



TECHNICAL REPORT

# Stable Agreements in Turbulent Times: A Legal Toolkit for Constrained Temporal Decision Transmission

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# Introduction

This century,<sup>1</sup> advanced artificial intelligence (“Advanced AI”) technologies could radically change economic or political power.<sup>2</sup> Such changes produce a tension that is the focus of this Report. On the one hand, the prospect of radical change provides the motivation to craft, *ex ante*, agreements that positively shape those changes.<sup>3</sup> On the other hand, a radical transition increases the difficulty of forming such agreements since we are in a poor position to know what the transition period will entail or produce. The difficulty *and* importance of crafting such agreements is positively correlated with the magnitude of the changes from Advanced AI. The difficulty of crafting long-term agreements in the face of radical changes from Advanced AI is the “turbulence”<sup>4</sup> with which this Report is concerned. This Report attempts to give readers a toolkit for making stable agreements—ones that preserve the intent of their drafters—in light of this turbulence.

Many agreements deal with similar problems to some extent. Agreements shape future rights and duties, but are made with imperfect knowledge of what this future will be like. To take a real-life example, the outbreak of war could lead to nighttime lighting restrictions, rendering a long-term rental of neon signage suddenly useless to the renter.<sup>5</sup> Had the renter foreseen such restrictions, he would have surely entered into a different agreement.<sup>6</sup> Much of contract law is aimed at addressing similar problems.

However, turbulence is particularly problematic for pre-Advanced AI agreements that aim to shape the post-Advanced AI world.<sup>7</sup> More specifically, turbulence is a problem for such agreements for three main reasons:

1. *Uncertainty*: Not knowing what the post-Advanced AI state of the world will be (even if all the possibilities are known);<sup>8</sup>
2. *Indeterminacy*: Not knowing what the *possible* post-Advanced AI states of the world are;<sup>9</sup> and

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<sup>1</sup> Cf. Greg Brockman, Co-Founder & Chief Technology Officer, OpenAI, Can We Rule Out Near-Term AGI? (Nov. 7, 2018), <https://www.youtube.com/watch?v=YHCSNsLKHFm>; Katja Grace et al., When Will AI Exceed Human Performance? Evidence from AI Experts 2 (2018), <https://perma.cc/2K2D-LE3A> (unpublished manuscript) (“Taking the mean over each individual, the aggregate forecast gave a 50% chance of [high-level machine intelligence] occurring within 45 years and a 10% chance of it occurring within 9 years.”).

<sup>2</sup> See Holden Karnofsky, *Some Background on Our Views Regarding Advanced Artificial Intelligence*, OPEN PHILANTHROPY PROJECT: BLOG § 1 (May 6, 2016), <https://perma.cc/2H7A-NZTA>.

<sup>3</sup> See generally Nick Bostrom et al., *Public Policy and Superintelligent AI: A Vector Field Approach*, in ETHICS OF ARTIFICIAL INTELLIGENCE (S. M. Liao ed., forthcoming 2019) (manuscript version 4.3), <https://perma.cc/SN54-HKEG>.

<sup>4</sup> See *id.* at 7.

<sup>5</sup> This fact pattern is taken from *20th Century Lites, Inc. v. Goodman*, 149 P.2d 88 (Cal. App. Dep’t Super. Ct. 1944).

<sup>6</sup> See *id.* at 92.

<sup>7</sup> There may not be a clear pre- and post-Advanced AI boundary, just as there was not with previous revolutions. Nevertheless, hypothesizing such a clear boundary is useful in thinking through the issues with which this Report is concerned. Thanks to Ben Garfinkel for this point.

<sup>8</sup> E.g., I know that a flipped coin can land on either heads or tails, but I am *uncertain* of what the result of any given flip will be.

<sup>9</sup> E.g., if I have an opaque bag containing a single die with an unknown number of sides, the set of possible outcomes from rolling that die (without first examining it) is *indeterminate*: the outcome “7” might or might not be possible, depending on how many sides the die in fact has. If the die is a regular cubic die, “7” is impossible; if the die is dodecahedral, “7” is possible. In any case, the result is also uncertain.

3. *Unfamiliarity*: The possibility that the post-Advanced AI world will be very unfamiliar to those crafting agreements pre-Advanced AI.<sup>10</sup>

The potential speed of a transition between pre- and post-Advanced AI states exacerbates these issues.<sup>11</sup>

*Indeterminacy* and *unfamiliarity* are particularly problematic for pre-Advanced AI agreements. Under uncertainty alone (and assuming the number of possible outcomes is manageable), it is easy to specify rights and duties under each possible outcome. However, it is much more difficult to plan for an indeterminate set of possible outcomes, or a set of possible outcomes containing unfamiliar elements.

A common justification for the rule of law is that it promotes stability<sup>12</sup> by increasing predictability<sup>13</sup> and therefore the ability to plan.<sup>14</sup> Legal tools, then, should provide a means of minimizing disruption of pre-Advanced AI plans during the transition to a post-Advanced AI world.

Of course, humanity has limited experience with Advanced AI-level transitions. Although analysis of how legal arrangements and institutions weathered similar transitional periods would be valuable, this Report does not offer it. Rather, this Report surveys the legal landscape and identifies common tools and doctrines that could reduce disruption of pre-Advanced AI agreements during the transition to a post-Advanced AI world. Specifically, it identifies common contractual tools and doctrines that could faithfully preserve the goals of pre-Advanced AI plans, even if unforeseen and unforeseeable societal changes from Advanced AI render the formal content of such plans irrelevant, incoherent, or suboptimal.

A key conclusion of this Report is this: stable preservation of pre-Advanced AI agreements could require parties to agree *ex ante* to be bound by some decisions made post-Advanced AI, with the benefit of increased knowledge.<sup>15</sup> By transmitting (some) key, binding decision points forward in time, actors can mitigate the risk of being locked into naïve agreements that have undesirable consequences when applied literally in unanticipated circumstances.<sup>16</sup> Parties can often constrain those *ex post* choices by setting *standards* for them *ex ante*.<sup>17</sup>

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<sup>10</sup> E.g., if I know I will be transported to Uzbekistan, the outcome is both certain and determinate, but, since I have never been to Uzbekistan, that result is in some sense *unfamiliar* to me.

<sup>11</sup> Thanks to Ben Garfinkel for this point.

<sup>12</sup> See Joseph Raz, *The Rule of Law and Its Virtue*, in *THE AUTHORITY OF LAW: ESSAYS ON LAW AND MORALITY* 210 (1979).

<sup>13</sup> See, e.g., Antonin Scalia, *The Rule of Law as a Law of Rules*, 56 U. CHI. L. REV. 1175 (1989).

<sup>14</sup> See, e.g., Raz, *supra* note 12, at 214–15.

<sup>15</sup> More specifically, the benefit of knowledge of the relevant traits of the post-Advanced AI world.

<sup>16</sup> Cf. FRANCISCO PARISI & VINCY FON, *THE ECONOMICS OF LAWMAKING* 11 (2009) (“From an efficiency perspective, standards allow *ad hoc* custom-tailoring of the law to the circumstances of the case at bar, reducing problems of over-inclusion and under-inclusion.”); Louis Kaplow, *Rules Versus Standards: An Economic Analysis*, 42 DUKE L.J. 557, 585–86 (1992) (“[I]f there are advantages in delay because information will be easier to acquire at the time individuals act or cases are adjudicated, *ex post* investments would tend to be preferable.”); Robert E. Scott & George G. Triantis, *Anticipating Litigation in Contract Design*, 115 YALE L.J. 814, 879 (2006) (“[P]arty-created standards can enhance efficiency in harnessing the *ex post* informational advantage available at litigation . . . .”); Andrew Verstein, *Ex Tempore Contracting*, 55 WM. & MARY L. REV. 1869 (2014); Dylan Hadfield-Menell & Gillian K. Hadfield, *Incomplete Contracting and AI Alignment* 8 (2018), <https://perma.cc/H255-GJFX> (“There is a basic trade-off . . . between specifying behaviors for an

This Report aims to help nonlawyer readers develop a *legal toolkit* to accomplish what I am calling “constrained temporal decision transmission.” All mechanisms examined herein allow parties to be bound by future decisions, as described above; this is “temporal decision transmission.” However, as this Report demonstrates, these choices must be constrained because binding agreements require a degree of certainty sufficient to determine parties’ rights and duties.<sup>18</sup> As a corollary, this Report largely does *not* address solely ex ante tools for stabilization, such as risk analysis,<sup>19</sup> stabilization clauses,<sup>20</sup> or fully contingent contracting. For each potential tool, this Report summarizes its relevant features and then explain how it accomplishes constrained temporal decision transmission.

My aim is *not* to provide a comprehensive overview of each relevant tool or doctrine, but to provide readers information that enables them to decide whether to investigate a given tool further. Readers should therefore consider this Report more of a series of *signposts to potentially useful tools* than a complete, ready-to-deploy toolkit. As a corollary, deployment of any tool in the context of a particular agreement necessitates careful design and implementation with special attention to how the governing law treats that tool. Finally, this Report often focuses on how tools are most frequently deployed. Depending on the specific tool and jurisdiction, however, readers might very well be able to deploy tools in non-standard ways. They should be aware, however, that there is a tradeoff between novelty in tool substance and legal predictability.

The tools examined here are:

- *Options*—A contractual mechanism that prevents an offeror from revoking her offer, and thereby allows the offeree to accept at a later date;
- *Impossibility doctrines*—Background rules of contract and treaty law that release parties from their obligations when circumstances dramatically change;
- *Contractual standards*—Imprecise contractual language that determines parties’ obligations in varying circumstances;
- *Renegotiation*—Releasing parties from obligations under certain circumstances with the expectation that they will agree on alternative obligations; and
- *Third-party resolution*—Submitting disputes to a third-party with authority to issue binding determinations.

Although the tools studied here typically do not contemplate changes as radical as Advanced AI, they will hopefully still be useful in pre-Advanced AI agreements. By carefully deploying these tools (individually or in conjunction), readers should be able to ensure that the spirit of any pre-Advanced AI agreements survives a potentially turbulent transition to a post-Advanced AI world.

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agent *ex ante* with incomplete information and specifying optimal behaviors *ex post* once more information about the state of the world is available.”).

<sup>17</sup> See generally Kaplow, *supra* note 16, at 589; Scott & Triantis, *supra* note 16.

<sup>18</sup> See generally RESTATEMENT (SECOND) OF CONTRACTS § 33 (AM. LAW INST. 1981).

