ex tempore</td>
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<td>Court</td>
<td>ex post</td>
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As opposed to precise or vague terms, parties opt for *ex tempore* contracting by use of “interim terms.” These are terms that begin the contractual relationship underspecified, but that stand ready for determination by an “interim agent.”

This approach to contracting has distinctive costs and benefits. By specifying the contract on an ongoing basis, the parties’ agent can take advantage of knowledge about the world as it is at the time, bringing a hindsight advantage akin to that realized by a court in *ex post* contracting. On the other hand, the determination can come sooner than after the transaction. A responsive agent can provide contractual clarification at or around the time of performance, so that parties’ incentives will not be blunted by incompleteness.41

On the other hand, there are costs associated with this contractual method. The most salient costs concern the selection of the agent. First, the agent may charge some fee for her services, which may be paid with greater certainty than the possible costs of litigation. Second, the agent’s determinations may prove problematic. We might call it “basis risk” where a faithful agent nevertheless acts differently than either party may have expected or wanted. More perniciously, some agents may misuse their position to purposefully frustrate one or both parties, or to benefit themselves. Table 2 summarizes the features of the three contracting options.

41 To be sure, parties may still reject the contract, taking their chances that a court will ignore the agent’s determination, or that the court will misconstrue the facts. But this is no different in principal from the risk that the parties’ *ex ante* specification will be flaunted by one party or disregarded by the court.
Table 2

<table>
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<th></th>
<th>Type</th>
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<th>Ex Tempore</th>
<th>Ex Post</th>
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<tbody>
<tr>
<td>2</td>
<td>Timing</td>
<td>Contract Formation</td>
<td>Ongoing; at or around performance</td>
<td>Adjudication; after transaction</td>
</tr>
<tr>
<td>3</td>
<td>Chooser</td>
<td>Parties</td>
<td>“Interim Agent” third-party</td>
<td>Court</td>
</tr>
<tr>
<td>4</td>
<td>Language</td>
<td>Precise term</td>
<td>Interim Term</td>
<td>Vague term or gap</td>
</tr>
<tr>
<td>5</td>
<td>Distinctive virtues</td>
<td>Clarity at performance; party motives &amp; knowledge</td>
<td>Clarity at performance; hindsight</td>
<td>Hindsight</td>
</tr>
<tr>
<td>6</td>
<td>Distinctive costs</td>
<td>Imagination, negotiation, drafting</td>
<td>Agency costs</td>
<td>Litigation; incentives</td>
</tr>
</tbody>
</table>

The appropriate use of *ex tempore* contracting would take account of its costs and benefits, and the value maximizing contractual model would minimize the sum of *ex ante*, *ex post*, and *ex tempore* contracting costs, net of benefits. The typical application of *ex tempore* contracting shows three features: first, *ex tempore* contracting is more useful where agency costs are low. Many unfortunate uses of *ex tempore* contracting may come from underestimating its costs.\(^{42}\)

Second, *ex tempore* is likely to be valued where the parties value clarity of obligation at or around the time of performance. These may be cases where merely providing a later remedy for inefficient performance will insuffciently compensate or provide imperfect incentives.

Third, and most obviously, *ex tempore* contracting may prove attractive where *ex ante* and *ex post* contracting costs are high. This could occur for countless reasons such as that the relationship is likely to be lengthy, the future is uncertain, and negotiation and modification of the contract will prove difficult.\(^{43}\)

\(^{42}\) See *infra* Part III.A-C.

\(^{43}\) Though offering a novel contribution, this Article takes up calls for research extending from the existing literature. See, Scott & Triantis, *supra* note 17 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 of further research into the interaction between contract and litigation, as well as future
The following sections go on to demonstrate these observations about *ex tempore* contracting. Part III, *infra*, gives three investigation into the effect of other back-end processes, such as arbitration, renegotiation and settlement.

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. Oliver E. Williamson, *Transaction-Cost Economics: The Governance of Contractual Relations*, 22 J. L. & ECON 233, 249 (1979). He even mentions architects’ preliminary adjudicatory role at construction sites, a precursor to the dispute board technology discussed in part III.B, as an example of trilateral governance. *Id.* at 250. This foreshadowing of *ex tempore* contracting allows it to be considered within the family of relational contracting and transaction costs economics literature. By providing detailed discussion of *ex tempore* contracting in construction, financial derivatives, and indexed contracts, this Article explores Williamson’s insight for its deep potential.

By contrast, *ex tempore* contracting is focally concerned with contract specification. Ongoing determination may matter to long-term relationships, as in the contracts described in Part III.C, *ex tempore* contracting there is to set price, not resolve disputes. Likewise, many financial derivatives, discussed in Part III.B, are of short duration. Parties frequently open and then close out financial derivatives over a short time horizon, and they make few relationship specific investments. Thus, this Article shows that interim contracting goes beyond dispute resolution and governance in long-term relations, as Williamson discussed, and into all of contracting.

Yet Williamson’s trilateral contracting is focally concerned with relationship preservation in long-term contractual relations. This is why one of his three examples of trilateral contracting is the U.C.C.’s stipulation that an aggrieved seller may insist upon a buyer’s performance. *Id.* By contrast, interim contracting is focally concerned with contract specification. Ongoing determination may matter to long-term relationships, as in the contracts described in Part III.C, interim contracting there is to set price, not resolve disputes.

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* Ronald Coase, *The Nature of the Firm*, 1 ECONOMICA 386, 388 (1937) (firm and market are “alternative methods of coordinating production.”); Oliver 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 counterparties’ responsibilities on an ongoing basis.
examples of settings of *ex tempore* contracting that largely conform to the predictions of the relevant features urging its use.

**III. Locating Ex Tempore Contracting**

**A. Construction**

1. **Ex Ante / Ex Post**

Construction contracting is characterized by high *ex ante* and *ex post* contracting costs. That is, performance under incomplete contracts is often inefficient and requires judicial intervention. Yet it is not feasible to draft more complete contracts because of the complexity and uncertainty of large projects.

Many factors raise the cost of *ex ante* contractual completeness in construction.\(^{44}\) Some relate to the enormous variety of potential problems, with resultant high variance in cost. A golden eagle nest might be found on the construction site,\(^ {45}\) necessitating a delay to obtain a permit to move the bird.\(^ {46}\) It difficult to for parties decide in advance what shall be done if a given animal is found,\(^ {47}\) who shall have responsibility to obtain the permit,\(^ {48}\) and who shall bear the costs of consequent delays.\(^ {49}\)\(^ {50}\) Problems and surprises multiply once

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\(^ {44}\) Stipanowich, *supra* note 6 at 532.

\(^ {45}\) Ranger Construction Ind., Inc. v. Florida Dept. of Transp., FIN # 197706-1-42-01 (2011).

\(^ {46}\) The Bald and Golden Eagle Protection Act, 50 CFR §§ 22.3, 22.6.

\(^ {47}\) 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 Sections

\(^ {48}\) *Cf.* I-75 & Alico Rd. Interchange-Water Use Permit Responsibility (2005) (dispute as to which party is responsible to obtain dewatering permit).

\(^ {49}\) After a nineteen days pause to obtain the permit, the weather becomes too cold for construction work, resulting in a delay for several months. Projects typically penalize contractors for weather delays, but shall eagle-preceded weather delays be treated differently? SR 25/US 27 - Recovery of Idle Equipment and Mobilization Costs (2011).

\(^ {50}\) Klein & Gulati, *supra* note 13 at 174. ("[C]onstruction planning prior to groundbreaking is characterized by considerable difficulty of specification.").
contractors open up the ground.\textsuperscript{51} With such variation of problems, complete, complex, \textit{ex ante} contracting is unfeasible. \textsuperscript{52} The appropriate resolution of a construction delay 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. The typical construction project buyer has never before commissioned a project.\textsuperscript{53} These inexpert contractors rationally choose to rely on industry standard 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 constrain their negotiating agents. Standard contracts facilitate the use of open bidding, which may engender citizen confidence in the contracting process. The public tendency towards form contracts creates network externalities in favor of private adoption.\textsuperscript{54}

Though standard form contracts can economize on drafting costs, they will generally be cast at a higher level of generality than would be a bespoke contract.\textsuperscript{55} Construction projects are bespoke products with commodity contracts. Failing to particularize the terms \textit{ex ante} implicitly leaves that task to someone else -- very often a court \textit{ex post}.

Relatively complete contracts are possible if risks are allocated in broad strokes, but such contracts may result in bad incentives.\textsuperscript{56} All cost-risks —eagle removal and all—could be assigned to the contractor, making the contractor's bid an "all-in price."\textsuperscript{57} However, fixed prices tend to be unsatisfactory in long-term contracts, where changing circumstances can create a divergence between cost and

\textsuperscript{51} History, supra note 5 (contract to move an estimated 10,000 tons of excavated materials subsequently necessitates contractor to move 90,000 tons).

\textsuperscript{52} Stipanowich, supra note 13 at 531.

\textsuperscript{53} \textit{Id.} at 477 ("The typical construction buyer is someone who has never built capital construction before.")


\textsuperscript{56} OLIVER HART, FIRMS, CONTRACTS AND FINANCIAL STRUCTURE, 1-3.

\textsuperscript{57} This is the default at common law. \textit{JUSTIN SWEET, LEGAL ASPECTS OF ARCHITECTURE, ENGINEERING AND THE CONSTRUCTION PROCESS} (5th ed. 1994) at 539.
bid.\(^{58}\) Fear of such divergence may encourage excessive pre-bid research, particularly if contractors are at all risk-averse.\(^{59}\)

Alternatively a cost-plus contract assigns all risks to the owner.\(^{60}\) Yet, in the context of asymmetric information, cost-plus contracts pose serious agency costs by rewarding the contractor for increasing total costs.\(^{61}\)

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. The Red Book assigns duties through many quintessential vague contract terms, such as a requirement of proper workmanlike and careful manner of execution, with recognized good practice.\(^{62}\)

Beyond just vague, construction contracts may include self-conscious gaps. Red Book §4.12 provides that the contractor is entitled to extension of time and payments of additional costs arising

\(^{58}\) Oliver Williamson, Franchise Bidding for Natural Monopolies in General and With Respect to CATV, 7 BELL. J. ECON. 73, 81.

