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# CONTRACTING AROUND TORT DEFAULTS: THE KNOCK-FOR-KNOCK PRINCIPLE AND ACCIDENT COSTS

Gideon Parchomovsky &  
Endre Stavang



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Abstract

*Tort liability coupled with third party insurance is the prevalent way of regulating harmful activities in our, and other, legal systems. The imposition of tort liability is supposed to discipline actors by prodding them to adopt the socially optimal level of precautions, while the availability of third party insurance guarantees compensation to victims. Together, private liability and third party insurance accomplish the dual goals of deterrence and compensation. Curiously, the gas and oil industry elected to largely opt out of the tort system, as well as of third party insurance and adopt, in their stead, the “knock for knock” principle under which each party bears its own cost in the event of an accident and must insure against its own losses. The “knock-for-knock” principle resurrects contractually the world of first party insurance, one in which tort suits simply do not exist.*

*In addition to documenting the phenomenon and explaining it, the Essay seeks to assess the efficiency of the knock-for-knock regime. Members of the gas and oil industry firmly believe that the knock-for-knock rule is beneficial from the industry’s standpoint on account of the litigation cost savings it effects. Surprisingly, no one, to date, has sought to determine the desirability of the rule from a societal standpoint. In order to determine the welfare effect of the rule it is necessary to balance the savings to the industry against the loss in deterrence that stems from the rule. The Essay concludes that the knock-for-knock principle is welfare-enhancing only under very specific conditions that are unlikely to obtain in the gas and oil industry. We therefore recommends that knock-for-knock clauses should be tolerated, if at all, only in developed countries where they produce the highest private gains for members of the gas and oil industry, while arguably posing a manageable public risk. By contrast, they should be banned in developing countries where, by the lights of our analysis, they yield modest private gains while posing a significant risk of harm.*

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<sup>1</sup> Robert G. Fuller Jr Professor of Law University of Pennsylvania School of Law; Professor, Bar Ilan, Faculty of Law, Israel.

<sup>2</sup> Professor of Law, University of Oslo (in Residence at University of Arizona Rogers College of Law 2012-2013, supported by the Norway-America Association). We are grateful to Ian Ayres, Tom Baker, Shyam Balganesh, Derek and Jane Bambauer, Abraham Bell, Miriam Bitton, Ellen Bublick, Hans Christian Bugge, Fabrizio Cafaggi, Guido Calabresi, Alon Cohen, Simon Deakin, Erling Eide, John Goldberg, Olav Hasaas, Sharon Hannes, Keith Hylton, Jacob Nussim, Ariel Porat, Christopher Robertson, Carol Rose, Erik Røsæg, Peter Siegelman, Henry E. Smith, Stephen Smith, Roy Spece, Alex Stein, and participants at the law and economics workshops at Bar Ilan and Tel Aviv faculties of law and the first annual meeting of the Private Law Consortium for invaluable comments and contributions. While carrying out this research Professor Stavang have been associated with CREE — Oslo Centre for Research on Environmentally Friendly Energy. The CREE Centre acknowledges financial support from The Research Council of Norway.

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## INTRODUCTION

Unbeknownst to most people, the gas and oil industry has largely opted out of standard tort liability. For several decades now, members of the gas and oil industry have contractually suspended the rules of negligence and strict liability in their dealings with one another and endorsed the knock-for-knock rule under which losses lie where they fall to govern their internal interactions. As a result, gas and oil companies are subject to a dual liability regime: vis-à-vis third parties industry participants are subject to standard tort liability. Vis-à-vis each other, however, they operate under the knock-for-knock principle.

The knock-for-knock principle eliminates the option of bringing private tort suits for harms incurred by gas and oil companies in their *inter-se* relationships. Instead, it forces parties to incur the cost of the harms they suffered at the hands of other contractual parties. From an insurance perspective, the knock for knock principle relies exclusively on first party insurance, an intriguing feature that runs contrary to contemporary theorizing and practice.<sup>3</sup> Given the moral hazard problem generated by the knock-for-knock regime, one would not expect it to see it in the real world. Yet, it exists.