<sup>19</sup> See generally *Political Risk Insurance: Is it Necessary?*, PRACTICAL LAW PRACTICE NOTE 5-503-9151 § 5 (2018).

<sup>20</sup> See generally *id.*

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# I. Why Agreement Incompleteness?

If promoting stability is a goal of law generally and binding agreements specifically, why do parties fail to maximize stability by specifying agreement obligations in all contingencies to the greatest extent possible?<sup>21</sup> That is, why do parties underspecify their agreements? This problem is generally termed agreement “incompleteness.”<sup>22</sup> This Part points to some reasons why an agreement might be (more) incomplete.<sup>23</sup>

## A. Transaction Costs

One of the most common explanations for incompleteness is that contracting has transaction costs:<sup>24</sup>

Generally, neither party has the goal of negotiating the perfect contract. The contract is the means to the parties’ end, not the end itself. The more time a party spends negotiating, the more it delays the performance that will make it better off. Parties want their counterparty’s performance, not a well-negotiated deal. That is why much contracting is quite informal. For example, a buyer calls a seller to ask about the availability of a part the buyer needs in his business operation. The buyer wants the part, not the perfect contract and will accept some interpretive or performance risk in order to get what it needs as quickly as possible. That is one of the main reasons why parties underspecify their obligations and rely on post contracting adjustments and informal enforcement to reduce the costs of contracting.

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However, the amount each party is willing to invest in negotiating costs will differ depending on individual preferences, goals, foresight, and trust in the mechanisms of informal enforcement. One party may agree to terms thinking that the terms are precise enough to deal with all contingencies while the other party may realize that a term, while precise, does not cover all contingencies; that party may plan to rely on informal enforcement to address post-contracting disputes.<sup>25</sup>

Time is one of the most obvious transaction costs. Money is also important, especially if attorney costs are involved.<sup>26</sup> Emotional and relational costs are also relevant.<sup>27</sup> For example, a proud seller might take offense

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<sup>21</sup> Cf. Hadfield-Menell & Hadfield, *supra* note 16, at 1 (“The ideal way to align principal and agent is to design a *complete contingent contract*. This is an enforceable agreement that specifies the reward received by the agent for all actions and states of the world.” (citation omitted)).

<sup>22</sup> Cf. *id.* at 2.

<sup>23</sup> The relevant literature is vast, so this section is necessarily summary. For more discussion of the reasons for contract incompleteness, see *id.*; see also George S. Geis, *An Embedded Options Theory of Indefinite Contracts*, 90 MINN. L. REV. 1664, 1675–82 (2006); Richard A. Posner, *The Law and Economics of Contract Interpretation*, 83 TEX. L. REV. 1581 (2005).

<sup>24</sup> See Hadfield-Menell & Hadfield, *supra* note 16, at 4.

<sup>25</sup> Peter M. Gerhart & Juliet P. Kostritsky, *Efficient Contextualism*, 76 U. PITT. L. REV. 509, 526–27 (2015) (footnote omitted); see also Steven Shavell, *Damage Measures for Breach of Contract*, 11 BELL J. ECON. 466, 468 (1980).

<sup>26</sup> See, e.g., Robert H. Mnookin & Lewis Kornhausert, *Bargaining in the Shadow of the Law: The Case of Divorce*, 88 YALE L.J. 950, 971 (1979).

<sup>27</sup> See, e.g., *id.* at 972; see also Wendy Netter Epstein, *Facilitating Incomplete Contracts*, 65 CASE W. RES. L. REV. 297, 335 (2014); Leah Guggenheimer, *A Modest Proposal: The Feminomics of Drafting Premarital Agreements*, 17 WOMEN’S RTS. L. REP. 147, 199 (1996).

at being asked to agree to terms conditioned on his own bad faith. Thus, the buyer might refrain from asking the seller to agree to such terms—even if they would reduce uncertainty—to preserve an amicable relationship.

## B. Bounded Rationality

Another obvious source of incompleteness is parties' bounded rationality.<sup>28</sup> "[T]hat is, the parties are subject to significant time, resource, and cognitive restraints that limit their capacity to choose an optimal outcome."<sup>29</sup> For example, the "planning fallacy" predicts that people are "prone to underestimate the time required to complete a project, even when they have considerable experience of past failures to live up to planned schedules."<sup>30</sup> Thus, parties might fail to agree on what should happen if the project takes considerably longer than anticipated. More generally, parties might ignore, overlook, or under-appreciate the possibility of bad outcomes, even when the probability thereof is non-trivial.<sup>31</sup>

Relatedly, parties' information about future conditions is necessarily imperfect.<sup>32</sup> Uncertainty, indeterminacy, and unfamiliarity (as defined in the Introduction) all contribute to this. Thus, even in a world with no transaction costs, parties' ability to form efficient agreements<sup>33</sup> is hindered by their bounded rationality.

## C. Interpretive Uncertainty

A final source of incompleteness is the fact that parties are often unsure about how courts would interpret contract provisions.<sup>34</sup> Richard Craswell gives the following example:

[Consider] a contract between [seller] S and [buyer] B, entered into at a time when there was some uncertainty about S's future cost of production. Suppose now that, if all the relevant incentives were taken into account, it would be efficient to grant S an excuse whenever her costs increased by more than 127 percent. If courts were able to measure S's costs with no risk of error, achieving the ideal result would simply be a matter of granting an excuse whenever her costs in fact went up by more than 127 percent.

In practice, though, courts may not always be in a good position to measure S's costs, especially if some of those costs involve hard-to-quantify variables. More generally, there are

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<sup>28</sup> See Hadfield-Menell & Hadfield, *supra* note 16, at 4.

<sup>29</sup> Sidney A. Shapiro, *Outsourcing Government Regulation*, 53 DUKE L.J. 389, 394 (2003).

<sup>30</sup> DANIEL KAHNEMAN & AMOS TVERSKY, INTUITIVE PREDICTION: BIASES AND CORRECTIVE PROCEDURES 2-2 (1977), <https://perma.cc/AE75-GUZU>.

<sup>31</sup> See generally Cass R. Sunstein, *Probability Neglect: Emotions, Worst Cases, and Law*, 112 YALE L.J. 61 (2002).

<sup>32</sup> See, e.g., Juliet P. Kostritsky, *Taxonomy for Justifying Legal Intervention in an Imperfect World: What to Do When Parties Have Not Achieved Bargains or Have Drafted Incomplete Contracts*, 2004 WIS. L. REV. 323, 335; Herbert A. Simon, *A Behavioral Model of Rational Choice*, 69 Q.J. ECON. 99, 106-07 (1955).

<sup>33</sup> Meaning agreements that "specif[y] exactly what [the parties] should do, in order to achieve maximal efficiency, in every possible state of the world." Richard Craswell, *The "Incomplete Contracts" Literature and Efficient Precautions*, 56 CASE W. RES. L. REV. 151, 154 (2005).

<sup>34</sup> See *id.* at 154-58; cf. Steven Shavell, *On the Writing and the Interpretation of Contracts*, 22 J.L. ECON. & ORG. 289 (2005).

many other things that courts also may be poor at measuring. In some cases, the most efficient outcomes may depend on factors that are completely unobservable (for instance, the efficiency of completing a consumer transaction may depend on whether the consumer's tastes have changed in some unobservable way). In other cases, the efficient outcome may depend on factors that are observable to the contracting parties, but that cannot be proved to the satisfaction of a reviewing court (for example, the seller's costs may include opportunity costs that a court would find hard to evaluate). In the newer literature on incomplete contracts, these two difficulties are often referred to (respectively) as involving information that is either unobservable or nonverifiable.<sup>35</sup>

By contrast, if “a contract that says S will deliver 100 widgets on July 1 could be considered ‘complete’ (in the sense of not leaving any gaps) if it is [invariably] interpreted to mean that the seller must deliver those widgets on July 1 regardless of anything else that might happen.”<sup>36</sup> Thus, the fact that parties do not know how courts will interpret all contractual obligations in all contingencies *itself* causes contractual incompleteness.

As Robert E. Scott and George G. Triantis pointed out in their influential Yale Law Journal article, when contracts grant interpretive flexibility—i.e., when contracts use *standards* as opposed to *rules*—parties trade off front-end contracting costs for back-end costs like uncertainty<sup>37</sup> and, potentially, litigation.<sup>38</sup> Thus, interpretive uncertainty is a calculated part of the contracting process.<sup>39</sup>

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<sup>35</sup> Craswell, *supra* note 33, at 155–56.

<sup>36</sup> *Id.* at 154.

<sup>37</sup> See Posner, *supra* note 23, at 1608–09 (discussing error cost).

<sup>38</sup> See generally Scott & Triantis, *supra* note 16.

<sup>39</sup> See generally *id.*



## II. Option Contracts

Option contracts may be the simplest legal mechanism for deferring decision-making. “An option contract is a promise which meets the requirements for the formation of a contract and limits the promisor’s power to revoke an offer.”<sup>40</sup> For example:

A offers to sell B Blackacre for \$5,000 at any time within thirty days. Subsequently A promises . . . in return for \$100 paid or promised by B that the offer will not be revoked. There is an option contract under which B has an option [to purchase Blackacre for \$5,000].<sup>41</sup>

As with any contract,<sup>42</sup> the offeror can condition the offeree’s ability to accept (i.e., “exercise” her option) on the occurrence of some event.

Options are a clear and simple example of temporal decision transmission. An offeree benefits from an option contract because she believes she will later be in a better position to decide whether to accept. Options are useful when parties wish to keep a definite offer open for some period of time, while allowing the offeree to gather more information so as to make a better-informed acceptance decision.

Options are a limited tool, at least on their own. A contract must specify the content of the option; the offeree’s only choice is between exercising the option or not. However, options can become more flexible when combined with other tools in this Report. For example, an agreement might stipulate that when certain conditions are satisfied, a party has an option to renegotiate an agreement.<sup>43</sup> In this way, options are limited on their own, but can be quite stabilizing when combined with other stabilizing agreement features.

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<sup>40</sup> RESTATEMENT (SECOND) OF CONTRACTS, *supra* note 18, § 25.

<sup>41</sup> *Id.* illus. 2.

<sup>42</sup> *See id.* § 36(2) (“[A]n offeree’s power of acceptance is terminated by the non-occurrence of any condition of acceptance under the terms of the offer.”).

<sup>43</sup> *See infra* Part V.