\(^{59}\) Suppose that a project’s costs vary stochastically 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 the project’s cost is revealed through research to be less than 0.5, the contractor can bid 0.5\(-r\), winning the auction. Her expected surplus in those cases is 0.75\(-r\) or 0.25\(-r\) and is never negative. That occurs half of the time. The other half of the time, the project would cost more than .5, and she does not bid, and another bidder takes the project at 0.5. The contractor’s payoff is thus 

\[ 0.5(0.75 - r) + 0.5(0) - r = 0.125 - r. \]

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 perform the research herself and then share the answers with all bidders. But the contractors’ bids will reflect their distrust of the owner’s proffer. Anthony Kronman, Mistake, Disclosure, Information, and the Law of Contracts, 7 J. LEG. 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 lay below the level of benefit the project generates, the owner will want to pursue the project without any research.

\(^{60}\) Lump-sum contracts with a cost-plus component are said to be “virtually unknown in the design and construction field.” Eggleston, Posner, and Zeckhauser, supra note 55 at 95.

\(^{61}\) Cost-plus contracts are also incompatible with owners’ preference for competitive bidding.

\(^{62}\) FIDIC CONDITIONS OF CONSTRUCTION Red Book § 7.1(b) (1999)
out of adverse physical conditions that are “unforeseeable.” The FIDIC Guidebook then provides that an event is (i) unforeseeable if it happens less often than once every ten years; (ii) foreseeable if it happens more often than once every six years. The official guidance leaves a gap for delays more frequent than the National Census but less frequent than a Senatorial reelection. Suppose Hurricane Wilma disrupts and delays construction, in an area in which hurricanes occur every 7 years. Is the contractor due additional compensation for managing it? Or is this just one of those foreseeable risks contractors are meant to manage? The contract is silent as to responsibility.

Adjustments for unforeseeable circumstances are bound to be invoked frequently. If a given problem occurs every six years, then a given 3-year project has a 50% of chance of experiencing it. Presuming that there are a large number of potentially unforeseeable adverse physical conditions, then 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. “Reasonable foreseeability” is unsurprisingly the heart of many construction disputes.

*Ex post* contracting is costly here. When an event occurs that the contract only vaguely addresses, the parties' uncertainty as to their obligations may result in inefficient performance, costly litigation, or both.

One possible response to such an occurrence is to halt performance while parties negotiate or litigate their responsibilities.

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63 FIDIC GUIDEBOOK at ___ (defining “not reasonable 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.”

64 I-95 (SR 9) Payment & Time for Hurricane Wilma and Tropical Storm Gamma (2006).


67 Incomplete contracting need not lead to costly disputes if parties can cheaply resolve disagreements. See Robert E. Scott &
Project completion can be substantially delayed and equipment and workers, wastefully idled, due to the difficulty of coordinating agreement amongst the many sub-contractors and related parties. 68

68 Coordination can be costly due to the multi-party nature of the construction project, which has been called the "legal Achilles' heel of the Construction Process. Justin Sweet, Legal Aspects of Architecture, Engineering and the Construction Process 28.01, at 620 (5th ed. 1994). Since the 19th century, historical responsibilities of the "master builder" have devolved into a plethora of separate functions. 1 Bruner & O'Connor Construction Law §1:2 n.1 (discussing fragmented nature of industry). These separate functions have in turn been performed by a variety of separate firms. Hinchey, Visions for the Next Millennium, in 1 Constr. L. Handbook §2.01[A] 1999 (Calling construction industry "exceptionally fragmented.").

For large projects, these many parties will inevitably represent many jurisdictions with accordingly different expectations. Relational contracting may be less effective since most parties will not work together again and communicate with one another only through the general contractor. Bryan M. Seifert International Construction Dispute Adjudication under International Federation of Consulting Engineers Conditions of Contract and the Dispute Adjudication Board, J. Professional Issues Engineering Ed. & Practice 149 (2005); Stipanowich, supra note 13, at 473 n. 27 (construction industry is "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 . . . .")

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. See, Blake Nelson, Construction Liens: A National Review and Template for a Uniform Act, 34 Wm. Mitchell L. Rev. 245 (2007). The risk of endangering the project may be a small subcontractor's best chance at getting paid in full. See, Ian Ayres & Kristin Madison, Threatening Inefficient Performance of Injunctions and Contracts, 148 U. Pa. L. Rev. 45, 46 (1999)

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.\(^69\) 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, since she cannot retrieve the compelled effort and materials invested in the project.\(^70\) She may elect a form of reluctant or low quality performance,\(^71\) leading even an honest owner to retaliate against perceived shirking. Asymmetric information can exacerbate this cycle of distrust.\(^72\) Even if litigation later clarifies contractual duties in this case, losses mount in the meantime.

In litigation, proof costs are high and errors may be frequent.\(^73\) Though quality of performance may be observable to the parties, a


\(^{70}\) This risk is particularly salient since 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, *Principal Contractor’s Claims under the FIDIC International Civil Engineering Contract*, 1985 *Int’l Bus. L.J.* 171 (criticizing reliance on engineer).


\(^{73}\) Accord, Kiewit-Atkinson-Kenny v. Mass. Water Res. Auth., 2002 Mass. Super. LEXIS 329, *4* (2002) (“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 . . .”)

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court must look to noisy or costly proxies,\textsuperscript{74} such as testimony from witnesses who may not remember the state of the site at a particular time in the past.\textsuperscript{75} Yet with the stakes high, parties may be willing to expend substantial resources on adjudication.\textsuperscript{76}

The resultant litigation costs are staggering. Almost 50\% of all legal costs in construction are connected with disputes.\textsuperscript{77} In nearly one tenth of all projects, 8-10\% of total project costs were legal costs.\textsuperscript{78} Estimates of annual dispute resolution costs in the U.S. construction industry begin at $5bn\textsuperscript{79} and rise as high as $12bn.\textsuperscript{80} At any moment, one-third of architects are involved in litigation.\textsuperscript{81} Construction has earned its reputation for litigiousness.\textsuperscript{82}

To translate the forgoing into the language of the \textit{ex ante} / \textit{ex post} dichotomy, terms like “reasonably foreseeable” are found in construction contracts, despite their contribution toward blunted incentive and litigation costs, because greater initial specificity would

\begin{footnotesize}
\begin{itemize}
\item \textsuperscript{74} Avinash Dixit, \textit{Lawlessness \& Economics}, 26-29 (2007). Like perishable goods, see Eggleston, Posner, \& Zeckhauser \textit{supra} note 55 at 120-21 (2000), the flux of the construction site may be unverifiable.
\item \textsuperscript{75} Litigation is often delayed because contractual clause requiring late-adjudication, a desire to economize on proceedings, because defects only become evident near to or after completion, or out of hope early on that the relationship can be salvaged without hostile lawsuits. \textit{Accord}, James P. Groton, \textit{Alternative Dispute Resolution in the Construction Industry}, 52.3 \textit{Dispute Res. J.} 48, 51 (1997).
\item \textsuperscript{77} Chapman, \textit{supra} note 69. This figure may be unsurprising, given the definition of “reasonable foreseeability” given the FIDIC contracts. \textit{See supra} notes 62-66 and accompanying text.
\item \textsuperscript{78} Id. If a given problem occurs every six years, then a given 3-year project has a 50\% of chance of manifesting it.
\item \textsuperscript{80} \textit{Supra} note 3.
\item \textsuperscript{81} Stipanowich, \textit{supra} note 13 at 476.
\item \textsuperscript{82} “Build to Suit?,” \textit{Construction Dimensions} 13, 13 (1989) (lamenting “awful litigation nature of this industry”); \textit{More Construction for the Money}, The Business Roundtable, 13 (1983) available at http://www.ce.berkeley.edu/~tommmelein/BRTMoreConstructionForTheMoney.pdf ("The bottom line of this adversarial dance is a constant state of confrontation.")
\end{itemize}
\end{footnotesize}
be unduly costly. Costly though *ex post* specification by a court may be, the court’s hindsight may make it cheaper than attempting *ex ante* to agree upon the best allocation of duties for every unexpected future. If those are the parties’ 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. These boards promise a third way of addressing contractual specification through *ex tempore* contracting.

Dispute boards are panels of expert neutrals, typically three, chosen by the parties and convened at the start of a construction project. Thereafter, the board visits frequently during the life of the construction project, often up to four times per year. 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. Board decisions are not adjudicatory

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83 European style boards are often called dispute *adjudication* boards, contrasted to the American style dispute *review* boards or dispute *resolution* boards.

84 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 nominating party. 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.

85 For example, the Ertan Dam project board in China made more than 20 site visits. *China’s Ertan Hydroelectric Project*, 8 Foundation For. 1 (2004) (herein after, “Ertan”)

86 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. 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. However the contract will typically provide that, in the subsequent adjudication, the board’s recommendation will be admitted as evidence.
judgments, subject to execution.\textsuperscript{87} Rather, the parties have agreed that an unchallenged opinion board decision becomes a part of the contract, binding and available in any subsequent adjudication.

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.\textsuperscript{88} Informal recommendations can be made even faster, perhaps even contemporaneously with their visit to the site.\textsuperscript{89}

Dispute boards exemplify \textit{ex tempore} contracting because of their distinctive function in specifying contractual responsibilities on an ongoing basis. Dispute boards allow parties to draft an apparently incomplete contract without suffering for long the ills of incompleteness. Yet they need not pay for this obligational clarity in advance of its 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 \textit{ex ante}. They can have a dispute board determination right away. These determinations may be informed by

\begin{quote}
In America, dispute boards exert less overt influence over the parties since rejected (and sometimes even accepted) board recommendations may not be provisionally binding. The board decision has teeth in greater part from its publicity to future adjudication bodies.
\end{quote}

\textsuperscript{87} The fact that boards lack enforcement powers definitively distinguishes them from \textit{ex post} adjudication. Yet the fact that they are willing to assign blame and make substantive recommendations distinguishes them from ordinary mediation. Jennifer Gerarda Brown and Ian Ayres, \textit{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.”).