At first glance, the adherence of the gas and oil industry to the knock-for-knock system should strike one as an oddity. Economically minded tort theorists would expect the knock for knock system not to come into existence or to unravel the moment a major accident occurs. By its very design, the knock-for-knock rule gives rise to a serious moral hazard problem. Left to their own devices, profit-maximizing actors who operate under this system are expected to under-invest in precautions and fall short of the optimal standard of care. Foreseeing this problem, rational actors would be expected to shun the knock-for-knock principle and subject themselves to the formal tort system while buying third party insurance. Yet, insiders in the gas and oil industry maintain that the knock-for-knock system is efficient, indeed, vital to the successful operation of the gas and oil sector.<sup>4</sup>

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<sup>3</sup> See Jeffrey O'Connell & John Linehan, *Neo No-Fault Early Offers: A Workable Compromise Between First and Third-Party Insurance*, 41 GONZ. L. REV. 103, 107-08 (tracing the rise in the focus on third-party insurance in our tort framework). See also Nora Freeman Engstrom, *An Alternative Explanation for No-Fault's "Demise,"* 61 DEPAUL L. REV. 303 (2012) on the history of the American no-fault experiment explaining why automobile no-fault faltered as an effective legislative movement shedding light also on tort's durability

<sup>4</sup> See e.g. Cary A Moomjian, *Contractual Insurance and Risk Allocation in the Offshore Drilling Industry*, DRILLING CONTRACTOR, Jan./Feb. 1999, at 19-21; Trine-Lise Wilhelmsen, *Liability and Insurance Clauses in*

In this Essay, we explore the content and structure of the knock for knock regime. Furthermore, we specify the conditions under which it may be preferable to standard tort liability coupled with third party insurance. Our ultimate goal, however, is to conduct a comprehensive examination of the welfare implications of the knock-for-knock principle. We conclude that despite the endorsement of the principle by the gas and oil industry, from a societal standpoint the case for knock-for-knock is at best questionable.

The Essay commences by tracing the historical origins of the knock-for-knock principle and explaining its effects. The discussion then proceeds to analyze the desirability of the knock-for-knock principle from a social perspective, focusing on the potential for negative spillovers. Although the knock-for-knock system is considered efficient by gas and oil insiders since it economizes on litigation costs, it is far from clear that it is also efficient from a social perspective. From a social vantage point the system is desirable if and only if, the private cost savings it affects are not outweighed by the moral hazard problem engendered by the system.<sup>5</sup>

Hence, we review the various legal and non-legal mechanisms capable of ameliorating the moral hazard problem arising from the knock-for-knock regime. The four principal mechanisms are: (1) contractual provisions that exclude intentional harm and harm resulting from ultra-hazardous activities from the knock-for-knock system; (2) deductibles and mandatory precautions requirements in insurance policies; (3) state and federal regulation; and (4) continuous interactions among repeat players that lead to cooperative behavior. We conclude that the knock-for-knock regime would be socially efficient if the activities of the contracting parties that may result in harm could be kept totally distinct from activities that may result in harm to third parties—we dub this condition, “the separating equilibrium hypothesis”—or, alternatively, if the aforementioned mechanisms were powerful enough to force the contracting parties to adopt the *socially* desirable level of precautions in *all* of their

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*Contracts for Vessel Services in the Norwegian Offshore Sector – The Knock for Knock Principle*, Scandinavian Yearbook of Maritime Law (SIMPLY) Conference paper for the Oslo/Southampton/Tulane Conference, October 2, 2012, at 101. Wilhelmsen provides, on the basis of several decades of Maritime Law scholarship in Norway on legal relationships involving knock-for-knock clauses, a very good account of the system and its rationale. *Id.* at 87-94, 95-101. The leading treatment however is, albeit in Norwegian, HANS JACOB BULL, TREDJEMANNSEKNINGER I FORSIKRINGSFORHOLD, (Oslo 1988).