### III. Impossibility in Contract and Treaty Law

Minimizing turbulence and allocating the associated risks is a major purpose of contract law:

The process by which goods and services are shifted into their most valuable uses is one of voluntary exchange. The distinctive problems of contract law arise when the agreed-upon exchange does not take place instantaneously (for example, A agrees to build a house for B and construction will take several months). The fact that performance is to extend into the future introduces uncertainty, which in turn creates risks. A fundamental purpose of contracts is to allocate these risks between the parties to the exchange.<sup>44</sup>

The doctrine of *Impossibility* is a key mechanism by which contract law deals with turbulence. A close analogy exists in treaty law: the doctrine of *rebus sic stantibus* (“things thus standing”). This Part first restates the doctrine (or, more precisely, doctrine.) of Impossibility and *rebus sic stantibus*, then analyzes why they are stabilizing.

#### A. Contractual Impossibility Doctrines

The Restatement (Second) of Contracts introduces the idea of Impossibility as follows:

Contract liability is strict liability. It is an accepted maxim that *pacta sunt servanda*, [meaning] contracts are to be kept. The obligor is therefore liable in damages for breach of contract even if he is without fault and even if circumstances have made the contract more burdensome or less desirable than he had anticipated.

...

Even where the obligor has not limited his obligation by agreement, a court may grant him relief. An extraordinary circumstance may make performance so vitally different from what was reasonably to be expected as to alter the essential nature of that performance. In such a case the court must determine whether justice requires a departure from the general rule that the obligor bear the risk that the contract may become more burdensome or less desirable. [Impossibility doctrine] is concerned with the principles that guide that determination.<sup>45</sup>

Two forms of contract Impossibility are relevant to this Report: Impracticability and Frustration.

##### 1. Impracticability

The doctrine of Impracticability is stated as follows:

Where, after a contract is made, a party's performance is made impracticable without his fault by the occurrence of an event the non-occurrence of which was a basic assumption on

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<sup>44</sup> Richard A. Posner & Andrew M. Rosenfield, *Impossibility and Related Doctrines in Contract Law: An Economic Analysis*, 6 J. LEGAL STUD. 83, 88 (1977).

<sup>45</sup> RESTATEMENT (SECOND) OF CONTRACTS, *supra* note 18, ch. 11 Intro. Note.

which the contract was made, his duty to render that performance is discharged, unless the language or the circumstances indicate the contrary.<sup>46</sup>

The Uniform Commercial Code<sup>47</sup> and the United Nations Convention on the International Sale of Goods<sup>48</sup> contain similar provisions.

Traditionally, courts have generally found impracticability in the following three cases:<sup>49</sup>

1. Supervening death or incapacity of a person necessary for performance<sup>50</sup>
2. Supervening destruction of a specific thing necessary for performance<sup>51</sup>
3. Supervening prohibition or prevention by law<sup>52</sup>

This list is not exhaustive, however.<sup>53</sup> Note also that mere changes in market conditions are usually not grounds for discharge under this rule.<sup>54</sup>

The foreseeability of a contingency is relevant to an Impracticability analysis, but not determinative thereof.<sup>55</sup> “Furthermore, a party is expected to use reasonable efforts to surmount obstacles to performance, and a performance is impracticable only if it is so in spite of such efforts.”<sup>56</sup> Thus, performance need not be truly “impossible” to fall under this doctrine; “[p]erformance may be impracticable because extreme and unreasonable difficulty, expense, injury, or loss to one of the parties will be involved.”<sup>57</sup>

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<sup>46</sup> *Id.* § 261.

<sup>47</sup> U.C.C. § 2-615 (AM. LAW INST. & UNIF. LAW COMM’N 2017) (“Except so far as a seller may have assumed a greater obligation . . . [d]elay in delivery or non-delivery in whole or in part by a seller . . . is not a breach of his duty under a contract for sale if performance as agreed has been made impracticable by the occurrence of a contingency the non-occurrence of which was a basic assumption on which the contract was made or by compliance in good faith with any applicable foreign or domestic governmental regulation or order whether or not it later proves to be invalid.”).

<sup>48</sup> United Nations Convention on Contracts for the International Sale of Goods art. 79, Jan. 1, 1988, 1489 U.N.T.S. 3, <https://perma.cc/J2QF-FGW4> (“A party is not liable for a failure to perform any of his obligations if he proves that the failure was due to an impediment beyond his control and that he could not reasonably be expected to have taken the impediment into account at the time of the conclusion of the contract or to have avoided or overcome it or its consequences.”).

<sup>49</sup> RESTATEMENT (SECOND) OF CONTRACTS, *supra* note 18, § 261 cmt. a.

<sup>50</sup> *See id.* § 262 (“If the existence of a particular person is necessary for the performance of a duty, his death or such incapacity as makes performance impracticable is an event the non-occurrence of which was a basic assumption on which the contract was made.”).

<sup>51</sup> *See id.* § 263 (“If the existence of a specific thing is necessary for the performance of a duty, its failure to come into existence, destruction, or such deterioration as makes performance impracticable is an event the non-occurrence of which was a basic assumption on which the contract was made.”).

<sup>52</sup> *See id.* § 264 (“If the performance of a duty is made impracticable by having to comply with a domestic or foreign governmental regulation or order, that regulation or order is an event the non-occurrence of which was a basic assumption on which the contract was made.”).

<sup>53</sup> *See id.* § 261 cmt. a.

<sup>54</sup> *See id.* cmt. b.

<sup>55</sup> *See id.*

<sup>56</sup> *Id.* cmt. d (citation omitted).

<sup>57</sup> *Id.*

The following examples demonstrate circumstances in which performance is Impracticable due to violations of the basic assumptions of a contract:

A contracts to repair B's grain elevator. While A is engaged in making repairs, a fire destroys the elevator without A's fault, and A does not finish the repairs. A's duty to repair the elevator is discharged, and A is not liable to B for breach of contract.<sup>58</sup>

A contracts with B to carry B's goods on his ship to a designated foreign port. A civil war then unexpectedly breaks out in that country and the rebels announce that they will try to sink all vessels bound for that port. A refuses to perform. Although A did not contract to sail on the vessel, the risk of injury to others is sufficient to make A's performance impracticable. A's duty to carry the goods to the designated port is discharged, and A is not liable to B for breach of contract.<sup>59</sup>

By contrast, performance in the following circumstance is *not* Impracticable:

Several months after the nationalization of the Suez Canal, during the international crisis resulting from its seizure, A contracts to carry a cargo of B's wheat on A's ship from Galveston, Texas to Bandar Shapur, Iran for a flat rate. The contract does not specify the route, but the voyage would normally be through the Straits of Gibraltar and the Suez Canal, a distance of 10,000 miles. A month later, and several days after the ship has left Galveston, the Suez Canal is closed by an outbreak of hostilities, so that the only route to Bandar Shapur is the longer 13,000 mile voyage around the Cape of Good Hope. A refuses to complete the voyage unless B pays additional compensation. A's duty to carry B's cargo is not discharged, and A is liable to B for breach of contract.<sup>60</sup>

The difference in outcome turns on a flexible<sup>61</sup> judicial determination as to whether changed circumstances violated an essential assumption of the contract.

## 2. Frustration

Frustration doctrine is stated as follows:

Where, after a contract is made, a party's principal purpose is substantially frustrated without his fault by the occurrence of an event the non-occurrence of which was a basic assumption on which the contract was made, his remaining duties to render performance are discharged, unless the language or the circumstances indicate the contrary.<sup>62</sup>

Comments to the Restatement clarify that performance is "Frustrated" only if:

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<sup>58</sup> *Id.* illus. 6.

<sup>59</sup> *Id.* illus. 7.

<sup>60</sup> *Id.* illus. 9.

<sup>61</sup> *Id.* cmt. b ("In borderline cases this criterion is sufficiently flexible to take account of factors that bear on a just allocation of risk.").

<sup>62</sup> *Id.* § 265.

1. “[T]he purpose that is frustrated must have been a principal purpose of that party in making the contract. It is not enough that he had in mind some specific object without which he would not have made the contract. The object must be so completely the basis of the contract that, as both parties understand, without it the transaction would make little sense”;<sup>63</sup>
2. “[T]he frustration must be substantial. It is not enough that the transaction has become less profitable for the affected party or even that he will sustain a loss. The frustration must be so severe that it is not fairly to be regarded as within the risks that he assumed under the contract”;<sup>64</sup> and
3. “[T]he non-occurrence of the frustrating event must have been a basic assumption on which the contract was made. This involves essentially the same sorts of determinations that are involved under the general rule on [I]mpracticability.”<sup>65</sup>

For example:

A, who owns a hotel, and B, who owns a country club, make a contract under which A is to pay \$1,000 a month and B is to make the club’s membership privileges available to the guests in A’s hotel free of charge to them. A’s building is destroyed by fire without his fault, and A is unable to remain in the hotel business. A refuses to make further monthly payments. A’s duty to make monthly payments is discharged, and A is not liable to B for breach of contract.<sup>66</sup>

By contrast:

A leases a gasoline station to B. A change in traffic regulations so reduces B’s business that he is unable to operate the station except at a substantial loss. B refuses to make further payments of rent. If B can still operate the station, even though at such a loss, his principal purpose of operating a gasoline station is not substantially frustrated. B’s duty to pay rent is not discharged, and B is liable to A for breach of contract. The result would be the same if substantial loss were caused instead by a government regulation rationing gasoline or a termination of the franchise under which B obtained gasoline.<sup>67</sup>

Again, the results turn on a judicial determination as to whether the contract makes sense in light of the changed circumstances.<sup>68</sup>

## B. *Rebus Sic Stantibus* (“Things Thus Standing”)

Impossibility finds a close analog in treaty law in the doctrine of *rebus sic stantibus*.<sup>69</sup> The Vienna Convention on the Law of Treaties restates the doctrine as follows:

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<sup>63</sup> *Id.* cmt. a.

<sup>64</sup> *Id.*

<sup>65</sup> *Id.*

<sup>66</sup> *Id.* illus. 3.

<sup>67</sup> *Id.* illus. 6.

<sup>68</sup> *See id.* cmt. a.