\textsuperscript{88} See, \textit{e.g.} SR 559 (over CSX RR) - Differing Subsurface Conditions for End Bent 4, Shaft No. 1, Fin 19770145201, Contract T1393 (2012) (formal board recommendation available only 11 days after subcontractor first notified general contractor of a problem).

\textsuperscript{89} The immediacy of their response seems to be vital to their usefulness. Chern, \textit{supra} note 120, at 9 (“All the other forms of dispute resolution generally involve a delay whilst the parties fight it out . . . .”). See also, Kathleen M. J. Harmon, \textit{Case Study as to the Effectiveness of Dispute Review Boards on the Central Artery/ Tunnel Project}, 1 J. Legal Affairs & Disp. Res. in Engineering and Construction 18 (2009) (agreeing that timely use DRB appear to help resolve disputes, even if late use does not).
hindsight, in that they may be 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” or “reasonably anticipated” or “workmanlike quality” into interim terms, which have no fixed meaning at drafting but have 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. They specify duties, as might the parties or a court.

The parties can provide that the project deadline may be extended due to unforeseeable delays, but not those that are reasonably foreseeable. 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. The contract can excuse delayed construction when there is an “area-wide shortage” of materials, while leaving the board to specify the geographic and conceptual size of an “area.” It can leave unspecified the contractual implications of an unanticipated conflict between the proposed location of a project and an existing electrical power line, while trusting that the plan will be timely updated.

Countless other contingencies can be addressed, without anticipating them at contract formation. The parties can learn whether unexpected changes in port security policies excuse a contractor from late delivery. The parties need not specify which

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90 SR70 – Time Extension Due to Shortage of Thermoplastic Materials (2010).

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


94 Florida Department of Transportation, Standard Specifications for Road and Bridge Construction, § 8-7.3.2 (2010).


96 SR 50 & SR 45 - Time Adjustment due to Delays from Tampa Port Security (2003).
emergency repairs will entitle the contractor to additional compensation,\(^97\) nor how the contract will apportion the cost of damage by third parties,\(^98\) leaving it to the dispute board to rapidly evaluate the repairs presented.

The parties can give the owner the right to change the project as its needs change, so long as the contractor is reasonably compensated for any additional work or expenses.\(^99\) They can do this without extensive \textit{ex ante} description of what changes will result in what fees for the contractor, and they can still avoid inefficient litigation and holdups.\(^100\) Likewise, the contract can give the contractor some ability to initiate changes, like whether she may substitute an alternative infrastructure system to the propriety system mentioned in the contract.\(^101\) These allowances give complex, long-term contracts the flexibility they need to remain rational as the world changes.

Dispute boards’ effectiveness no doubt comes from many causes in addition to their role in \textit{ex tempore} contracting. They may help parties to mediate emotional disputes.\(^102\) Their opinion can serve to preserve contemporaneous evidence for later judicial verification.\(^103\) But even these roles serve \textit{ex tempore}. The board’s frequent site visits allow the board to hear updates and complaints.

\(^97\) SR 20 (Apalachicola River Bridge) - Payment for Repair of Expansion Joints (2000).
\(^98\) SR 9 (I-95) Payment for Guardrails Damaged by Third Parties (2011); I-95 Express Lanes - Third Party Damages, Incident Management, Fuel Spill Clean-up, Routine Maintenance (2012)
\(^100\) 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.
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 where independent legal grounds exists for decision, even going so far as to cite judicial authority for their views. 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,” leaving the board to situate those factual questions into the context of the contract.

Where boards make technical evaluations, it is often to reach legal or contractual matters.

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104 See US 17 – Golden Eagle – Contract Time Issue (2002) (contractor argued owner’s timeline was both nonsensical (i.e. the owner’s own calculations didn’t make sense on their own terms) and unrealistic. Board rejected the claim without evaluating timeline) at 9.  
105 Boards even cite to judicial authority to support their determinations. See, e.g. id. at 12 (citing, Rumsey v. U.S. 88 Ct. Cl. 254 (1939); J. Lawson Jones, ENG-BCA 86-1 BCA P 18,719; Municipality of Anchorage v. Frank Coluccio Const. Co., 826 P.2d 316 (Alaska 1992))  
106 Actuation is the process by which lights can be configured to change in response to traffic needs. Technologically, the light can be programmed to green when a car is detected as passes over induction loops buried under the road. See generally, SIGNAL TIMING MANUAL (2008) (describing actuation techniques). 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 (2006).  
107 The contract exempted from deadline any “minor signal work, friction course, and patterned textured pavement.” 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. The friction course is a top layer of asphalt that provides traction and drainage. Glossary, Florida Department of Education, available at http://www.nflroads.com/glossary/details.asp?GlossaryID=4. If the friction course can be added after September 1 without penalty, the contractor argued, so too the ADA tiles. The contractor also argued that the remaining effort to achieve full actuation was only “minor signal work.” 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. SR 26 Critical End Dates (2006).  
108 SR 200 (A1A) – Differing Site Conditions Concerning Much Removal & Subsurface Clay (2011) (Borings data was not reported for
The dispute board’s predilection for determining contract duties, rather than simply making factual observations, is consistent with what others scholars have noted about construction disputes: they are overwhelmingly contractual in nature. One study of government construction contracts found that nearly half of all disputes between 1980 and 2004 concerned either contract interpretation or modification of the contract to accommodate unexpected problems and additional work. Relatively few turn on factual disputes on highly technical matters, such as claim that the owner furnished problematic equipment or that the finished project was of unacceptable quality.

This procedure can have dramatic results. Dispute boards are lauded as remarkably effective in swiftly preventing, reducing or eliminating conflict. One paper noting a marked decline in disputes

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109 SR 200 (A1A) – Differing Site Conditions Concerning Much Removal & Subsurface Clay (2011) (clear warning about muck probes succeeded in disclaiming liability for reliance)

110 Kurt L. Dettman, Martin J. Harty and Joel Lewin, Resolving Megaproject Claims: Lessons from Boston’s Big Dig, 30 Constr. Law. 1, 13 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.”).


112 Goetz & Gibson, id. (acceptance and owner’s equipment disputes made up less than 40 disputes of the more than 600 surveyed).

and litigation from 1980 to 2004 among U.S. government sponsored projects, particularly contract disputes, attribute the decline in part to increasing use of dispute board-type procedures. Dispute boards are able to resolve 98% of potential disputes without subsequent mediation, arbitration, or litigation.

It is widely believed that dispute resolution costs are far lower with a dispute board in place. One study of the Big Dig 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. Another dispute board expert estimated that the typical cost of a dispute board is about 2% of disputed amount, as opposed to 12% for arbitration.

These costs do not include the intangible cost of the time, attention and emotional wellbeing of key employees. Dispute

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114 J. Goetz & Gibson, supra 111 note at 40 (2009).
116 Rubin, supra note 7.
118 The Big Dig is among the largest engineering works in history, an excavation project rerouting Boston’s Interstate 93, sometimes compared to the Panama Canal. Grunwald, “Dig the Big Dig,” Wash. Post B02.
121 Harmon supra note 117, at 69 (85% of respondents agreed that DRB will reduce the indirect costs, such as management focus and manpower that might otherwise be deployed to other projects). Like most non-lawyers, construction professionals generally dislike
boards score better on these axes as well.\textsuperscript{122} The engineer or architect in particular, has a lessoned adjudicatory function under this scheme, freeing a high value professional to focus on her core competencies.\textsuperscript{123}

Many believe that dispute boards reduce bid price,\textsuperscript{124} by signaling the owner as non-litigious\textsuperscript{125} and contractors reduce their risk premium for capricious or difficult claims processes.\textsuperscript{126} 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.

Dispute boards are also a means of controlling 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 huge, costing \$2 billion and taking nine years. 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, \textit{and then} the subcontractors and suppliers—and in a complicated political and commercial environment.\textsuperscript{127} Forty claims went to the dispute review board for formal review by the Swedish, UK and Columbian board. All of the decisions were either accepted or settled. Within six months of project completion, there were no outstanding disputes.\textsuperscript{128}

Dispute boards are relatively new contracting tools,\textsuperscript{129} but they have gained endorsement from governments, international organizations, and scholars.\textsuperscript{130} Essentially unused 20 years ago, conflict and legal engagement. Id. (89\% of professionals interviewed said there are emotional costs to disputes)\textsuperscript{122} Id. (58\% said DRB use increased their job satisfaction, 69\% said it reduced stress.).\textsuperscript{123} Chapman, \textit{supra} note 69.\textsuperscript{124} See, \textit{e.g.}, Denning, “More than an underground success.” 63 Civ. Eng. 42 (1993).\textsuperscript{125} Harmon \textit{supra} note 117, at 69 (95\% polled indicated that dispute board use indicates willingness in the owner to resolving disputes without arbitration and litigation).\textsuperscript{126} Chapman, \textit{supra} note 69.\textsuperscript{127} See Ertan, \textit{supra} note 85.\textsuperscript{128} Chapman, \textit{supra} note 69.\textsuperscript{129} The first use of a dispute board may have been the Boundary Dam in Washington in the 1960s, which had a “Joint Consulting Board.” \textit{Id}.\textsuperscript{130} See, \textit{e.g.}, Stipanowich, \textit{supra} note 6 at 500.
Dispute boards are now in place in more than $140 billion in projects.\textsuperscript{131} The standard form construction documents from the four principal providers of these forms now include dispute boards by default.\textsuperscript{132} Four US states require dispute boards in nearly all transportation projects,\textsuperscript{133} and the US Department of Transportation Federal Highway Administration strongly endorses the practice.\textsuperscript{134} The World Bank, the Asian Development Bank and other multinational development banks all require use of dispute boards at essentially all projects they fund. Even the 2012 Olympics made use of a dispute board.\textsuperscript{135}

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 where \textit{ex post} determination through adjudication is costly, but \textit{ex ante} contracting can be more costly still. 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

\textsuperscript{131} Chapman, \textit{supra} note 69.