<sup>5</sup> Guido Calabresi famously termed this component «tertiary cost». GUIDO CALABRESI, THE COST OF ACCIDENTS (1970), see also *infra* note 45. On the relevance of various types of administrative costs for legal rule design in this area, see also RONALD H. COASE, THE FIRM, THE MARKET, AND THE LAW 114-119 (1988); STEVEN SHAVELL, ECONOMIC ANALYSIS OF ACCIDENT LAW, 262-291 (1987); MICHAEL FAURE & GÖRAN SKOGH, THE ECONOMIC ANALYSIS OF ENVIRONMENTAL POLICY AND LAW, 141-239 (2003); WILLIAM D. LANDES & RICHARD A. POSNER, THE ECONOMIC STRUCTURE OF TORT LAW (1987); and RICHARD A. POSNER, CATASTROPHE – RISKS AND RESPONSE (2005).

activities (both inter-se and vis-à-vis third parties)—we term this option “the optimal pooling equilibrium hypothesis.”

The Essay seeks to contribute to two distinct literatures. First, we hope to enrich tort theory by studying an unusual liability regime that has hitherto evaded the searching eyes of tort theorists. It is important to explain in this context that knock-for-knock system is not a pure no-liability regime. Nor is it a no-liability regime with first party insurance. Rather, it is a hybrid, or dual-liability, regime under which parties are at once subject to a no-liability regime and negligence or strict liability regime. Thus, the knock-for-knock system creates unique incentives for the parties operating under it that cannot be found in standard liability regimes. It also allows one to test the standard economic models of tort liability in a complex real world setting.

The second line of scholarly inquiry into which this Essay fits is the literature on private ordering or private production of law. Building on Robert Ellickson’s path-breaking study of the extra-legal norms among neighbors in Shasta County concerning trespass by cattle,<sup>6</sup> scholars have set out to study communities that opted out of the legal system and replaced it with a private set of norms. At the risk of mild over-generalization, it can be said that as a rule those studies endorse private ordering as the superior form of rule-making. Our case study is unique in several critical respects. To begin with, our case study involves only a *partial* opt out from the legal system. As importantly, while previous studies focused on largely self-contained communities or interactions, such as disputes among neighbors in an isolated community,<sup>7</sup> or among merchants in the diamond industry,<sup>8</sup> or fishermen in Massachusetts,<sup>9</sup> accidents in the gas and oil industry often affect multiple third parties. One need only recall the British Petroleum (BP) oil spill in the Gulf of Mexico to recall this point. Relatedly, the harm resulting from an accident in the oil industry may be enormous and irreparable. Finally, the oil industry constantly expands its operations to new places. At the time of this writing, new sites are being developed off the coasts of Mexico, Brazil, and north of the border between Russia and Scandinavia. Every such expansion extends the knock-for-knock regime to new territories, effectively transplanting it into new legal systems.

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<sup>6</sup> Robert C. Ellickson, *Of Coase and Cattle: Dispute Resolution Among Neighbors in Shasta County*, 38 STAN. L. REV. 623 (1986).

<sup>7</sup> See, e.g., Glen O. Robinson, *Communities*, 83 VA. L. REV. 269, 306-09 (1997).

<sup>8</sup> Lisa Bernstein, *Opting Out of the Legal System: Extralegal Contractual Relations in the Diamond Industry*, 21 J. LEGAL STUD. 115 (1992).

<sup>9</sup> André Verani, *Community-Based Management of Atlantic Cod by the Georges Bank Cod Hook Sector: Is It a Model Fishery?*, 20 TUL. ENVTL. L.J. 359, 369-70 (2007).

At the end of the day, our analysis sounds a cautionary note as to the social desirability of the knock-for-knock principle. And while we stop short of calling for a legislative or regulatory ban, we believe that there is a strong *prima facie* case against extending the knock-for-knock principle to other industrial settings.