1. A fundamental change of circumstances which has occurred with regard to those existing at the time of the conclusion of a treaty, and which was not foreseen by the parties, may not be invoked as a ground for terminating or withdrawing from the treaty unless:
  - (a) The existence of those circumstances constituted an essential basis of the consent of the parties to be bound by the treaty; and
  - (b) The effect of the change is radically to transform the extent of obligations still to be performed under the treaty.
2. A fundamental change of circumstances may not be invoked as a ground for terminating or withdrawing from a treaty:
  - (a) If the treaty establishes a boundary; or
  - (b) If the fundamental change is the result of a breach by the party invoking it either of an obligation under the treaty or of any other international obligation owed to any other party to the treaty.
3. If, under the foregoing paragraphs, a party may invoke a fundamental change of circumstances as a ground for terminating or withdrawing from a treaty it may also invoke the change as a ground for suspending the operation of the treaty.<sup>70</sup>

However, there is a “substantial bar to the successful application of the doctrine.”<sup>71</sup> “[T]here has never been a successful assertion of it in a court case and . . . there is no clear example of its successful use in diplomatic exchanges.”<sup>72</sup>

### C. Impossibility, *Rebus*, and Stabilization

At first blush, it might seem odd to call doctrines that discharge contractual obligations “stabilizing.” We often associate stability with firm adherence to rules, notwithstanding changed circumstances. Of course, this is the norm in contract law; Impossibility and *rebus* are exceptions.

Nevertheless, Impossibility doctrines can be fairly said to be stabilizing for two reasons. First, “[c]ommon sense sets limits to a promise, even where contractual language does not.”<sup>73</sup> Thus, while a categorical refusal to discharge duties in the face of Impossible circumstances might be stabilizing in the sense that obligation

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<sup>69</sup> See, e.g., Janice C. Griffith, *Local Government Contracts: Escaping from the Governmental/Proprietary Maze*, 75 IOWA L. REV. 277, 358 (1990); Detlev F. Vagts, *Rebus Revisited: Changed Circumstances in Treaty Law*, 43 COLUM. J. TRANSNAT’L L. 459, 459 (2005); George K. Walker, *Sources of International Law and the Restatement (Third), Foreign Relations Law of the United States*, 37 NAVAL L. REV. 1, 26–27 (1988).

<sup>70</sup> Vienna Convention on the Law of Treaties art. 62, May 23, 1969, 1155 U.N.T.S. 331, <https://perma.cc/XDU2-Y7KW>.

<sup>71</sup> Shalanda H. Baker, *Climate Change and International Economic Law*, 43 ECOLOGY L.Q. 53, 87 (2016).

<sup>72</sup> Detlev F. Vagts, Book Review, 98 AM. J. INT’L L. 614, 615 (2004); see also Laurence R. Helfer, *Exiting Treaties*, 91 VA. L. REV. 1579, 1643 (2005). For accounts of two unsuccessful assertions of *rebus* in front of the International Court of Justice, see Baker, *supra* note 71, at 84–86.

<sup>73</sup> Andrew Kull, *Mistake, Frustration, and the Windfall Principle of Contract Remedies*, 43 HASTINGS L.J. 1, 38 (1991).

would closely track contractual language,<sup>74</sup> such a regime would be *destabilizing* as compared to the reasonable expectations of contracting parties.<sup>75</sup>

Secondly, in repeat-play dynamics, Impossibility doctrines can incentivize stabilizing behaviors. In their groundbreaking article *Impossibility and Related Doctrines in Contract Law—An Economic Analysis*, Richard A. Posner and Andrew M. Rosenfield explain that, from an economic perspective, Impossibility doctrines promote efficiency when they assign economic losses<sup>76</sup> in such situations to the “superior risk bearer.”<sup>77</sup> Each party’s comparative ability to prevent<sup>78</sup> and/or insure against<sup>79</sup> risks determines which is the superior risk bearer.<sup>80</sup> Economical Impossibility doctrines would therefore promote stability by assigning losses associated with radically changed circumstances to the superior risk bearer, thus incentivizing her to take stability-enhancing measures (such as avoidance or insurance).

Caselaw partially reflects the economic approach. For example, “[f]rom the standpoint of economics, contract discharge should not be allowed when the event rendering performance uneconomical was reasonably preventable by either party.”<sup>81</sup> And indeed, “[t]his view prevails in the case law.”<sup>82</sup>

Posner and Rosenfield find that a number of common case patterns follow the superior risk bearer logic.<sup>83</sup> For example:

Discharge of contracts for personal services is often sought when an employee has died unexpectedly. In *Cutler v. United Shoe Mach. Corp.*, a machinery company had an employment contract with an inventor. When the inventor died, the court, in a suit by the inventor’s estate, held the contract discharged. This outcome—typical in employee cases—is consistent with the economic approach. The employee (1) is in at least as good a position as his employer to estimate his life expectancy, (2) has better knowledge of the value of the contract to him compared to that of any alternative employment and (3) can readily purchase life insurance.

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<sup>74</sup> Cf. Gillian K. Hadfield, *Judicial Competence and the Interpretation of Incomplete Contracts*, 23 J. LEGAL STUD. 159, 160 n.4 (1994) (as if “a contract that says ‘A to deliver 100 pounds of peas to B for \$25’ includes the term ‘under any and all circumstances’ including earthquakes and pea shortages.”).

<sup>75</sup> See Kull, *supra* note 73, at 38–39.

<sup>76</sup> As Posner and Rosenfield explain, “[i]n every [Impossibility] case the basic problem is the same: to decide who should bear the loss resulting from an event that has rendered performance by one party uneconomical.” Posner & Rosenfield, *supra* note 44, at 86. In other words, if the promisor is not held liable for breach when performance is Impossible, then the promisee is, in an economic sense, liable, since she will no longer receive the benefits the promisor promised her. Thus, in Impossible circumstances, the loss must go to some party.

<sup>77</sup> See *id.* at 90.

<sup>78</sup> See *id.*

<sup>79</sup> See *id.* at 90–91.

<sup>80</sup> See *id.*

<sup>81</sup> *Id.* at 98.

<sup>82</sup> *Id.* (citing *Gulf, Mobile & O.R.R. v. Illinois Central R.R.*, 128 F. Supp. 311 (N.D. Ala. 1954), 225 F.2d 816 (5th Cir. 1955); *Martin v. Star Publishing Co.*, 126 A.2d 238 (Del. 1956); *Powers v. Siats*, 70 N.W. 2d. 344 (Minn. 1955); *Helms v. B & L Investment Co.*, 198 S.E.2d 79 (N.C. App. 1973)).

<sup>83</sup> See *id.* at 100–08.

If the employer were seeking damages as a result of the employee's death, alleging that death had caused a breach of the employee's obligations under the contract, the contract should also be discharged. Estimating life expectancy is in general no more (if no less) difficult for the employer than for the employee (if the employee knew of a condition reducing his life expectancy below the actuarial level for people of his age, sex, etc., discharge would presumably not be allowed). And the employer is better able to estimate the cost to him (in firm-specific human capital, replacement costs, etc.) if the employee dies, and can usually self-insure against such an eventuality.<sup>84</sup>

Impossibility and *rebus* also reflect, to some degree, the thesis of this Report that “transmitting (some) key decision points forward in time” can be stabilizing. Admittedly, Impossibility and *rebus* do not reflect an explicit ex ante commitment to transmit binding decision points into the future. Nevertheless, the regime they effect is somewhat analogous to one in which parties maintain an implied option<sup>85</sup> to refuse to perform under certain circumstances.<sup>86</sup> The economic default regime proposed by Posner and Rosenfield is, in effect, one in which parties implicitly agree ex ante to assign certain losses to the superior risk bearer, as determined ex post in light of the circumstance causing the loss. Put differently, these doctrines provide ex ante background rules for determining ex post which party should bear losses in light of the particular change in circumstances. Thus, they constitute an implicit temporal transmission of a key decision point: the determination of which party is the superior risk bearer is made ex post rather than ex ante.

Still, since these are background rules, parties do not usually explicitly agree to them ex ante. The next Part examines how parties can make similar risk allocations explicit.

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<sup>84</sup> *Id.* at 100 (footnote omitted) (citing *Cutler v. United Shoe Mach. Corp.*, 174 N.E. 507 (Mass. 1931)).

<sup>85</sup> See generally *supra* Part II.

<sup>86</sup> *Cf.* Geis, *supra* note 23, at 1689–1706 (arguing that indefinite contracts can be usefully understood as containing embedded options).



## IV. Contractual Standards

Doctrines identified in the previous Part provide default rules for discharging contractual duties in absence of an explicit agreement about the allocation of the relevant risks.<sup>87</sup> However, as the language of the relevant doctrines implies,<sup>88</sup> parties are free to explicitly allocate risks otherwise.<sup>89</sup> This Part examines some common contractual clauses that parties may use to stabilize their agreements in the face of significantly changed circumstances. A key feature of many such clauses is that they use *standards* rather than *rules*<sup>90</sup> for governing parties' actions.<sup>91</sup> Note that the clauses examined here merely two examples of standards; other examples exist.<sup>92</sup>

### A. Force Majeure Clauses

Force majeure (French: “superior force”)<sup>93</sup> clauses explicitly allocate risk from dramatically changed circumstances. They are thus an explicit version of Impossibility doctrine. A representative force majeure clause is as follows:

If either party is rendered unable by force majeure, or any other cause of any kind not reasonably within its control, wholly or in part, to perform or comply with any obligation or condition of this Agreement, upon such party's giving timely notice and reasonably full particulars to the other party such obligation or condition shall be suspended during the continuance of the inability so caused and such party shall be relieved of liability and shall suffer no prejudice for failure to perform the same during such period . . . . The cause of the suspension (other than strikes or differences with workmen) shall be remedied so far as

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<sup>87</sup> See, e.g., Christopher J. Costantini, *Allocating Risk in Take-or-Pay Contracts: Are Force Majeure and Commercial Impracticability the Same Defense?*, 42 SW. L.J. 1047, 1064 (1989).

<sup>88</sup> See *supra* Part III.

<sup>89</sup> See, e.g., RESTATEMENT (SECOND) OF CONTRACTS, *supra* note 18, ch. 11 Intro. Note.

<sup>90</sup> For useful background on the rules-versus-standards debate in contract and law design, see generally Barbara Luppi & Francesco Parisi, *Rules versus Standards*, in PRODUCTION OF LEGAL RULES 43 (Francesco Parisi ed., 2011); PARISI & FON, *supra* note 16, at 9–29; Isaac Ehrlich & Richard A. Posner, *An Economic Analysis of Legal Rulemaking*, 3 J. LEGAL STUD. 257 (1974); Louis Kaplow, *A Model of the Optimal Complexity of Legal Rules*, 11 J. L. ECON. & ORG. 150 (1995); Kaplow, *supra* note 16.