\textsuperscript{132} FIDIC began including dispute boards in several of its form documents beginning in 1999. \textit{Id.} American Institute of Architects (AIA) standard form document, as of 2008, provided for an Initial Decision Maker (IDM), which is similar to a DRB. The Construction Owners Association of America (COAA) and the Associated General Contractors of America (AGC) have provided on their standard form documents for a box check between either mediation or a DRB. Adrian L. Bastanielli, \textit{The DRB and the New Standard Form Contract Documents}, \textit{8 Foundation For.} 10, 10 (2008).


fill in the gaps and sharpen the vague terms as, and only as, questions as to duties arise. 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. Financial 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* costs. 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. The insured individual receives payment from the seller if the bond is in default. But what is “default?” 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?\(^{136}\) What if the bond documents allow a grace period of 30 days, while related loan agreements provided for only three days, as in the case of Italian firm SEAT Pagine Gialle?\(^ {137}\)

The International Swap and Derivatives Association (ISDA) provides standard form contracts that document the majority of the world’s financial derivatives. ISDA employs about 3,000 people in its documentation committee,\(^ {138}\) which reacts quickly to modify documents – striking terms, redefining them - to remain efficient as legal and economic circumstances change.\(^ {139}\)

Yet, ISDA’s documentation does not provide clear answers to the forgoing questions about the meaning of “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. These contracts are used precisely in markets where risk is deemed difficult to control,


making elaborated contracts impossible.\textsuperscript{140} Even if it were possible to anticipate every potential fact pattern, it is plain that the best explication of “default” might differ from transaction to transaction.

As with construction, a preference for standard form contracts raises the costs of extensive \textit{ex ante} contracting. Exchange traded derivatives, those offered on regulated exchanges, allow no contractual elaboration by anonymous market participants. Likewise, the over-the-counter derivative space strongly discourages participants from modifying anything but the economic terms of the contract at formation. That is because of a strong benefits associated with unmodified ISDA documentation.

Preference for ISDA documentation is partially a result of strong network externalities in the form of comprehensibility and fungibility in the eyes of other market participants. It is also a product of regulatory treatment: deviation from standard form contracts limits preferential treatment in bankruptcy. ISDA contracts have been tested in courts and are supplemented by legal opinions permitting enforceability and netting. 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. Without netting, a bankrupt’s estate may be able to cherry pick amongst its derivative transactions, modifying or canceling some that require the bankrupt to pay, while continuing to collect on others. For example, suppose Bank had agreed to an interest swap in which Bank will pay to Company 6% of a given sum, and Company will pay to Bank a floating rate that fluctuates around 6%. Company then files for bankruptcy. With netting, Company’s estate owes, or is owed, an amount close to zero, since the two swaps were of equal and offsetting Without netting, Company’s estate might sue to continue to collect the fixed 6% payment from Bank, as an asset of the estate, but might not pay its variable 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. Participants who excessively modify their swap contracts cannot be guaranteed such offsetting treatment, which thus constitutes a cost on \textit{ex ante} contract specification in the cases it might be otherwise appropriate.

Yet \textit{ex post} contracting, determining unclear obligations later in court, is costly too. Generalists courts may not understand complex financial arrangements, making errors more likely. 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.\textsuperscript{141} Obligational clarity is also important for regulatory reasons: banks and other financial firms may be

\textsuperscript{140} Cf. id. at 1025.

\textsuperscript{141} Thus the emphasize on collateral.
required to raise additional capital if they cannot claim that their swap related assets, or CDS-insured bonds, are in good standing.

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.  

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). Once one of the ten largest banks in the world, LTCB was on the verge of disaster in 1998. Its default would have let its swap counterparties close out their positions, forcing a fire sale of yen-denominated assets. Tokyo negotiated with ISDA to find a means of nationalization that ISDA could endorse as not constituting a default. 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. Under this process, an ISDA credit default swap contract provides “the determinations of the relevant Derivatives Committee will be binding on the contract,” in determining the terms of the contract. Any party to a swap contract can request a determination from the Committee at any time and receive a prompt,  

142 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. Supra note 139 at 1162.

143 Gelpern, supra note 138.

144 Gelpern, supra note 138, at 61.


146 “The ISDA Credit Derivatives Determinations Committees” available at https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0CDcQFjAA&url=http%3A%2F%2Fwww2.isda.org%2Fattacment%2FNDM1NA%3D%3D%2FAGM%25202012_DC%2520anniversary_appendix_043012.pdf&ei=mNDyUIzVHuf7iwK89IHgBw&usg=AFQjCNGEDn9cJff6xYk9vzknu6bawdQDP7g&sig2=CwSevVJxp0AuRqkBryf5Q&bvm=bv.1357700187,d.cGE.
public answer. Key terms, such as the definition of “default” in credit default swaps, are not thoroughly drafted, leaving important determinations to the Derivatives Committee.\textsuperscript{147} 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.

The rise of Derivatives Committees in high finance highlights what is and is not essential to \textit{ex tempore} contracting. Derivatives Committees are experts in the financial markets and in the type of transaction under consideration; 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 the dispute board’s familiarity with the construction project was not of intrinsic importance, but was extrinsically valuable as a means to expedite efficacious determinations.\textsuperscript{148} It also underscores the fact that \textit{ex tempore} contracting is not simply a new form of bilateral adjudication, a point that is amplified by the following subpart concerning indices and benchmarks.

\textbf{C. Adjustable, floating, or variable rate contracts}

This subpart explores the use of the \textit{ex tempore} contracting technique to provide for continuous updating of price terms. In all manner of long-term contracts, agreeing on future prices can be daunting. Who can say what a realistic price for oil will be in ten years? A satisfactory wage for a worker? An affordable monthly payment on a home mortgage? \textit{Ex ante} contracting, setting a schedule of future prices, becomes farcical as the time horizon extends.\textsuperscript{149}

Yet leaving the price unwritten or requiring a “reasonable,” price both of which call for \textit{ex post} judicial specification, seems no better. These terms create uncertainty and tempt. Optimal investment

\begin{footnotesize}
\begin{enumerate}
\item \textsuperscript{147} Accord Frank Partnoy & David A. Skeel, Jr., \textit{The Promise & Perils of Credit Derivatives}, 75 U. CINc.L. Rev. 1019, 1039 (2007)
\item \textsuperscript{148} The interim agents discussed in Part III.B and III.C. show still less knowledge of the parties’ particular circumstances.
\item \textsuperscript{149} See Verstein & Rauterberg, \textit{supra} note 15, at 109-111 (costs of non-indexed contracting).
\end{enumerate}
\end{footnotesize}
may be diminished as parties lack confidence that they can fully recoup the costs from their counterparty.\footnote{Nick van der Beek, \textit{Long-Term Contracts and Relational Contracts}, in \textit{6 Encyclopedia Of Law And Economics} 281, 283 (Gerrit De Geest ed., 2d ed. 2011).}

And yet, people do wish to write long term contracts, and they wish to know with certainty the amount they are owed for their oil, their labor, or their financial capital at any given moment. \textit{Ex tempore} contracting in the form of indexed terms proves attractive as a means of avoiding complex price schedules and costly litigation, while guaranteeing contemporaneous clarity of entitlement. Parties can leave the payment amount vague, but provide that an agent will continuously specify the content of the price term during the life of the contract.

Sometimes, the agent specifies the term in reference only to the parties and their particular arrangement. For example, dispute boards may decide how much payment a contractor deserves where the contract is vague on the level of compensation for additional work.\footnote{See SR 61 (US 27) - \textit{Extra Work Placing Asphalt in Gutter} (2012) (quantum ruling).} But agents may also update multiple similarly-worded contracts at the same time. In fact, providers of financial indices act as agents to vast numbers of contracts by providing references that parties can integrate into their contracts.

To consider a few examples: in commodity markets, participants delegate to Platts the task of up-to-the minute pricing.\footnote{Eastern Air Lines, Inc. v. Gulf Oil Corp., 415 F. Supp. 429, 433 (S.D. Fla. 1975) ("The indicator selected by the parties was ‘the average of the posted prices for West Texas sour crude, 30.0- 30.9 gravity of Gulf Oil Corporation, Shell Oil Company, and Pan American Petroleum Corporation.’ The posting of crude prices under the contract ‘shall be as listed for these companies in Platts Oilgram Service—Crude Oil Supplement…”").} Platts is an energy markets news service that has for one hundred years published oil prices for its subscribers, who will frequently promise to pay the Platts price on such-and-such a day for crude oil.\footnote{Id.} Incorporating such index terms gives parties clear obligations at performance – at Friday’s delivery, Eastern Airlines knows that it must pay the Friday Platts posted price – which need not be precisely elaborated at the formation of the contract. And Platts’s contemporaneous pricing is likely to be far better than the \textit{ex ante} speculation of the parties.

In employment and labor, contracts frequently include a reference to the Consumer Price Index as a coefficient for automatic
raises. This is deemed better than ex ante specifying future salaries far into the future, and far better than promising a “cost of living adjustment” without any numerical content, and thereby enlisting a court to define the term ex post. Here, the Bureau of Labor Statistics, which publishes the CPI, acts as an agent for millions of contracts.

Likewise, millions of Americans opt for an adjustable rate mortgages, such as one set to Libor. Libor, the London Interbank Offered Rate, acts as something of benchmark for the cost of money. This allows homeowners to borrow without estimating now a fair price for mortgage payments in the far future, and rather than vaguely writing the price as “the cost of the bank funds,” which a court might later have to determine and which would leave the borrower unsure how much to pay. In this context, ex tempore contracting for credit is possible because of the British Bankers Association, which produces Libor.

It may be tempting to think of indexed contracting as a form of ex ante contracting, since it superficially appears that the parties have given precision to their future obligations by reference to an observable fact about the world, and that third-party agents are not importantly present. This view misunderstands the nature of financial indices, ignoring the fact that index providers are agents every bit as active and important as dispute boards and Derivatives Committees.

Other work has demonstrated at length the active, discretionary character of index providers, but it is valuable to review those findings here: Index providers constantly make judgments as to data quality, data-gathering methods, statistical assumptions, data salience, and procedures for adopting changes to their methodology. Well-known indices, like Platts’ West Texas Intermediate benchmark and the S&P 500, employ technicians and data-handlers to operate the index and committees to make normative judgments about how the index ought to change over time. When parties include a reference to CPI-U, Platts’ West Texas Intermediate benchmark, or the Libor 6-month USD benchmark, they are delegating the task of setting their contract price to the

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156 See, generally, Rauterberg & Verstein, supra note 15.