### I. THE KNOCK FOR KNOCK PRINCIPLE

George Fletcher famously theorized that tort liability is predicated on the principle of average reciprocity of risk.<sup>10</sup> On this principle, tort liability should not attach to actors who accidentally expose each other to risks roughly similar in their gravity, while making reasonable efforts to avoid risky behavior. According to Fletcher, such risks are reciprocal in nature and accordingly their materialization should not trigger tort liability.<sup>11</sup> When, by contrast, an actor exposes another to a risk to which she is not herself exposed and harm follows, tort liability should be imposed since the risk was not reciprocal.<sup>12</sup> Of course, whether a risk is reciprocal or not depends on the relevant positions of the parties vis-à-vis one another and the nature of their activities. For example, the risk of an accident is reciprocal between two drivers, but non-reciprocal as between a driver and a pedestrian.<sup>13</sup> Hence, if accident occurred in the former case there would be no liability, whereas in the latter case liability would attach to the injurious driver.<sup>14</sup>

As it was first developed, the knock-for-knock system seemed to be the perfect embodiment of Fletcher's "reciprocity" principle. It was developed in London during World War II as a mechanism for reducing litigation costs arising from the frequent naval accidents. Responding to the threat of German submarines, the English ships sailed in the dark with all lights switched off in a very tight cluster.<sup>15</sup> This response reduced the exposure of the ships to harm from submarines but increased the rate of collisions. Instead of engaging in expensive and prolonged litigation over those harms, the parties decided to subject themselves to the

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<sup>10</sup> George Fletcher, *Fairness and Utility in Tort Theory*, 86 HARV. L. REV. 537 (1972).

<sup>11</sup> *Id.* at 542.

<sup>12</sup> *Id.* at 548.

<sup>13</sup> See Gideon Parchomovsky, *Fair Use, Efficiency and Corrective Justice*, 3 LEGAL THEORY 347 (1997) (using this example as an illustration of a reciprocal risk).

<sup>14</sup> *Id.*

<sup>15</sup> See generally FRANK H. SHAW, *THE CONVOY GOES THROUGH* (1942), available at <http://www.convoyweb.org.uk/extras/index.html> (recounting firsthand experiences on World War II naval convoys).



knock-for-knock principle, essentially agreeing that each party will bear its own costs.<sup>16</sup> In this original setting, the risk to which each ship exposed the other was reciprocal in nature, albeit not identical.<sup>17</sup>

The knock-for-knock principle was extended to other settings. Until the 1960s, the knock-for-knock principle governed automobile accidents in the United Kingdom,<sup>18</sup> forcing drivers to buy first party insurance against accidents or bear their own losses. This system was subsequently abolished.<sup>19</sup> The knock-for-knock principle was also extended to oil and gas companies and to different segments of the general shipping industry. In both industries, the knock-for-knock principle persists to this date. However, only in the gas and oil industry it became ubiquitous.<sup>20</sup>

### A. The Industrial Setting

Mature petroleum provinces, such as the North Sea and the Gulf of Mexico contain various patterns or mixes of gas and oil deposits and intricate infrastructure for extracting and transporting the resource. At the heart of the system stands the rig that is used for drilling. It is surrounded by a web of pipelines for transporting the extracted oil and gas. Ships are often used as an alternative means of resource transportation, as well as a means for transporting workers and equipment. This interconnected infrastructure is then connected to the larger world through ports and onshore pipeline endpoints, typically with some large industrial facility for handling, treatment, and further transportation on land.

The gas and oil industry creates various positive and negative economic effects on its surroundings. On the positive side, it creates jobs and can generate revenues for local businesses and communities in the vicinity of the gas and oil site. Furthermore, the gas and oil industry often directly invests in neighboring communities. On the negative side, the

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<sup>16</sup> See, e.g., Treaty with Great Britain on Marine Transportation and Litigation, U.S.-Gr. Brit., Dec. 4, 1942, 56 Stat. 1780 (1942). This is perhaps the best example of Fletcher's "average reciprocity of harm." See Fletcher, *supra* note 10, at 542.

<sup>17</sup> The precise risk to which each ship was exposed depended on its position in the fleet. Ships that sailed at the center of the fleet were exposed to a greater risk.

<sup>18</sup> Richard Lewis, *Insurer's Agreements Not to Enforce Strict Legal Rights: Bargaining with Government and in the Shadow of the Law*, 48 MOD. L. REV. 275, 285-86 (1985).