<sup>91</sup> See generally Mark P. Gergen, *The Use of Open Terms in Contract*, 92 COLUM. L. REV. 997 (1992); Ian R. Macneil, *Contracts: Adjustment of Long-Term Economic Relations under Classical, Neoclassical, and Relational Contract Law*, 72 NW. U. L. REV. 854, 866 (1978); Scott & Triantis, *supra* note 16. Note that there are plenty of ways for parties to explicitly allocate risk via rules. A buyer, for example, may agree to pay a specific amount above the cost of production via a “cost-plus” clause. See, e.g., RESTATEMENT (SECOND) OF CONTRACTS, *supra* note 18, ch. 11 Intro. Note. However, mechanisms like this are of less interest to this Report since they do not constitute the type of intertemporal decision transmission with which I am interested.

<sup>92</sup> See, e.g., Gary B. Conine, *The Prudent Operator Standard: Applications Beyond the Oil and Gas Lease*, 41 NAT. RESOURCES J. 23 (2001); Robert A. Hillman, *Court Adjustment of Long-Term Contracts: An Analysis Under Modern Contract Law*, 1987 DUKE L.J. 1, 4 (“[S]ome coal contracts include a ‘gross inequities adjustment provision,’ which requires the parties to negotiate in good faith to resolve ‘inequities’ resulting from economic conditions that the parties did not contemplate at the time they made their agreement.”); Verstein, *supra* note 16.

<sup>93</sup> E.g., Allison R. Ebanks, *Force Majeure: How Lessees Can Save Their Leases While the War on Fracking Rages On*, 48 ST. MARY'S L.J. 857, 873 (2017).

possible with reasonable dispatch. Settlement of strikes or differences with workmen shall be wholly within the discretion of the party having the difficulty. The party having the difficulty shall notify the other party of any change in circumstances giving rise to the suspension of its performance and of its resumption of performance under this Agreement. The term “force majeure” shall include, without limitation by the following enumeration, acts of God, and the public enemy, the elements, fire, accidents, breakdowns, strikes, differences with workmen, and any other industrial, civil or public disturbance, or any act or omission beyond the control of the party having the difficulty, and any restrictions or restraints imposed by laws, orders, rules, regulations or acts of any government or governmental body or authority, civil or military.<sup>94</sup>

Given their similarity to Impossibility doctrines, there is debate about whether such clauses usually add anything to contracts, or merely restate background doctrines.<sup>95</sup>

Common notable features of force majeure clauses include:

1. External causation: “a force majeure event cannot be caused by the party claiming force majeure”;<sup>96</sup>
2. Actual impediment: “the party claiming force majeure bear[s] the burden of proving the force majeure event caused its damages”;<sup>97</sup>
3. Unavoidability: the clause does not “include any cause which by the exercise of due diligence the party claiming force majeure is able to overcome . . .”;<sup>98</sup> and
4. A requirement to give notice to the other party.<sup>99</sup>

Force majeure clauses temporally transmit decision-making much like Impossibility doctrines: they provide a party with an option to suspend performance, conditional on external and unavoidable contingencies that make performance impossible or impracticable.<sup>100</sup> A force majeure clause recognizes the possibility of such contingencies without trying to plan for or enumerate all of them. Thus, parties set ex ante *standards* for *deciding* ex post when an option to suspend performance exists.<sup>101</sup> In so doing, force majeure clauses reduce

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<sup>94</sup> Langham-Hill Petroleum Inc. v. S. Fuels Co., 813 F.2d 1327, 1329 n.1 (4th Cir. 1987); see also 30 WILLISTON ON CONTRACTS § 77:31 (4th ed.) (discussing force majeure clauses).

<sup>95</sup> Compare E. Air Lines, Inc. v. McDonnell Douglas Corp., 532 F.2d 957, 991 (5th Cir. 1976) (“Because of the uncertainty surrounding the law of excuse, parties had good reason to resort to general contract provisions relieving the promisor of liability for breaches caused by events ‘beyond his control.’ Although the Uniform Commercial Code has ostensibly eliminated the need for such clauses, lawyers, either through an abundance of caution or by force of habit, continue to write them into contract.”) with P.J.M. Declercq, *Modern Analysis of the Legal Effect of Force Majeure Clauses in Situations of Commercial Impracticability*, 15 J.L. & COM. 213, 225 (1995) (“Even in the absence of detailed wording, trade usage or the surrounding circumstances may indicate an intent to grant the seller a broader exemption than is provided by the U.C.C.”).

<sup>96</sup> Jocelyn L. Knoll & Shannon L. Bjorklund, *Force Majeure and Climate Change: What is the New Normal?*, 8 AM. C. CONSTRUCTION LAW. J. 2 (2014).

<sup>97</sup> *Id.*

<sup>98</sup> E.g., Gulf Oil Corp. v. F.P.C., 563 F.2d 588, 613 (3d Cir. 1977).

<sup>99</sup> See Knoll & Bjorklund, *supra* note 96.

<sup>100</sup> Cf. Geis, *supra* note 23, at 1689–1706 (arguing that indefinite contracts can be usefully understood as containing embedded options).

<sup>101</sup> Cf. Scott & Triantis, *supra* note 16, at 855 (“Force majeure clauses typically provide that performance is excused in the event of specific contingencies (such as war, labor strikes, supply shortages, and government regulation that hinders

the pressure for parties to enumerate ex ante precise contractual obligations under all possible contingencies.<sup>102</sup>

## B. Best Efforts and Similar Clauses

“Best efforts clauses typically come into play when one party wants the other to actively promote something, but for some reason the parties either cannot or choose not to spell out the details regarding what is involved and instead leave the issue to this ‘best efforts’ coverage.”<sup>103</sup> Language requiring exercise of “due diligence” or “due professional skill and competence” can have similar effects.<sup>104</sup> Some representative examples<sup>105</sup> include:

- A distributor promising to “use its best efforts to promote and maintain a high volume of [beer] sales”;<sup>106</sup>
- A distributor promising to “devote its best efforts to the sale and promotion of sales of the beverages”;<sup>107</sup>
- A motorcycle dealer promising to “use his best efforts to sell Suzuki motorcycles.”<sup>108</sup>

Such clauses can also simply require parties to negotiate further.<sup>109</sup>

However, best efforts clauses are not always enforceable:<sup>110</sup>

A bare statement such as “best efforts will be used” or “the parties will perform with due professional diligence” will not be given effect unless the parties have provided other clues as to how to determine whether the duty has been met, such as through industry practices or past performance.<sup>111</sup>

Thus, for example, in *Proteus Books Ltd. v. Cherry Lane Music Co.*, a clause requiring parties to market books with “due professional skill and competence” was not “void for vagueness”:<sup>112</sup>

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performance). But these clauses also identify excusing contingencies that fall within a vaguely stated category of factors beyond the control of the parties.”).

<sup>102</sup> See generally *id.*

<sup>103</sup> *Best Efforts Clauses*, 24 No. 2 CORP. COUNS. Q. art. 1 (2008).

<sup>104</sup> See *id.* (quoting *Proteus Books Ltd. v. Cherry Lane Music Co.*, 873 F.2d 502, 508 (2d Cir. 1989)).

<sup>105</sup> See *id.*

<sup>106</sup> *Bloor v. Falstaff Brewing Corp.*, 601 F.2d 609, 610 (2d Cir. 1979).

<sup>107</sup> *Joyce Beverages of New York, Inc. v. Royal Crown Cola Co.*, 555 F. Supp. 271, 273 (S.D.N.Y. 1983).

<sup>108</sup> *Am. Suzuki Motor Corp. v. Bill Kummer, Inc.*, 65 F.3d 1381, 1383 (7th Cir. 1995).

<sup>109</sup> See, e.g., 2 LAW OF SELLING DESKBOOK § 23:2 (2018).

<sup>110</sup> See, e.g., *id.*; Nellie Eunsoo Choi, *Contracts with Open or Missing Terms Under the Uniform Commercial Code and the Common Law: A Proposal for Unification*, 103 COLUM. L. REV. 50, 50–60 (2003); Charles J. Goetz & Robert E. Scott, *Principles of Relational Contracts*, 67 VA. L. REV. 1089, 1119–26 (1981); Robert E. Scott, *A Theory of Self-Enforcing Indefinite Agreements*, 103 COLUM. L. REV. 1641, 1647–61 (2003).

<sup>111</sup> 2 LAW OF SELLING DESKBOOK, *supra* note 109, § 23:2. *But cf.* *Ladas v. California State Auto. Assn.*, 23 Cal. Rptr. 2d 810, 815 (App. 1993) (“[P]romises by an employer to pay ‘parity’ or ‘according to industry standards’ are not sufficiently definite to be enforceable.”).

<sup>112</sup> See 873 F.2d at 508.

[I]t is not fatal that the contract does not define the standards of due professional skill and competence. Reference to the managerial and marketing standards of the book publishing and distribution industries is sufficient to make the phrase readily understandable. A list of the acts that would constitute due professional skill and competence was therefore not necessary . . . .<sup>113</sup>

By contrast, in *Pinnacle Books, Inc. v. Harlequin Enterprises Ltd.*,<sup>114</sup> the court held that a clause requiring parties (an author and a publisher) to exercise “their best efforts” to reach an agreement on a contract renewal<sup>115</sup> was unenforceable for vagueness:

[T]he “best efforts” clause is unenforceable because its terms are too vague. “Best efforts” or similar clauses, like any other contractual agreement, must set forth in definite and certain terms every material element of the contemplated bargain. It is hornbook law that courts cannot and will not supply the material terms of a contract.

Essential to the enforcement of a “best efforts” clause is a clear set of guidelines against which the parties’ “best efforts” may be measured. The performance required of the parties by a “best efforts” clause may be expressly provided by the contract itself or implied from the circumstances of the case. In the case at bar, there simply are no objective criteria against which either [the publisher] or [the author]’s efforts can be measured.<sup>116</sup>

When they are enforceable, best efforts clauses provide stability by binding parties to perform in accordance with a predetermined set of standards, as applied to future circumstances.<sup>117</sup> Thus, parties attain a binding agreement while avoiding the need to demand *ex ante* specific actions in all future circumstances.<sup>118</sup> Best efforts and similar standards thus provide flexibility that allows meaningful commitments to survive even when circumstances change.