158 See Rauterberg & Verstein, supra note 15.
organizations that Bureau of Labor Statistics, Platts, or the British Bankers Association (which sets Libor), in the same way as swap participants delegate to ISDA to specify swap terms.

Though some parties perhaps naively think of indices as transparently reflecting their declared subject matter, others are tacitly aware that their selection of index involves the selection of index provider and methodology. Parties have many choices for index providers for similar underlying assets. A price term that incorporates an index necessary incorporates the index provider's idiosyncratic value judgments into the parties' contract. Two indices with similar subject matters, such as crude oil, will not move in perfect tandem and may sometimes yield very different numbers. Parties must decide among similar indices, and parties' instinct that a given index is or is not reputable internalizes a sense that the provider exercises good judgment as the world changes.

It therefore makes little sense to speak of indices as "mechanical and generally nonmanipulable." Their value comes in part from their non-mechanical human discretion and their own governance systems for preventing manipulation, which limit their potential agency costs and basis risk.

Parties use *ex tempore* contracting in price terms where *ex ante* and *ex post* costs are high. That tends to be long-term agreements where prices are volatile, adjudication and negotiation are costly, and clarity at the time of performance is valued. The technique is less valuable where the costs of using the agent are high, either because of explicit fees charged, or because of problems in the agent's governance.

*Ex tempore* contracting for price terms through indices differs in some ways from other types of *ex tempore* contracting. Dispute boards, for example, exhibit an adjudicative character and are their scope is bilateral; the dispute board resolution resembles a mini-trial and has no precedential impact on other projects. By contrast, when an index provider updates the benchmark, they are not directly concerned with the details of any particular contract and they are not

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160 Contra Victor Goldberg, Framing Contract Law at 329 (“Indexing has the advantage of being mechanical and generally nonmanipulable.”).
acting to resolve a dispute. Likewise, the impact of their activity may be observed in millions of contracts referencing the term.

Derivatives Committees lie in between on the spectrum between party-specific, adjudication-like and system-wide policy considerations, since the abbreviated Committee deliberations consider the facts of the many transactions using the same agreement, and their decisions affect may such transactions. Index terms show that *ex tempore* contracting can range from *ad hoc* to systematic, personalized to systemic, and that in no event is *ex tempore* contracting limited to dispute resolution.

Parties select amongst different levels of *ex tempore* contracting, from the particularized dispute board to the market-wide index provider, based on their objective and the capacities of various agents. First, where the term to be determined is particularized to the project, particularized determination is valuable. Where a contractor claims additional compensation, it is rarely true that a system wide answer can be given to whether the contract should require it. Levels of performance, and who bears the risk for changes, vary greatly from contract to contract. By contrast, if the problem is sufficiently common and the right result sufficiently obvious that an answer can efficiently apply to many contracts, no *ex tempore* contracting will be required since *ex ante* contracting can probably lodge the appropriate specification in a standard form contract.

Prices are less likely to require particularization to a unique project, and so are amenable to broader treatment, such as with a market index, but they may be sufficiently unpredictable as to make *ex ante* contracting impossible. A large portion of the price of any good or service will be related to market-wide forces. Generally speaking, the price two parties want in a contract for sale of crude oil will correlate strongly with the market price for oil, as reported by a trusted index. To the degree that a project is likely to exhibit prices that differ predictably from those elsewhere, the parties can easily provide for it in their contract (say, by adding a fixed margin to the price).

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162 Where prices will differ unpredictably from market prices, more particularized determination may still not be easy. Dispute boards frequently address entitlement to payment without addressing amount. E.g., SR 54 - *Weather Related Damage, Elevated Water Table*. Perhaps this is for the same reason that common law courts would often decline to supply a price term to a contract – any third party is
The ability to use an impersonal agent in *ex tempore* contracting for price will sometimes be attractive because of economies of scale. By sharing the agent with many other contracting parties, the cost of *ex tempore* contracting can drop. Most indices are all available for free to most users, who can observe them on the internet or in the newspaper. The parties who do pay for access to these indices are charged a cost that reflects the sharing the cost with others. For example, S&P charges investment fund users of its S&P 500 index about 0.03% of fund value for use, on the high end for an index. 163 By contrast, a construction project’s dispute board could easily cost ten times that amount. 164

Indices and Derivatives Committees inter-contract application can be valuable where inter-contract coordination is valued. For price terms, the fact that many contracts utilize the same index allows easier evaluation, hedging, liquidity and coordination, while reducing basis risk. 165 For derivatives contracts, it is valuable that price and no-price terms be determined identically across contracts to allow continued fungibility and netting. 166

Recognizing that indexed contract terms are interim terms substantially broadens the importance of *ex tempore* contracting. First, it shows that just as some interim clauses pose as vague terms, so do they sometime appear to be precise terms. Contracts that specify that the price term will vary with a financial index may appear to be precise contract terms because they typically leave no ambiguity as to the price at the time of performance.

**IV. Theorizing Ex Tempore Contracting**

This section explores the theoretical and practical implications of the pervasiveness and importance of *ex tempore* contracting. 167

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163 Rauterberg & Verstein, *supra* note 15 at 127.

164 Volker Mahnken, *Why International Dispute Settlement Institutions Should Offer Ad Hoc Dispute Board Rules*, INT. CONSTR. L. REV. 433, 436-37 (2006) (0.3-0.5% of a 100m contract). See also Köntges at 310 (costs 2% of contract value, less than the 5% he estimates for arbitration); Rubin, *supra* note 7 (0.15% of contract value).

165 See Rauterberg & Verstein, *supra* note 15 at 114.

166 See infra Part IV.D (discussing coordination of ISDA contracts).

167 *Ex tempore* contracting has important implications for scholars far beyond contract theory. The *ex ante / ex post* dichotomy
Scholars, courts, and contracting parties frequently accept *ex ante/ ex post* dichotomy to understanding the contractual landscape. This Part identifies five areas where observers typically reason from only two of the three relevant contracting options. Once *ex tempore* contracting is identified as a pervasive and useful concept, all of these conclusions stand ready for questioning.

First, 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.\(^{168}\) 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. However, parties with three contracting tools 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.\(^{169}\)

Second, scholars sometimes attempt to divine parties’ preference for interpretive methodology by looking at the *ex post* interpretive regimes parties voluntarily adopt. This approach, which has proven important in debates about interpretive formalism, makes

draws on administrative lawyers’ discussions of rules versus standards. On rules and standards, see Carol M. Rose, *Crystals and Mud in Property Law*, 40 STAN. L. REV. 577 (1988); 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 30. 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, *id.* at 608-11. Because of space constraints, this Article discusses only applications for judicial interpretation of contracts.

\(^{168}\) See Scott & Triantis, *supra* note 17, at 818 “[a] reduction 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.”; *see also* Christopher R. Drahozal & Keith N. Hylton, *The Economics of Litigation and Arbitration: An Application to Franchise Contracts* (“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.”).

\(^{169}\) *Infra* Part IV.A.
sense if parties only delegate contract completion to adjudicators, as the *ex ante / ex post* dichotomy implies. Yet surveys of party preference must take account the vast and diverse operations of the agents invoked in their *ex tempore* contracts.  

Third, courts armed with only *ex ante / ex post* categories are likely to view contractual anomalies as the direct result of one or both of the contracting parties’ choices. In such cases, scholars are inclined to characterize judicial intervention as paternalistic frustration of the parties *ex ante* contracting. Neither courts nor scholarly commentators are likely to detect the potential culpability of third-party agents in the contracting process. By constrast, awareness of *ex tempore* contracting allows courts to detect contractual pathologies linked to the risks of *ex tempore* contracting. Judges need not treat deeply into debates about paternalism in order to repair the distinctive costs that *ex tempore* contracting sometimes creates.

Fourth, courts sometimes characterize dispute boards as adjunct to party-led contracting, say, as mere mediators. Other times, they incorporate dispute boards into an *ex post* framework, perhaps as mere witnesses or perhaps as full-on arbitrators. Neither approach accurately characterizes these institutions 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.

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

**A. Frustrating Penalty Defaults**

Scholars frequently use *ex ante / ex post* dichotomy to make predictions. For example, if *ex post* costs fall, perhaps because adjudicators become more effective, it may be predicted that parties may shift to back-end enforcement through vague language. Yet these results do not follow deductively. Parties they may instead

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170 *Infra* Part IV.B.
171 *Infra* Part IV.C
172 *Infra* Part IV.D
173 *Infra* Part IV.E.
174 See supra note 168.
175 Drahozal & Hylton (predicting, and then finding, more vague terms where parties are able to lower their expected adjudication costs).
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.

False predictive inference leads to false normative inferences. Many interpretive proposals ignore the costs effect of proposals for *ex tempore* contracting. It is common to say that of courts that “any socially desirable interpretive rule would trade off accuracy against contract-writing and adjudication costs.”\(^\text{176}\) 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.

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. This approach can be “justified as a way to encourage the production of information.”\(^\text{177}\) For example, in *Hadley v. Baxendale* a miller paid to have a crankshaft transported for repairs.\(^\text{178}\) The shipment was delayed, resulting in substantial lost profits. The contract was silent as to the appropriate damage calculation, and the carrier was held liable only for foreseeable damages (far lower than lost profits). By penalizing those who ship valuable items without communicating their value to carriers, *Hadley* encouraging 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 milers may be legally sophisticated and know the law better than some carriers. By selecting a default rule against the more legally knowledgeable, default rules can also force a discussion of 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 forces 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.


\(^{177}\) Ayres & Gertner, *supra* note 10, at 97.

\(^{178}\) 9 Ex. 341, 156 Eng. Rep. 145 (1854).
Yet, information may not be revealed if knowledgeable parties 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 specification by way of a trusted agent. Just as one party may have superior knowledge of the default rule, or of their 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 they would be a pro-seller default rule, then shifting the default conveys no information.