<sup>19</sup> Insurance companies, however, still use knock-for-knock arrangements in their inter-se relationships to economize on administrative costs. *Id.*

<sup>20</sup> Wilhelmsen, *supra* note 4.

operation of oil and gas sites may have an adverse effect on the environment by destroying marine resources. It also potentially discourages tourism and may dislocate local populations.

The ownership interests are managed by joint venture agreements between two or more companies.<sup>21</sup> Typically, there are separate joint venture agreements for the field and for each pipeline, though in Norwegian waters most of the pipeline infrastructure is managed through a single comprehensive joint venture agreement among all the oil companies with an ownership stake in the pipelines. The knock for knock system requires joint venture-related agreements to contain knock-for-knock clauses that bind all the parties involved in the venture.

### **B. Illustrating the Operation of Knock-for-Knock**

As stated, the general thrust of knock-for-knock is to expose the contracting parties to as little tort liability as is legally possible, and replace it with first party insurance.<sup>22</sup> To illustrate the effect of the knock-for-knock, let's assume that a drilling company contracts to perform drilling services for an oil company, as was the case in the Deepwater Horizon blowout that occurred in 2010. Both the drilling company and the oil company have insurance against harm. Each company uses subcontractors, who use still other subcontractors. At any given time, there is a mix of the drilling company's and oil company's employees, as well as employees of the various subcontractors on the drilling platform. Thus, an accident will sometimes initially impose costs on the oil company or its subcontractors, and at other times the cost will most immediately fall on the drilling company or its subcontractors.

In this setting, knock-for-knock basically accomplishes two things. First, if the oil company's employees or property are harmed, the knock-for-knock clauses exclude tort liability, preventing the oil company from suing the drilling company in torts. Since the oil company's insurance provider (under a first party contract) cannot obtain a subrogated claim

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<sup>21</sup> The joint ventures are typically not deemed to be separate legal entities.

<sup>22</sup> Specifically, a typical agreement would employ the following language: "Contractor shall indemnify Company Group from and against any claim concerning: a) personal injury to or loss of life of any personnel of Contractor Group, b) loss of or damage to any property of Contractor Group," ETC. Sometimes these wordings would exclude liability and order indemnification altogether without any exceptions. At other times, the clauses would include exceptions for intentional harms and gross negligence by the employees with whom the company in question could be identified with, i.e. top management people. See sources indicating such capping and restriction of the scope for knock-for-knock agreements. For a current exposition of knock-for-knock clauses in contracts for vessel services in the Norwegian offshore sector, see Wilhelmsen, *supra* note 4, at 87-94.

against the drilling company, no tort claim arises.<sup>23</sup> Losses are financed through the oil company's insurance contract. The same holds true if the drilling company's employees or property are harmed. Second, in the case of harm to the oil company's employees or subcontractors, the oil company undertakes to indemnify the drilling company in the event of a lawsuit against it by a "member" of the oil company family.<sup>24</sup> Thus, the drilling company does not have to call on its liability insurance. In this case, too, no lawsuit would be brought, either by the drilling company or by its insurance company (based on subrogation). The same holds true if a member of the drilling company's family sues the oil company or one of its members. Therefore, knock-for-knock clauses not only bar direct tort suits by the contracting parties, but also prevent the enforcement of subrogated claims that would produce much of the same financial effects as tort claims.<sup>25</sup>

The function of the knock-for-knock principle is to allocate harm, *ex ante*, to the "victim," while spreading losses through first party insurance.<sup>26</sup> By affecting cost-savings through the elimination of litigation and cheaper insurance,<sup>27</sup> the knock-for-knock system increases the profits of the gas and oil industry and has become the darling of industry.<sup>28</sup> But, the picture painted by industry insiders is too rosy. Knock for knock arrangements give rise to a moral hazard problem.<sup>29</sup> By exempting industry from liability for harms they negligently inflict on others, they take away their incentive to act responsibly. Hence, from a social perspective, a knock-for-knock arrangement is welfare-enhancing if it does not raise the number or severity of accidents or if the deterrence deficit it effects is smaller than the cost savings it generates.<sup>30</sup>

The knock-for-knock principle only applies to the internal relationship among the contracting parties. It does not extend to harm caused to outsiders.<sup>31</sup> In their interactions with

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<sup>23</sup> *Id.* at 93-94.