### C. Standards and Stability Generally

Standards-based contracts are useful when parties can agree to broad principles for guiding action, but for some reason<sup>119</sup> cannot agree on precise (i.e., rule-based) language.<sup>120</sup> “Flexible contracting can [also] foster trust and collaboration, ultimately creating a more successful contracting relationship.”<sup>121</sup>

Of course, parties must take care to manifest their intent to be bound and guide potential adjudicators with reasonably certain standards.<sup>122</sup> Enforcement of indefinite terms is unpredictable and still heavily litigated.<sup>123</sup>

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<sup>113</sup> *Id.* at 509.

<sup>114</sup> 519 F. Supp. 118 (S.D.N.Y. 1981).

<sup>115</sup> *See id.* at 120.

<sup>116</sup> *Id.* at 121 (citations omitted).

<sup>117</sup> *See generally* Scott & Triantis, *supra* note 16 (explaining that parties might agree to standards rather than rules to shift costs to the back end of the contractual relationship).

<sup>118</sup> *See generally id.*

<sup>119</sup> For reasons why this might occur, see *supra* Part I.

<sup>120</sup> *See* Scott, *supra* note 110, at 1649–55.

<sup>121</sup> Epstein, *supra* note 27, at 335; *see also* Goetz & Scott, *supra* note 110.

Still, enforceable standards create stability by enabling *ex post*<sup>124</sup> or *ex tempore* (“at the time”)<sup>125</sup> rulemaking with the benefit of information learned after the time of the initial agreement.<sup>126</sup> They are thus most appropriate when parties can agree upon reasonably certain standards to which they wish to be held, but the precise content of which is not satisfactorily specifiable *ex ante*.<sup>127</sup>

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<sup>122</sup> See, e.g., *Ladas*, 23 Cal. Rptr. 2d at 815 (“[P]romises by an employer to pay ‘parity’ or ‘according to industry standards’ are not sufficiently definite to be enforceable.”); *Cobble Hill Nursing Home, Inc. v. Henry & Warren Corp.*, 548 N.E.2d 203, 206 (N.Y. 1989) (“Before rejecting an agreement as indefinite, a court must be satisfied that the agreement cannot be rendered reasonably certain by reference to an extrinsic standard that makes its meaning clear.”); *Joseph Martin, Jr., Delicatessen, Inc. v. Schumacher*, 417 N.E.2d 541, 544 (N.Y. 1981) (“It certainly would have sufficed, for instance, if a methodology for determining the rent was to be found within the four corners of the lease, for a rent so arrived at would have been the end product of agreement between the parties themselves. Nor would the agreement have failed for indefiniteness because it invited recourse to an objective extrinsic event, condition or standard on which the amount was made to depend.”); *Fischer v. CTMI, L.L.C.*, 479 S.W.3d 231, 239–40 (Tex. 2016); RESTATEMENT (SECOND) OF CONTRACTS, *supra* note 18, § 33(1) (“Even though a manifestation of intention is intended to be understood as an offer, it cannot be accepted so as to form a contract unless the terms of the contract are reasonably certain.”); *Scott*, *supra* note 110, at 1649–61.

<sup>123</sup> See *Geis*, *supra* note 23, at 1683–86.

<sup>124</sup> See *Kaplow*, *supra* note 16.

<sup>125</sup> See *Verstein*, *supra* note 16.

<sup>126</sup> See *PARISI & FON*, *supra* note 16, at 11; *Kaplow*, *supra* note 16, at 585–86.

<sup>127</sup> This is especially likely to be true when conduct is not homogeneously evaluable—i.e., when changing circumstances also change the desirability of some fixed conduct. See *Luppi & Parisi*, *supra* note 90, at 52 (“Volatility of the external environment creates an increased opportunity for obsolescence of legal rules. This in turn would render standards preferable to specific rules . . . .”); *Ehrlich & Posner*, *supra* note 90, at 270 (“The problems of overinclusion and underinclusion [from using rules rather than standards] are more serious the greater the heterogeneity (or ambiguity, or uncertainty) of the conduct intended to be affected. If speeding were a homogeneous phenomenon—as it would be, for example, if driving at a speed of more than 70 miles per were always unreasonably fast and driving at a lesser speed never unreasonably fast—it could be effectively proscribed by a uniform speed limit with no residual prohibition of unreasonably fast driving. But speeding is in fact heterogeneous. It includes some driving at very low speeds and excludes some very fast driving, depending on a multitude of particular circumstances. A single speed limit or even a large number of separate speed limits exclude a great deal of conduct that is really speeding and include a great deal that is not really speeding.”). Obviously, the development and deployment of Advanced AI might very well entail such volatility.

## V. Renegotiation

Renegotiation<sup>128</sup> provides another potential tool for assimilating new information into existing agreements. This tool is particularly prevalent in international transactions.<sup>129</sup>

In an international setting, renegotiation is typically appropriate when, e.g., “a subsequent event not foreseen by the parties . . . has rendered the obligation of one party so onerous that it may be assumed that if he had contemplated its occurrence, he would not have made the contract.”<sup>130</sup> Readers will, of course, recognize this as similar to the circumstances warranting invocation of Impossibility.<sup>131</sup>

Parties can account for renegotiation either *implicitly* or *explicitly*. In the former case, renegotiation operates like Impossibility: certain fundamentally changed circumstances implicitly grant the disadvantaged party an option to renegotiate material contract terms.<sup>132</sup> Parties can also provide for renegotiation explicitly by specifying circumstances that trigger a duty to renegotiate.<sup>133</sup> As with any contractual provision, the triggering circumstances can be more or less precise—i.e., more rule-like or standard-like.<sup>134</sup> Like all contractual standards,<sup>135</sup> insufficiently precise conditions risk rendering a renegotiation provision unenforceable.<sup>136</sup>

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<sup>128</sup> Often discussed alongside renegotiation are “adaptation clauses”: “a group of contract provisions that allow contract changes by following an automatic or predetermined pattern or which are merely designed for the filling of gaps in contracts.” WOLFGANG PETER, *ARBITRATION AND RENEGOTIATION OF INTERNATIONAL INVESTMENT AGREEMENTS* 231 (1995). Although these might be useful under many circumstances, they are predetermined by contract language and therefore outside the scope of this Report.

<sup>129</sup> See, e.g., Samuel K.B. Asante, *Stability of Contractual Relations in the Transnational Investment Process*, 28 INT’L COMP. L. Q. 401 (1979); Klaus Peter Berger, *Renegotiation and Adaptation of International Investment Contracts: The Role of Contract Drafters and Arbitrators*, 36 VAND. J. TRANSNAT’L L. 1347 (2003); Dionysios P. Flambouras, *The Doctrines of Impossibility of Performance and Clausula Rebus Sic Stantibus in the 1980 Convention on Contracts for the International Sale of Goods and the Principles of European Contract Law—A Comparative Analysis*, 13 PACE INT’L L. REV. 261 (2001); John Y. Gotanda, *Renegotiation and Adaptation Clauses in Investment Contracts, Revisited*, 36 VAND. J. TRANSNAT’L L. 1461 (2003); Laurence R. Helfer, *Response: Not Fully Committed? Reservations, Risk, and Treaty Design*, 31 YALE J. INT’L L. 367 (2006); Kelsey Hogan, *Protecting the Public in Public-Private Partnerships: Strategies for Ensuring Adaptability in Concession Contracts*, 2014 COLUM. BUS. L. REV. 420, 460; Tom Southerington, *Impossibility of Performance and Other Excuses in International Trade*, 2003 REV. CONVENTION CONT. FOR INT’L. SALE GOODS 249; Randel R. Young & Richard Devine, *Managing Risk in Emerging Market Hydrocarbon Development Projects*, 55 PROC. ROCKY MTN. MIN. L. INST. 30-1 (2009).

<sup>130</sup> Asante, *supra* note 129, at 406; see also Gotanda, *supra* note 129, at 1462.

<sup>131</sup> See Berger, *supra* note 129, at 1350–55; see generally *supra* Part III.A.

<sup>132</sup> See Asante, *supra* note 129, at 411–16; Berger, *supra* note 129, at 1356–57; Herbert Smith & Gleiss Lutz, *Litigation Resulting from the Credit Crunch: A Comparative Study*, PRACTICAL LAW UK ARTICLES 2-385-9870 § 1 (2009). Parties might also unanimously decide to renegotiate or adjust an agreement because a more efficient allocation of rights and duties is possible under changed circumstances. See Craswell, *supra* note 33, at 158–59; Oliver Hart & John Moore, *Incomplete Contracts and Renegotiation*, 56 ECONOMETRICA 755, 756 (1988). The right to do so is usually protected by contract law and, indeed, usually unwaivable. See Christine Jolls, *Contracts as Bilateral Commitments: A New Perspective on Contract Modification*, 26 J. LEGAL STUD. 203, 208 (1997).

<sup>133</sup> See Berger, *supra* note 129, at 1357–63.

<sup>134</sup> See *id.* at 1362–63.

<sup>135</sup> See *supra* Part IV.

<sup>136</sup> See Gotanda, *supra* note 129, at 1466.

Klaus Peter Berger suggests that, in the international context, a contractual duty to renegotiate usually suggests the following duties:

1. Keeping to the negotiation framework set out by the clause,
2. Respecting the remaining provisions of the contract,
3. Having regard to the prior contractual practice between the parties,
4. Making a serious effort to reach agreement,
5. Paying attention to the interests of the other side,
6. Producing information relevant to the adaptation,
7. Showing a sincere willingness to reach a compromise,
8. Maintaining flexibility in the conduct of negotiations,
9. Searching for reasonable and appropriate adjustment solutions,
10. Making concrete and reasonable suggestions for adjustment instead of mere general declarations of willingness,
11. Avoiding rushed adjustment suggestions,
12. Giving appropriate reasons for one's own adjustment suggestions,
13. Obtaining expert advice in difficult and complex consensus proceedings,
14. Responding promptly to adjustment offers from the other side,
15. Making an effort to maintain the price-performance relationship taking into consideration the parameters regarded as relevant by the parties,
16. Avoiding an unfair advantage or detriment to the other side ("no profit-no loss" principle),
17. Prohibition on creating established facts during negotiations except in emergency situations (ban on "escalation" strategies),
18. Maintaining efforts to reach agreement over an appropriate length of time, and
19. Avoiding unnecessary delays in the consensus proceedings.<sup>137</sup>

Mediators will sometimes facilitate the renegotiation process to help parties reach an agreement.<sup>138</sup>

Renegotiation clauses can also call for the negotiations to be guided by certain standards.<sup>139</sup> Take, for example, the following clause from the 1994 Model Exploration and Production Sharing Agreement with Qatar:

Whereas the financial position of the Contractor has been based, under the Agreement, on the laws and regulations in force at the Effective Date, it is agreed that, if any future law, decree or regulation affects Contractor's financial position, and in particular if the customs duties exceed . . . percent during the term of the Agreement, both Parties shall enter into negotiations, in good faith, *in order to reach an equitable solution that maintains the economic equilibrium of this Agreement*.<sup>140</sup>

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<sup>137</sup> Berger, *supra* note 129, at 1365–66.