Credit default swaps prove instructive. The Derivatives Committees are composed of a pool of swap dealers and customers,\(^\text{179}\) some of whom may have a financial stake in the outcome of the determination.\(^\text{180}\) Swap sellers, as the most sophisticated financial institutions, may have been more likely that swap buyers to realize the reluctance of Derivatives Committees to require payment.\(^\text{181}\) Courts would be naive to think that an expansive 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.

Indeed, the possibilities for sophisticated parties to predate on unsophisticated parties may sometimes be greater in *ex tempore* contracting. By compiling voluntary submissions from member banks, the British Bankers Association acts as an interim agent for many contracts. Hundreds of trillions of dollars of swap contracts are

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\(^\text{179}\) Credit Derivatives Determinations Committees Rules §1.69(a), Schedule 2 § 1(b) (non-dealers) available at http://www.isda.org/credit/docs/DC_Rules,(July-11,2011).pdf


\(^\text{181}\) For a recent example, many bondholders resisted Greece’s tender offers on their bonds, trusting that they would be financially protected from forced tendering by CDS contracts that they had purchased. One BNP Paribas officer simultaneously (1) represented Greece in the tender offer, (2) sat on the ISDA derivatives 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. Gretchen Morgenson, *Score Tactics in Greece*, N.Y. TIMES, Nov. 19, 2011. For other examples of alleged conflicts in the derivatives committee, see Christopher Whittall, *Dealers Slam CDS Committee "Bias,"* *Int. Fin. Rev.*, Dec. 09, 2011.
indexed to Libor as their price term,\textsuperscript{182} as are the majority of subprime mortgages,\textsuperscript{183} and other assets. Despite its importance, Libor appears to have been manipulated by its makers.\textsuperscript{184} This was possible because the member banks that contribute to Libor are also its primary users in loans and swaps, creating an obvious conflict of interest.

Borrowers might have attuned to risk if their Bank of America home mortgage referenced “whatever rate Bank of America subjectively self-assesses itself able to obtain funds at.” And speculators betting opposite UBS on interest rates might have been more circumspect if the bet were defined as paying off in the event interest rates rose, “\textit{in the sole opinion of UBS}.” This is close to what Libor amounted to, since the Libor banks made loans and traded derivatives. But the process of index production, lodging the authority with the BBA, served in part to diffuse concerns that would have arisen in \textit{ex ante} contracting.

The presence of \textit{ex tempore} contracting creates potential avenues for abuse by unscrupulous and sophisticated parties. This fact is important in its own right, but it also highlights the limitations of judicial intervention. In particular, the usefulness of penalty default interpretation may be far less than initially imagined.

Not only do scholars draw undue descriptive and normative conclusions because of the \textit{ex ante / ex post} dichotomy, but scholars’ predominant focus on judicial interpretation may be overdrawn. Many scholars target their advice to courts because interpretation appears to be the only independent variable in the contractual efficiency equation.\textsuperscript{185} By varying their interpretation rule, courts can reach toward a maximizing solution.\textsuperscript{186}

Yet courts are not the only non-party actor involved in contract determination. Interim agencies also weigh in on the parties’ \textit{ex tempore} contracts. At times they may dampen or intensify any effect

\textsuperscript{182} Sara Schaefer Munoz & Max Colchester, \textit{Barclay’s Agius Is Stepping Down},\textit{ Wall. St. J.}, July 1, 2012 ($800 trillion).


\textsuperscript{185} Contracting parties are assumed to already make the best contracts they can in light of their circumstances and, in any case, are unlikely to consult legal scholarship.

\textsuperscript{186} Some scholars have gone so far as to model this problem. \textit{See}, Posner, \textit{supra} note 26, at 1583-84.
of a judicial interpretation strategy change, and scholars may wish to consider or advise on how such agents act.\textsuperscript{187} Courts remain important, but they are only one of three players in contractual determination. Crafting ideal interpretive rules for a game with three players becomes quite complex, and more attention should be played to how interim agents do and should determine contracts.

B. Surveying Interpretive Formalism

\textit{Ex tempore} contracting has implications for formalism of contract interpretation. Common law courts sometimes imply unwritten terms in the absence of, or even in the face of, conflicting contractual language. The UCC takes an even more optimistic view, permitting courts to enforce contracts the common law would have deemed indefinite.\textsuperscript{188} The UCC also allows courts to fill gaps with trade usages and prior party conduct. Scholars advert to the cost-shifting relationship between ex post and ex ante determination. "By refusing to make use of all available information to interpret an unclear contract, formalist interpretation induces contracting parties to increase [drafting costs]."\textsuperscript{189}

Against this backdrop, many scholars urge courts to more formalistically adhere to the parties’ own writings.\textsuperscript{190} These scholars often point out the capacity for judicial cost and error. They seek to give parties the ex ante choice of when to invoke judicial intervention.\textsuperscript{191} Increasingly, neoformalist scholars support the claim that parties want formalistic interpretation with empirical evidence that parties opt into formalism when they can. For example, Geoffrey

\textsuperscript{187} The conflicts of interest in ISDA, as a drafting agent with members acting as interim agents and contract parties, underscore that \textit{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 \textit{ex tempore} contracting involve managing \textit{ex tempore} contracting costs, such as those agency costs that emerge from conflicts of interest.

\textsuperscript{188} At common law, wont of a price or quantity term was certain to invalidate a contract.

\textsuperscript{189} Posner, \textit{supra} note 26, at 1584

\textsuperscript{190} See, \textit{e.g.} Schwartz and Scott \textit{supra} note 34.

\textsuperscript{191} See, Scott & Triantis, \textit{supra} note 17; Kraus & Scott, \textit{supra} note 29.
Miller shows that parties opt into formalistic New York more frequently than California, the latter being a jurisdictions that would interpret a contract in light of fairness, equity, morality, and public policy.  

Similarly, Lisa Bernstein’s studies of industry dispute resolution suggested that parties opt into clear, formal interpretation regimes.

Ex tempore contracting may have empirical implications for this debate in demonstrating party preferences. Interim agencies utilize a variety of determinative techniques. Some users, and some agencies, exhibit formalist preferences, with the agency attempting to divine the appropriate determination on the basis of the written contract. Other agents are inclined to evaluate extensive implied duties. Chern describes one construction contract that required the contractor to use local labor wherever possible, in which the contractor alleged an implied right to have the owner help the contractor to find local labor and to forgive its obligation to whatever degree the owner was competing with the contractor by hiring from the same labor pool for other matters. There was no textual basis for this claim, but the dispute board – and apparently, Chern - found the question to be a reasonable one.

In contracts where relationships matter, but where formal proceedings risk crowding out relational cooperation, parties may select a dispute board that is inclined to help the contractual relationship. In one dispute, a board determined that contractor was not entitled avoid penalties for its late completion, but the board also suggested that the department consider allowing 30-32 days of additional credit to the contractor. Why? “To partner normally suggest [sic] both parties conceding to somewhere around mid-point.” So the entitlement goes to the owner, but a suggestion to split the baby also goes in the record.

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194 See e.g. Russel P. Rudden, Assessing 10 Years of Dispute Resolution Boards at BART, 8 FOUNDATION FOR. 1 (2004).

195 Chern, supra note 4.
Other parties wish for boards to err in favor of the contractor, so as to encourage quick, low bids. One New Zealand court expressed a government policy to ratify board determined awards even where fresh litigation would surely yield a lower award to the contractor. This bias was justified as encouraging contractors to feel safe in offering quick, low bids.

Yet other determination rationales could suit the parties’ purposes. Those discussed so far are particular to the parties’ instant dispute, but some interim institutions may be valued because they operate without exclusive regard to either party’s interest. When financial index providers, like Platts, set a price, they indirectly determine the parties’ contractual duties, but they are valued in part for their indifference to the party’s intentions. Index providers are responsive in a way, in that they may think about their role for all contractors and try to act in a way that keeps them relevant, but the index provider’s interpretive methodology need not be explicable in succinct, party-centered terms. One index may have a purely academic motive, another seeks to assist sellers (rather than buyers), and each can serve its purpose in the contractual ecosystem.

Still other interim institutions may be willing to sacrifice one or both parties’ contractual claim to achieve systemic or policy benefits. Parties might rationally choose a chooser who has third-party externalities in mind if it results in a system from which they benefit. For example, ISDA determinations committees interpret the meanings of the contracts that ISDA drafts, and it does not appear bound by any traditional cannons of interpretation. Recall that ISDA’s resolution of LTCB was informed not just by the contract or considerations of bilateral efficiency, but of the market as a whole. Where parties are aware of an interim agency’s broader determinate

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196 If this is not the purpose of the owner, such motivation may be disheartening. See, Russel P. Rudden, Assessing 10 Years of Dispute Resolution Boards at BART, 8 FOUNDATION FOR. 1, 18 (2004) (“It may be that BART’s expectation that a DRB will strictly enforce a contract is unrealistic and fails to consider that a DRB weights heavily the risks a contractor takes in preparing its bid.”)


199 Cost of living indices have often been championed by, and sometimes self-identified with the interests of, labor interests. See STAPLEFORD.
matrix, they may find the determination a venue for broader coordination.

The observation that parties often choose non-formalist determination methods, encouraging their interim agents to consider factors apart from the details of their contract, stands in tension with the neo-formalist argument that sophisticated parties prefer limited and formalistic judicial intervention into contracts.\(^{200}\) In that sense, it tends to support dynamic contract interpretation.\(^{201}\) However, the most important implication of these findings is that *ex tempore* contracting activates a whole range of interpretive options for parties.

### D. Grappling with Interim Agency Costs

Like *ex ante* and *ex post* contracting, *ex tempore* contracting has costs. Most pressing are a variety of principal-agent problems. By using *ex tempore* contracting, parties are tethering their contract to the behavior and decisions of some third-party agent. This creates principal-agent problems because the agent can act badly or selfishly.

Unfortunately many courts and parties are unaware that *ex tempore* contracting is taking place, or that it involves third party agents. Before parties can protect themselves against bad agents, and before courts and scholars can help parties to get the most out of their contracts, each must recognize the existence of *ex tempore* contracting in a given case and analyze its function and potential malfunctions.