<sup>24</sup> *Id.* at 91-93.

<sup>25</sup> *Id.* at 85-86.

<sup>26</sup> *Id.* at 83.

<sup>27</sup> *Id.* at 96.

<sup>28</sup> In Wilhelmson's opinion, such clauses should be fully upheld by courts during any contract enforcement in the wake of any accident. *Id.* at 102-11.

<sup>29</sup> *Id.* at 98-99.

<sup>30</sup> *Id.* at 101.

<sup>31</sup> *Id.* at 90-91. Even though each party may still be liable to damages negligently inflicted upon third parties, employees of the contracting parties are not considered third parties and still fall within the scope of the agreement: "[T]he Owner/Company or Charterer/Contractor not only agrees to be responsible for any damage that befalls the property of the company or the property or the persons of the employees, but also assumes responsibility for such damages throughout the group." *Id.* at 89.

outsiders, the contracting parties are subject to the standard rules of the tort system.<sup>32</sup> Members of the gas and oil industry cannot unilaterally negate or modify their liability toward third parties, such as fishermen, local communities and governments, via the contractual arrangements they sign. Accordingly, the activities of industry participants that affect third parties are governed by either strict liability or negligence. In effect, therefore, members of the gas and oil industry voluntarily subject themselves to a dual liability regime. Vis-à-vis each other, the knock-for-knock principle provides that each contractual party must bear the harm inflicted upon it by other contractual parties even when they behaved negligently. Vis-à-vis third parties, industry members must abide by the rules of the tort system or else face the consequences.<sup>33</sup>

## II. KNOCKFOR-KNOCK, SOCIAL NORMS, AND PRIVATE ORDERING

At first glance, one may be tempted to conclude that the knock-for-knock system is yet another example of the superiority of private ordering over public ordering; it is just another case of a group that contractually designed a better liability regime for itself than that provided by tort law. Yet, we are not at all convinced that this claim holds water.

The “order without law” literature pioneered by Robert Ellickson<sup>34</sup> might suggest that the knock-for-knock regime is just another example of efficient private ordering. In his famous study of Shasta County, Ellickson set out to study how farmers resolve trespass disputes. He reported that the subjects of his study bypass the legal system, and follow, instead, a “live and let live” norm.<sup>35</sup>

In another important study of the diamond industry, Lisa Bernstein found that diamond merchants have opted out of the legal system by developing their own set of courts and substantive rules.<sup>36</sup> Bernstein argued that the private rules are clearly superior to the defaults provided by the legal system. Similarly, Eric Feldman, who studied the norms of dispute

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<sup>32</sup> *Id.* at 83.

<sup>33</sup> *Id.*

<sup>34</sup> ELLICKSON, *supra* note 6.

<sup>35</sup> *Id.* at 15 *et seq.*

<sup>36</sup> Bernstein, *supra* note 8.

resolution among tuna fishermen in Japan, discovered that industry members have adopted a unique system of norms and institutions that allows for an expedient resolution of disputes.<sup>37</sup>

Yet, there is a major difference between our study and those of Ellickson, Bernstein and Feldman. While the other studies pointed to the superiority of private ordering over state production of legal rules, celebrating the advantage of private enterprise, and the prevalence of social norms over formal legal rules, our study presents a much more challenging case. In the case of the knock-for-knock principle, it is impossible to conclude unequivocally that it is welfare-enhancing. This is because the operations of the gas and oil industry give rise to myriad effects that are borne by other parties. The scale of the operations of the gas and oil industry is enormous and it is *not* nearly as self-contained as the diamond industry, the ranchers in Shasta County or the tuna fishermen in Japan. Moreover, accidents in the gas and oil industry have far reaching consequences that go way beyond the interests of other industry participants. An oil spill, unlike a wandering cow or a dispute about a diamond or a tuna fish, can devastate entire populations of people. Hence, the knock-for-knock principle tests the outer limits of private ordering and must therefore subject to careful scrutiny.