<sup>138</sup> Cf. *Alternative Dispute Resolution*, WEX (June 2017), <https://perma.cc/SG75-K8TE>.

<sup>139</sup> Cf. Flambouras, *supra* note 129, at 283.

<sup>140</sup> Berger, *supra* note 129, at 1360 (emphasis added) (quoting Piero Bernardini, *The Renegotiation of the Investment Contract*, 13 ICSID REV. 411, 416 (1998)).

There is, of course, an obvious risk to renegotiation clauses: the possibility that parties will not reach an agreement<sup>141</sup> despite good-faith efforts to do so.<sup>142</sup> “Some tribunals have concluded that when parties are unable to reach an agreement in renegotiation, there is no breach of contract because ‘[a]n obligation to negotiate is not an obligation to agree.’”<sup>143</sup>

If parties fail to reach an agreement during renegotiation, the contractual relationship can take a number of paths. The choice ultimately depends on the relevant governing law and adjudicative body. When a hardship (e.g., force majeure) clause triggers renegotiation, sometimes suspension or termination of the contract results.<sup>144</sup> More commonly, however, the contract explicitly calls for the dispute to be then submitted to a third party (especially an arbitrator or arbitral body) for resolution.<sup>145</sup> The next Part deals with such alternatives. But these are by no means the only options, and parties could agree *ex ante* on many other methods of resolution (including those previously outlined in this Report) in case negotiations fail.<sup>146</sup> Obviously, the likely outcome in case of failure enormously effects parties’ comparative bargaining power during renegotiation.<sup>147</sup>

Renegotiation allows parties to specify contractual duties and rights in changed circumstances with the benefit of increased knowledge. However, they must be used with caution (and not just because the risk of negotiation failure creates a risk of an open term). If one party’s bargaining power radically changes between *ex ante* agreement and *ex post* renegotiation (e.g., if their best alternative to a negotiated agreement improves), then the other party might not be able to secure similarly favorable terms.<sup>148</sup> However, careful

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<sup>141</sup> *See id.* at 1367–68.

<sup>142</sup> “Party liability for damages arising from a breach of the contractual obligations derived from the [renegotiation] clause only comes into consideration in exceptional cases.” *Id.* at 1368. This is appropriate only

where the non-agreement is proven to be caused by a gross breach of obligation in bad faith by the other side. This could be the case, for example, where proceedings are unjustifiably delayed, when negotiations are intentionally obstructed or where proposals by one side are obviously rejected for reasons other than normal business judgement.

*Id.* at 1369 (footnotes omitted).

<sup>143</sup> Gotanda, *supra* note 129, at 1465 (quoting *Kuwait v. American Independent Oil Company (Aminoil)*, 21 I.L.M. 976, 1004 (Arb. Trib. 1982)). *But see* Berger, *supra* note 129, at 1367 (2003) (“In the interests of an efficiency-oriented interpretation of such clauses, German law provides that an obligation of the parties to reach agreement exists in this respect if the adjustment criteria and adjustment aim have been defined to sufficient clarity.”). Relatedly, so-called “agreements to agree” are not binding in American law. *See* JOHN BOURDEAU ET AL., 17A AM. JUR. 2D CONTRACTS § 38.

<sup>144</sup> PETER, *supra* note 128, at 248.

<sup>145</sup> *See id.* at 248–58; Berger, *supra* note 129, at 1360, 1370–78.

<sup>146</sup> Of course, in some sense all legal disputes take place against the backdrop of possible litigation. For example, if the alternative to an agreement by renegotiation is a contractual standard, *see generally supra* Part IV, parties might still disagree over what such standards concretely require. In such a case, they might therefore refer the dispute to a court or arbiter.

<sup>147</sup> *See* Guggenheimer, *supra* note 27, at 208 n.313. This is an instance of the more general idea from negotiation theory that a party’s best alternative to a negotiated agreement (“BATNA”) affects her bargaining position. *See, e.g.,* Russell Korobkin, *Bargaining Power as Threat of Impasse*, 87 MARQ. L. REV. 867, 868–69 (2004).

<sup>148</sup> Indeed, this is often the motivation for renegotiations in the international investment context. *See, e.g.,* Asante, *supra* note 129, at 408 (“[A] number of transnational contracts were concluded as incidents of the colonial system in which metropolitan companies were offered privileged investment interests in the colonies and accordingly given such grotesquely favourable terms as could hardly survive the collapse of colonialism. . . . In these circumstances, host



agreement design can mitigate this risk by specifying default rules that restore the desired ex post bargaining position of each party. For example, a contract could stipulate that the (otherwise-)advantaged party will have to pay heavily in case negotiations fail.

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governments of newly independent countries consider renegotiation or restructuring of these arrangements as a legitimate part of the decolonisation process.”).

## VI. Third-Party Resolution

If parties fail to agree on contractual obligations, then third-party resolution offers a final way of harnessing ex post decision-making. Of course, this could include litigation. However, I will not focus on litigation here for two reasons. First, as most relevant here, litigation encompasses judicial enforcement of agreements containing other contractual tools detailed above. Discussing litigation here would therefore be largely duplicative. Secondly, avoiding litigation is often highly desirable due to its costs.

This Part therefore focuses on a number of common<sup>149</sup> third-party adjudicative techniques that fall under the umbrella of “alternative dispute resolution” (“ADR”):<sup>150</sup> expert determination,<sup>151</sup> dispute boards,<sup>152</sup> and arbitration.<sup>153</sup> Note that these are non-exclusive; parties can consider providing for a multi-tiered, “escalating” ADR process that begins with negotiation and culminates (if all else fails) in arbitration or litigation.<sup>154</sup>

### A. Expert Determination

“Expert determination is an informal process that produces a binding decision.”<sup>155</sup> As the term suggests, the main idea is that an expert settles the parties’ dispute. Appraisal is one form of expert determination (“ED”);<sup>156</sup> ED is popular for resolving valuation disputes.<sup>157</sup> ED is also common where technical or scientific knowledge is necessary.<sup>158</sup>

ED has a number of advantages over other forms of ADR, including:<sup>159</sup>

- An expert’s determination is binding;<sup>160</sup>

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<sup>149</sup> The following list is by no means exhaustive. There is no reason, for example, that parties could not agree to be bound by a decision rendered by some third party outside of these mechanisms. However, the mechanisms detailed here are common and therefore often operate according to well-established rules and in the shadow of established legal principles and expertise. This often makes established third-party adjudicative mechanisms more stabilizing than ad hoc ones. However, in highly idiosyncratic transactions, deviation from established modes of third-party resolution might be necessary or desirable.

<sup>150</sup> See generally *ADR Mechanisms in the US: Overview*, PRACTICAL LAW PRACTICE NOTE OVERVIEW 1-617-5663 (2018). Note that negotiation and mediation are also considered ADR mechanisms. See *id.* § 2.

<sup>151</sup> See generally *id.*

<sup>152</sup> See generally *id.*

<sup>153</sup> See generally *id.*; Allen & Overy LLP, *Arbitration: A Ten-Minute Guide*, PRACTICAL LAW UK PRACTICE NOTE OVERVIEW 7-203-8663 (2017); White & Case LLP, *Understanding US Arbitration Law*, PRACTICAL LAW PRACTICE NOTE OVERVIEW 4-500-4468 (2018); *Why Arbitrate?*, PRACTICAL LAW UK PRACTICE NOTE 1-204-0032 (2018).

<sup>154</sup> See generally Lucy Greenwood, *Hybrid, Multi-tiered and Carve-out Dispute Resolution Clauses*, PRACTICAL LAW UK PRACTICE NOTE 9-384-8595 (2017).

<sup>155</sup> *ADR Mechanisms in the US*, *supra* note 150, § 2.

<sup>156</sup> See *id.*

<sup>157</sup> See generally Practical Law, *Expert Determination*, PRACTICAL LAW UK PRACTICE NOTE 8-107-4185 § 1 (2017).

<sup>158</sup> See *id.* (“Outside of the valuation sphere, common business and industry areas where expert determination may be used for the purpose of obtaining an expert scientific or professional opinion include broadcasting and telecoms, IT, government procurement and PFI/PPP, energy and natural resources and banking and finance. Disputes involving long term contracts in these areas may require an expert to give his opinion on certain specialist or technical matters.”).

<sup>159</sup> For a more extensive discussion of the pros and cons of ED, see *id.* § 2.

<sup>160</sup> See *id.*

- It allows for resolution by someone with specialized knowledge of the relevant subject;<sup>161</sup>
- “It is usually cheaper, quicker and less formal than arbitration or litigation;”<sup>162</sup> and
- “There is, arguably, a greater chance of finality” as compared to court or arbitral decisions.<sup>163</sup>

Downsides include:

- “The law on expert determination is not as well developed as the law on other dispute resolution mechanisms such as arbitration;”<sup>164</sup>
- Less clear rules for the expert’s jurisdiction, as compared to arbitration;<sup>165</sup>
- Although binding, ED is not self-enforcing;<sup>166</sup> and
- The finality of an ED also limits opportunity for appeal.<sup>167</sup>

Parties must, of course, either agree on an expert when disputes arise<sup>168</sup> or “provide that, if the parties cannot agree upon the identity of the expert, a specified body will identify a suitable candidate on the application of either party.”<sup>169</sup> Parties can also require that the expert be independent.<sup>170</sup>

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<sup>161</sup> *See id.*

<sup>162</sup> *Id.*

<sup>163</sup> *See id.*

<sup>164</sup> *Id.*

<sup>165</sup> *See id.*

<sup>166</sup> *See id.* (“Experts’ decisions cannot generally be enforced without further court action or arbitration proceedings on the decision—whether domestically or internationally. An expert’s decision becomes part of the contract such that, if a party fails to comply with the decision, then a further court judgment or arbitral award is likely to be required before a party is able to enforce the decision. There is no convention for the enforcement of an expert’s decision abroad such as that which exists in relation to arbitral awards.”).