Failure to recognize indexed prices as interim terms has caused scholars to misread important cases. Consider *Essex and Gulf Oil*. In both cases, long-term contracts set the sale of a commodity to vary with a financial index. In both cases, one party cried foul when the index behaved peculiarly and yielded an unsatisfactory price. Because courts reached opposite results in these two cases, enforcing the contract in *Gulf Oil* and reforming it in *Alcoa*, scholars generally

\(^{200}\) Of course, this critique only runs so deep. *Ex tempore* contracting is not adjudication, so expressed preferences in interim institution behavior may not bear directly on adjudicative style. It is telling, for example, that the majority of ISDA master agreements designate New York law, a relatively formalistic body, as their governing law. Response Letter to European Commission Re: Green Paper on European Contract Law, ISDA, 2 (2011), available at http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=2&ved=0CEkQFjAB&url=http%3A%2F%2Fwww.isda.org%2Fattachmen t%2FMjIxMw%3D%3D%2FEU_SingleContractLaw_ISDAresponse_Final.pdf&ei=bHsYUPLuOYX49QSmYDACA&usg=AFQjCNRFXzb2usaxChVSwl bMfebZQR5jA&sig2=_C3gyCSO1haR6J9_vslakA.

praise one decision and criticize the other, depending on their views about judicial intervention generally. For example, Kraus and Scott criticize the Alcoa court for intervening where the parties used precise language to signal their disinterest in judicial intervention, utilizing rules instead of standards.\textsuperscript{202} The court had applied an \textit{ex post} determination despite the use of \textit{ex ante} contracting (in the form of precise price terms).

\textit{Ex tempore} contracting reveals that both cases involved interim, not precise, price terms. Just as a vague contract (\textit{A shall pay B an appropriate price for oil}) invites a court to determine reasonable price, an interim term (\textit{A shall pay B the Platts price of oil}) invites an agent (Platts) to decide what price is appropriate.

Sensitivity to the agent-centered nature of the price term permits analysis of those agents. In \textit{Gulf Oil}, the interim agent made reasonable determinative choices as expected, even if they were upsetting to one party. In \textit{Essex}, by contrast, the interim agent shirked its responsibilities, leaving the parties stranded and in need of judicial relief.\textsuperscript{203} Understanding the crucial role agents play in \textit{ex tempore} contracting sheds light on when courts should and should not intervene. The two decisions to be distinguished and both accepted as correct, for reasons related to \textit{ex tempore} contracting, without supporting a general stance on the appropriate degree of judicial paternalism.

In \textit{Gulf Oil}, the parties wrote a contract for jet fuel oil when the price of crude oil was controlled by regulation. In a 1972, an exemption was created for oil from newly drilled or expanded wells, which could be sold for whatever the market would bear. The contract price term, set to the Platts Oilgram price for West Texas Sour oil, hardly budged despite the high prices for an increasingly large share of the market.

It has been said that “as a result of governmental deregulation following the oil crisis in the 1970s, Platts Oilgram seriously understated the current market price of crude oil” but that is not quite right.\textsuperscript{204} Crude oil prices remained regulated, and “old” oil continued to trade in huge quantities. In light of a market containing two chemically different substances trading at different prices, an index provider like Platts has precisely three options for incorporating the


\textsuperscript{203} Of course, the \textit{Essex} contract also disappointed because the index was embedded in a price term that was otherwise a jumbled mess, doomed for failure. \textit{See Goldberg, supra} note 160.

\textsuperscript{204} Kraus & Scott, \textit{supra} note 29, at 1072-74.
new market data: (i) continue to report the “old” oil price on the historical index, but create a new index to track the higher price of “new” oil; (ii) let the existing index reflect the sale price of “new” oil, and create a new index to track the price of “old” oil; (iii) blend both markets into the existing index, perhaps by volume-weighting transactions.

Gulf Oil would have liked Platts to select option (ii): it would have let existing contracts match the marginal price of oil, and it would have prevented exploitation of supply contracts by parties like Eastern Airlines, which could buy at the “old” oil price even if the barrels were eligible for resale at the “new” oil price. But option (ii) would also have meant a windfall to sellers in long-term contracts who could immediately increase the price of contracts containing “old” oil. Either option involved wealth transfers and potential inefficiencies, and either was better than (iii), and either option would make no difference once the existing contracts were satisfied and new contracts written; parties could select whichever index they liked at that point.

Platts opted to select option (i), so most existing contracts remained pegged to the lower index. It did so based on its deep market knowledge and acquaintance with its many customers. The parties may not have known that the regulation would change in this way, or how Platts would respond to it, but they do know that market conditions are constantly changing and that an index provider’s role is to operationalize according to its best judgment.

The parties chose Platts, rather than themselves, a court, or another index provider to decide how future price shocks would affect the contract. The deal disappointed the plaintiff, but the ex tempore contract term worked correctly, and the Gulf Oil court made the decision that honored the parties’ choice of interim agent.

By contrast, the index in Essex did not “fail” just because its providers made interpretive choices that displeased one party. Rather, the index actually did not function as either party could reasonably expect it would. The parties selecting an index implicitly accept the risk that they may not agree with the provider’s judgment, but they rarely ask what will happen if the index provider gives up making judgments at all, leaving the index adrift at sea. This is what happened in Essex.

In Essex, Alcoa was to provide smelted alumina at a price derived in part from the WPI-IC (the Wholesale Price Index – Industrial Commodities), a financial index provided by the Bureau of

205 This option would also have created legal problems for sellers of old oil, since their contract price would now exceed the legal maximum.

206 415 F. Supp. at 434.
Labor Statistics and a precursor to the PPI (Producer Price Index). The WPI-IC may have been a fine choice for a price index when the contract was written in 1967. It was maintained by the Bureau of Labor Statistics, the federal government’s prestigious group of econometric experts. It had a proud history, having been established in 1902 U.S. Senate resolution.\(^{207}\) And it had been greatly expanded and reclassified only months prior to the Alcoa-Essex contract.\(^{208}\) The parties might have been quite wise to put themselves in the hands of its expert administrators, trusting them to update their industrial commodity price index to appropriately adjust to circumstances like energy price spikes. Accordingly, the ALCAO-Essex contract operated profitably for both parties for a full six years.

Then the 1973 oil embargo massively changed the ratio of energy costs to non-energy costs in industrial companies’ input prices, and BLS failed to provide for this in its index methodologies. From the time of contract execution, it would be almost ten years before WPI-IC received any substantial methodological fine-tuning. As a result of this delinquency, WPI-IC became increasingly inadequate, unable to reflect the input costs of industrial companies.

Alcoa was not the only disappointed party. In 1975, the director of the Council on Wage and Price Stability criticized the index for presenting “totally inadequate data.”\(^{209}\) The New England congressional caucus complained that BLS failed to provide “adequate wholesale or retail price data” regarding petroleum products, a criticism the Secretary of Labor acknowledged as deserved.\(^{210}\)

Recognizing the problems were very different in these two cases permits progress from a formalistic affection for Gulf Oil and dislike of ALCOA, or its inverse. In light of ex tempore contracting, it is clear that that the parties’ intentions were frustrated in a completely different ways in these two cases. To reform the contract in Gulf Oil would have undermined the judgment of the interim agent precisely when it mattered most, reducing the benefits of ex tempore contracting.

By contrast, failing to reform the contact in ALCO would have needlessly and excessively increased the cost of ex tempore contracting, because it leaves parties vulnerable to the risk of a bad


\(^{209}\) Id.

\(^{210}\) Id. at 236.
interim agent. 211 Parties have only limited ability to protect themselves. Parties can draft floors and ceilings on the indexed price's movement, and provide triggers that will cause an alternative index to take over. Yet such clauses prove difficult to draft, as they require much of the costly predictions and negotiations of ex ante contracting, which the parties have tried to avoid. Even then, such clauses are prone to error and have proved no help in the case of Libor manipulation.212 Surely the court's ex post hindsight is often better suited than the parties ex ante prediction, in some future world in which the preferred index has failed, whether an appropriate replacement exists and which it is.

Admittedly, allowing contract reformation for bad indices could encourage suits like Gulf Oil in which parties opportunistically seek to avoid unfavorable deals by criticizing the index or its provider. Courts should be cautious to negate the parties' choice of interim agent, adopting a sort of business judgment rule in favor of the provider, requiring a showing of bad faith or abdication of longstanding practices. But in at least some cases, optimal index use may be facilitated by courts.

D. Supporting Interim Institutions

Courts should respond to ex tempore contracting in a way that maximizes parties' ability to use all three forms of contracting to their fullest potential. When parties are best served by ex tempore contracting, and they indicate their interest in so doing, courts should recognize that indication and support the parties. That means that when ex ante or ex post contracting costs are high, and when obligational certainty at performance is valuable, courts should be particularly deferent to and supporting of interim institutions.

Yet courts have sometimes expressed outright hostility to ex tempore contracting or its essential components.213 Contracts with indexed price terms, which are therefore determined by third-party actions, were long considered unenforceable as insufficiently

211 Resisting parties' ex tempore contracting choices forces parties to substitute greater ex ante and ex post contracting. Since those were provisions the parties had declined in favor of the interim terms, this is necessarily increases net costs.

212 See Rauterberg & Verstein, supra note 15 at 49-51 (describing the failure of such clauses in Libor contracts).

213 See, Choi & Gulati, supra note Error! Bookmark not defined., at 1162 (suggesting that judicial hostility to parties opting now to let someone update their contract later comes from unduly prioritization of the instant of contract formation, with it meeting of the meeting of the minds).
definite.\textsuperscript{214} Even when enforceable, such contracts are still sometimes ineligible for the Holder in Due Course treatment, marginalizing their usefulness.\textsuperscript{215} These are unreasonable decisions that needlessly frustrate the parties' intention to avoid \textit{ex ante} specification costs without, nevertheless, accepting obligational uncertainty at performance.

Similarly, Part D endorsed the court's holding in \textit{Essex}, which few scholars or courts have. Reformation of index terms has been relatively rare, and those courts that have been bold enough to reform index terms have done so without reference to \textit{Essex}, either unaware of their decisions' legacy or hoping that we will be.\textsuperscript{216} This implies that index-using parties may have been deprived of optimal \textit{ex tempore} contracting options in other cases. This has led parties to provide \textit{ex ante} protections for index failure at greater cost and lesser utility than might a court.\textsuperscript{217}

Though many courts have accepted the utility of dispute boards and used them to great effect, some courts have misunderstood them and hindered their functioning. First, courts too quickly free a party of their contractual duty to use a dispute board, often because they misunderstand the utility of dispute board. Sometimes courts mistakenly think that the principal benefit of dispute boards is the informal benefit of mediation, and so allow a party to avoid using the dispute board once they indicate that mediation is unlikely to work.\textsuperscript{218}

Though mediation may be futile when one party signals a lack of openness, dispute boards are interim institutions with abundant non-mediation effects. This was noted by another court invalidating a

\textsuperscript{214} See generally, J. Huston McCulloch, \textit{The Ban on Indexed Bonds, 1933-77}, 70 AM. ECON. REV. 1018 (1980). See also Barnsdall Refineries, Inc. v. Birnamwood Oil Co., 81 F.2d 569 (7th Cir. 1936), \textit{cert. denied}, 300 U.S. 656, 57 Sup. Ct. 433, 81 L. Ed. 866 (1937) (Indefinite contracts are nevertheless enforceable if some external criterion or standard is provided to discern the uncertain element)

\textsuperscript{215} See, \textit{e.g.}, Montgomery First Corp. v. Caprock Investment Corp., 89 S.W. 3d 179, 186 (Tex. App. 2002) (Holder of a note was unable to obtain summary judgment where note paid in reference to the base rate of a defunct bank).

\textsuperscript{216} See, \textit{e.g.}, FDIC v. Blanton, 918 F.2d 524, 532 (5th Cir. 1990) (applying a substitute prime rate when specified prime rate failed).

\textsuperscript{217} On "market disruption clauses" in Libor loans, see Rauterberg & Verstein, \textit{supra} note 15, at 49-50.

\textsuperscript{218} 333 F.3d 250; \textit{cf.} 59 Cal. App. 4th 676 683 (tribunal only effective if it has parties' trust).
dispute board requirement under parallel and opposite reasoning.\textsuperscript{219} That court 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.”\textsuperscript{220} The court thus found a dispute board clause unconscionable as applied to a subcontractor who had no right to appoint her own member to the board.

Both of these postures needlessly limit the utility of dispute boards. \textit{Ex tempore} determinations are not made less important for one party’s promise to ignore them, just as \textit{ex ante} determinations are not less important if one party habitually disregards her contracts. Better decisions have determined contrary to these bad precedents, requiring even grumbling parties to participate in the dispute board process\textsuperscript{221} and allowing dispute board application to subcontractors\textsuperscript{222}.

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.\textsuperscript{223} 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.\textsuperscript{224}

Finally, where 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.

\textsuperscript{220} \textit{Id.} at 1342
\textsuperscript{222} \textit{Contra} Conopco, Inc. v. Campbell Soup Co., 1994 U.S. Dist. LEXIS 3339 (1994). Note, however, that this is not a true dispute board.
\textsuperscript{224} \textit{Contra} 59 Cal. App. 4th 676, 681 n. 1. (appellee standing weak, resting on implied covenant of good faith and fair dealing, when challenging other parties’ frustration of dispute board process)
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 an unchallenged dispute board determination 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.\textsuperscript{225} That does not mean slavish deference to the opinion – if the parties wished that, they could have opted for arbitration.\textsuperscript{226} 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: where parties defer to ISDA or to an index, courts must interpret in a way to facilitate such a choice.

\textbf{E. Prospective Applications}

Recognition of \textit{ex tempore} contracting possibilities should liberate parties to make smarter choices.\textsuperscript{227} Though \textit{ex tempore} contracting is widespread, dispute boards are currently “unique” to construction, so this discussion will focus on them.\textsuperscript{228} \textit{Ex tempore} contracting can be rational whenever obligational certainty at the time of performance is valuable but reliance on \textit{ex ante} and \textit{ex post} contracting is costly or impractical.

\textit{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.\textsuperscript{229} Earnout agreements can serve several economic purposes such as helping the parties agree upon a price despite information


\textsuperscript{226} Though courts should honor parties desire for provisionally binding boards if they so indicate. \textit{Contra}, PT Perusahaan Gas Negara (Persero) TBK v CRW Joint Operation [2010] SGHC 202 ¶15-16 (reading FIDIC contract to not be provisionally binding).


\textsuperscript{228} John Barkai, \textit{Mediation of Construction Disputes in the United States,} 2 (2009).

\textsuperscript{229} \textit{GOLDBERG, supra} note 160, at 152.
asymmetry. The buyer need not come to believe the seller’s proposed valuation.230 The fixed price can be the seller’s lower estimate, and the buyer can be paid a bonus if the business does as well as the seller promises. For example, in the well-known Bloor v. Falstaff case, Falstaff agreed to pay $4m for Ballantine Breweries, plus $0.50 per barrel sold in the next six years.231 Ballantine was then selling about 2.2m barrels per year, making the purchase price something like $10m if the sales stayed up, as a seller would promise, but less if sales slowed, as a buyer would fear.232

Economists love earnouts, but parties rarely use them233 because they pose risks of opportunism.234 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 the Falstaff an incentive to divert for the first six years and then begin optimal investment once the earnout period is over.235

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.236 But such ex ante contracting specificity is not feasible,237 so parties often use “best efforts” clauses.238 Ex post

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230 Gilson, supra note 20, at 252-53
231 601 F.2d 609 (2d Cir. 1979).
232 GOLDBERG, supra note 160, at 144.
233 See Scott R. Peppet, Contract Formation in Imperfect Markets: Should We Use Mediators in Deals?, 19 OHIO ST. J. ON DISP. RESOL. 283, 319 (2004) (Earnouts are often bought out of M&A deals just prior to closing, due in part to mistrust and fear of opportunism); GOLDBERG, id. at 152 (finding only 153 earnout provisions in a set of over 9,000 acquisitions).
234Gilson, supra note 20, at 267 (“There will be times, then, where the gain in transaction value resulting from ameliorating the failure of the homogeneous-expectations or common-time-horizons assumptions will be outweighed by the cost of the cure.”).
235 Where the seller retains some control over the business, seller opportunism is just as 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.
236 Gilson, supra note 20, at 266.
237 Id. at 267
238 601 F.2d 609. See also Sonoran Scanners, Inc. v. Perkinelmer, Inc., 585 F.3d 535, 544 (1st Cir. 2009) (finding implied
adjudication of such vague duties is expensive. First, such terms invite the parties to provide costly economic as well as 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* scheme powerful enough to deter bad actions, intended to help one party at the expense of the transaction, is likely to chill good actions that both parties should want to encourage. Suppose an acquired seller contemplates paying a retention bonus to its employees, which she believes is a responsible 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 before they depart that will come at the expense of next year’s order. 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 seller’s division’s profits. The seller may allege that the buyer violated the contract by using seller’s product as a loss leader in order to encourage sales of the buyer’s products in the bundle. Such litigation is particularly likely if the strategy fails, making such litigation opportunistic. In either case, the risk that the actor could be later adjudged to have violated the earnout might deter efficient behavior. The forgoing demonstrates that *ex ante* and *ex post* contracting are costly for earnouts, and that determination at performance stands is much better than later.

Before parties give up on earnouts, they might consider appointing an “earnout board.” A board of neutral experts could be convened 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 duty to “exert reasonable efforts to develop and promote [seller’s] technology.”

239 *Comet Systems, Inc. v. MIVA, Inc.*, 980 A.2d 1024 (Del Ch. 2008).

240 *AmerisourceBergen Corp. v. LaPoint*, 2007 Del. Ch. LEXIS 131 (2007), rev’d on other grounds 970 A. 2d 185.

241 Indeed, 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.
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. While 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 grow the business, they could give comfort to managers who might otherwise fear strategic, post-performance litigation. Likewise, opportunistic behavior might be labeled as such by a board familiar with the industry and contemporaneously observing the manager’s choices, and thereby addressed early on.

Many other candidates for ex tempore contracting use may present themselves.\textsuperscript{242} 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.\textsuperscript{243} 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 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;\textsuperscript{244} perhaps healthcare dispute boards could be introduced.

Substantial intellectual energy is currently devoted to studying how parties can contract for innovation.\textsuperscript{245} Research and development partnerships and patent pools, exemplify inter-firm sharing and collaboration, but where the potential future product is too little known to permit reasonable contracting. Who can say, when our patents are pooled for research, what applications might be found,

\textsuperscript{242} For other suggestions that agents be permitted to update contracts on an ongoing basis, see Alex Yoon-Ho Lee & Jeremy Ko, Consumer Mistakes in the Mortgage market: Choosing Unwisely Versus not Switching Wisely, 14 U. PENN. BUS. L. J. 417 (2012); Oren Bar-Gill & Kevin Davis, Empty Promises, 84 S. CAL. L. REV. 1 (2010).

\textsuperscript{243} Accord Klein & Gulati, supra note 13.

\textsuperscript{244} See Mark A. Hall & Carl E. Schneider, Patients as Consumers, 106 MICH. L. REV. 643 (2008).

and in what profit and control allocation would be most efficient? It is impractical to engage in extensive *ex ante* contracting here, 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. Perhaps an innovation dispute board could help.

### V. 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 in order that a judge might specify them on the back end. This *ex ante* / *ex post* framework has proven illuminative in many contexts but remains fundamentally limited. In fact, parties frequently delegate to a non-court agent to specify 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, non-court 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 and long-term contracts utilizing a variable rate for a price term.

Recognizing the widespread use of *ex tempore* contracting is the first step toward a rational treatment of them. Therefore, a solid theoretical understanding of *ex tempore* contracting has important implications. The existence of *ex tempore* contracting destabilizes many scholarly inferences, such as an endorsement of penalty defaults. The plurality of specification motives and techniques employed in *ex tempore* contracting complicates the case for contractual formalism and urges more sophisticated interventions by courts to help parties escape the occasional risks of bad interim agents. Likewise, courts must enforce *ex tempore* contracting efforts where they are found rather than overriding them at one party’s request. Finally, contracting parties should consider whether increased use of *ex tempore* contracting could support their objectives.

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### Table 3

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### Table 4

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