<sup>167</sup> *See id.*

<sup>168</sup> *See id.* § 4.

[G]enerally, referring issues to a named expert is not advisable unless the dispute has already arisen. This is because a considerable amount of time may pass between the making of the original contract and the time a dispute arises and, in the interim, the nominee may have died, retired, become ill, have developed a conflict of interest, become unsuitable/unavailable or simply refuse to conduct the determination.

*Id.*

<sup>169</sup> *Id.*

If there is no such provision, the court has no power (unlike in relation to the appointment of arbitrators) to appoint an expert, and there is a significant risk that the process will break down. It is therefore important to name the appointing authority accurately in the clause and to ensure (so far as possible) that it will be in a position to act as the appointing authority if called upon to do so in due course, and that it would also be willing to do anything else in relation to the expert determination which the parties might like it to do.

*Id.*

<sup>170</sup> *See id.*

As mentioned above, an ED is generally not appealable. For example, under UK ED law, an expert’s decision is likely to be overturned by courts only in very narrow circumstances.<sup>171</sup> Examples of such circumstances are:

- Fraud or collusion;
- Partiality;
- Significant departure from parties’ instructions; or
- Failure to state reasons.<sup>172</sup>

Parties can also contractually provide that courts may overturn an ED on “manifest error”<sup>173</sup>—a very high bar.

## B. Dispute Boards

Dispute boards are usually project-specific adjudicative bodies that provide quick resolution to disputes related to the project.<sup>174</sup> They are especially common in construction and infrastructure projects<sup>175</sup> outside the US.<sup>176</sup> Their popularity has increased rapidly in recent decades.<sup>177</sup> Andrew Verstein also notes that dispute boards feature in adjudications of credit default swap obligations.<sup>178</sup>

“Dispute boards are panels of neutral experts, typically three, chosen by the parties and convened at the start of a . . . project.”<sup>179</sup> Parties can provide for board opinions on a dispute to have varying degrees of bindingness, including:

- Merely advisory;<sup>180</sup>
- Binding in the interim (i.e., pending further adjudication);<sup>181</sup>
- Binding unless a party formally expresses dissatisfaction with the result;<sup>182</sup> or
- Binding and final.<sup>183</sup>

Like ED, binding dispute board decisions are not self-enforcing.<sup>184</sup>

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<sup>171</sup> See generally *id.* § 7.

<sup>172</sup> *Id.*

<sup>173</sup> See *id.*

<sup>174</sup> See generally *Dispute Boards: What Are Dispute Boards?*, PRACTICAL LAW UK PRACTICE NOTE OVERVIEW 7-380-9948 (2018); *Overview and Comparison of ADR Processes*, PRACTICAL LAW UK PRACTICE NOTE OVERVIEW 0-203-8727 § 5 (2018).

<sup>175</sup> See, e.g., Gabriel Swiney, *The Dubious Upgrade of International Development Contracts*, 3 B.Y.U. INT’L L. & MGMT. REV. 145, 159–62 (2007); Verstein, *supra* note 16, at 1896–1908.

<sup>176</sup> See Swiney, *supra* note 175, at 161. However, they are increasingly common in American construction projects. See Verstein, *supra* note 19, at 1904, 1907–08.

<sup>177</sup> See *id.* at 1907–08.

<sup>178</sup> See *id.* at 1908–15.

<sup>179</sup> *Id.* at 1896.

<sup>180</sup> See *Dispute Boards: What Are Dispute Boards?*, *supra* note 174, § 6.

<sup>181</sup> See *id.*; Verstein, *supra* note 16, at 1896 n.134.

<sup>182</sup> See Swiney, *supra* note 175, at 162; Verstein, *supra* note 16, at 1896 n.134.

<sup>183</sup> See Loukas A. Mistelis, *ADR in England and Wales*, 12 AM. REV. INT’L ARB. 167, 204 (2001).

<sup>184</sup> See *Dispute Boards: What Are Dispute Boards?*, *supra* note 174, § 6.

Dispute boards are especially helpful when interpreting vague contractual standards (“such as ‘equitable,’ ‘reasonably anticipated,’ or ‘workmanlike quality’”) <sup>185</sup> in the context of a specific profession or industry. <sup>186</sup>

Advantages of this tool include:

- It establishes a culture of claim avoidance.
- It may facilitate positive relations, open communication, trust and co-operation between the parties.
- It can help settle issues promptly, before they escalate into disputes.
- It can provide an informal forum with well-informed individuals, who are familiar with the project, to resolve disputes.
- It is often cost effective. Resources can remain focused on the job, rather than concentrating on resolving disputes.
- The determination will be influential in subsequent proceedings, if these are necessary.
- The existence of the dispute board may influence the parties’ behaviour, so that issues are dealt with and the number of disputes is minimised. In practice, this may only be true on the largest of projects, because of the “standing costs” of a dispute board. <sup>187</sup>

Disadvantages include:

- It can be costly. The parties are jointly liable for the direct costs of the board members plus any additional time spent resolving disputes.
- Dispute board members may make a determination that is contractually or factually incorrect, or try to impose their own ideas on the parties.
- The determination may be nothing more than a compromise between the parties’ positions.
- The dispute board’s enquiry is limited and takes place without the opportunity for a proper, judicial examination of evidence.
- The process is a “claims review” rather than dispute resolution, since the dispute board generally gets involved late in the process, after one party has prepared a detailed claim. <sup>188</sup>

Note that several of these considerations might apply to ED as well.

## C. Arbitration

Arbitration is a prominent tool of contemporary ADR. It is a contractual alternative to traditional litigation: <sup>189</sup> instead of submitting disputes to a court, parties submit them to an arbitral tribunal. However, arbitration differs from litigation in that parties can specify, in their arbitration clause, the rules, procedure, jurisdiction, applicable law, tribunal composition, and scope of arbitral proceedings (i.e., which questions the tribunal may

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<sup>185</sup> Verstein, *supra* note 16, at 1898.

<sup>186</sup> *See id.* at 1896–1915.

<sup>187</sup> *Dispute Boards: What Are Dispute Boards?*, *supra* note 174, § 8.

<sup>188</sup> *Id.*

<sup>189</sup> *See* Allen & Overy LLP, *supra* note 153, § 2.

decide).<sup>190</sup> “Like a [court] judgment, the decision of an arbitral tribunal is final and binding.”<sup>191</sup> Arbitral awards are also directly enforceable.<sup>192</sup>

The arbitration regime is enabled by international treaty,<sup>193</sup> national statute,<sup>194</sup> and state law.<sup>195</sup> Established<sup>196</sup> arbitral bodies have developed and published rules, helping the arbitration process run smoothly.<sup>197</sup> Furthermore, given the prevalence of arbitration (especially in the international sphere), a number of large law firms specialize in it.<sup>198</sup>

In summary, arbitration combines much of the desirable impartiality<sup>199</sup> and procedural regularity of litigation with the flexibility of contract. It may be undesirable when parties are uncooperative, precedential decisions are desirable, or the dispute involves many parties.<sup>200</sup>

## D. Third-Party Resolution Generally

Third-party ex post adjudication allows parties to avoid the need to draft fully contingent contracts ex ante and instead rely on properly contextualized human decision-making to resolve open disputes.<sup>201</sup> When properly drafted, they can therefore empower third-parties to preserve parties’ ex ante intents even when circumstances change. In this way, they are stabilizing.

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<sup>190</sup> See generally *id.*

<sup>191</sup> *Id.*

<sup>192</sup> See *Why Arbitrate?*, *supra* note 153, § 2. Indeed, “enforceability of arbitral awards was identified as the most popular reason why [surveyed parties] preferred arbitration over litigation or other dispute resolution methods.” *Id.*

<sup>193</sup> Namely, the New York Convention on the Recognition and Enforcement of Foreign Arbitral Awards, June 10, 1958, 21 U.S.T. 2517, 330 U.N.T.S. 38.

<sup>194</sup> In the US, 9 U.S.C. §§ 1-16, 201-208, 301-307.

<sup>195</sup> See generally *White & Case LLP*, *supra* note 153, § 1.

<sup>196</sup> Parties might instead elect to use an ad hoc arbitral tribunal. See, e.g., PETER, *supra* note 128, at 277.

<sup>197</sup> See *id.* (“If both contracting parties are willing to agree to an institutional arbitration, such choice represents the advantage that the arbitration procedure is likely to work smoothly, since the arbitration rules of the various institutions are designed to guide the procedure through main difficulties.”).

<sup>198</sup> See, e.g., *International Arbitration*, CLEARY GOTTlieb, <https://perma.cc/F7LT-F3XE> (archived Nov. 25, 2018); *International Arbitration & ADR*, KIRKLAND & ELLIS LLP, <https://perma.cc/NF6D-UMR3> (archived Nov. 25, 2018).

<sup>199</sup> However, a large body of literature criticizes arbitration as unfair to consumers and employees. See, e.g., Sarah Rudolph Cole, *Incentives and Arbitration: The Case Against Enforcement of Executory Arbitration Agreements Between Employers and Employees*, 64 UMKC L. REV. 449 (1996); Sarah R. Cole & Kristen M. Blankley, *Empirical Research on Consumer Arbitration: What the Data Reveals*, 113 PENN ST. L. REV. 1051, 1053–62 (2009); Paul H. Haagen, *New Wineskins for New Wine: The Need to Encourage Fairness in Mandatory Arbitration*, 40 ARIZ. L. REV. 1039 (1998); David S. Schwartz, *Enforcing Small Print to Protect Big Business: Employee and Consumer Rights Claims in an Age of Compelled Arbitration*, 1997 WIS. L. REV. 33;

<sup>200</sup> See *Why Arbitrate?*, *supra* note 153, § 3.

<sup>201</sup> Cf. Hadfield-Menell & Hadfield, *supra* note 16, at 10–11 (emphasizing the importance of common-sense human reasoning to the interpretation of incomplete contracts).

# Conclusion

This Report outlined five common ways to stabilize agreements in the face of dramatically changing circumstances by allowing key binding decisions to be made in the future:

- Options
- Impossibility doctrines
- Contractual standards
- Renegotiation
- Third-party resolution

Knowledge of these tools will hopefully enable readers (especially those who are not lawyers) to better understand the options available to them. In short, they do not necessarily have to specify all rights and duties under all Advanced AI contingencies; the above mechanisms allow for binding-but-flexible agreements that can, hopefully, meaningfully survive even radically changed circumstances.