Furthermore, it is clear that Lisa Bernstein's explanation why the diamond industry chose to opt out of the legal system does not apply in our case. Bernstein suggested that the diamond industry's reluctance to subject its time-honored practices to judicial review was motivated in large part by considerations of concealment.<sup>38</sup> Industry participants wish to keep the industry and its practices away from the public eye and therefore shy away from court proceedings that would allow that inevitably involve disclosure. Concealment is not an issue in the case of the gas and oil industry. Accidents in the gas and oil industry often give rise to casualties and substantial environmental harms. Consequently, the operations of gas and oil companies receive close scrutiny from environmental and other regulatory agencies both *ex ante* and *ex post*. Furthermore, when an accident occurs it will be thoroughly investigated by the police and state or federal prosecutors.

We, therefore, proceed on the assumption that the knock for knock principle maximizes the profits of the members of the gas and oil industry. The accepted rationale for the knock-for-knock regime is that the savings it effects in insurance and litigation costs

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<sup>37</sup> Eric Feldman, *The Tuna Court: Law and Norms in the World's Premier Fish Market*, 94 CAL. L. REV. 313 (2006).

<sup>38</sup> Bernstein, *supra* note 8 at 148 (noting that diamond dealers prefer arbitration to adjudication because it is, *inter alia*, more secret).

exceed the possible increase in the cost of accidents since state regulation of health, safety, and the environment provides an adequate deterrent against risky behavior.<sup>39</sup> By adopting the principle, the contracting parties can then share a surplus, making knock-for-knock mutually advantageous.<sup>40</sup>

This does not mean, of course, that the preference of the gas and oil industry is optimal from a social perspective. The savings in tertiary costs<sup>41</sup> may be overstated, the costs of harm may be underestimated, and the regulatory burden resulting from this system may be too heavy. A theoretically inclined reader may find an affinity between the knock-for-knock rule in the context of accidents and the “live-and-let-live”-rule in nuisance.<sup>42</sup> But just like no-one can be assured that nuisance law is growing organically, harmoniously, and along a socially optimal path all by itself, so it is that knock for knock and its contractual underpinnings have to be evaluated carefully from a social welfare point of view.<sup>43</sup> It is also not the case that the social norm literature has successfully demonstrated how private law can be replaced partly or in whole by private ordering through informal norm formation.<sup>44</sup> In sum, the stakes in oil provinces like the Gulf of Mexico and the North Sea are so high that the extant academic attention given to this issue seems unreasonably low.<sup>45</sup>

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<sup>39</sup> BULL, *supra* note 4, 333-357; Wilhelmsen, *supra* note 4, 95-101.

<sup>40</sup> From the perspective of economic theory both strict liability as well as the negligence rule may be the basis for a preferable liability regime. But obviously a no liability regime is preferable if liability results in relative small deterrence effect compared to costs of operating the regime. *See, e.g.*, R.H. Coase, *The Problem of Social Cost*, 3 J. L. & ECON. 1, 44 (1960); Louis Kaplow & Steven Shavell, *Fairness Versus Welfare*, 114 HARV. L. REV. 961, 1011-1017 (2001).

<sup>41</sup> Guido Calabresi defines “tertiary costs” as those arising from administering an accident liability regime. These include the costs of reducing “primary costs” of accidents, which are the direct harm to victims and costs of accident avoidance, and “secondary costs,” the costs of spreading risks in an economically desirable way, such as through insurance. CALABRESI, *supra* note 5, at 24 et seq.

<sup>42</sup> *See, e.g.*, Richard A. Epstein, *Nuisance Law: Corrective Justice and its Utilitarian Constraints*, 8 J. LEGAL STUD. 49, 82-87 (1979); ROBERT C. ELLICKSON, *ORDER WITHOUT LAW: HOW NEIGHBORS SETTLE DISPUTES* (1991).

<sup>43</sup> For recent nuisance scholarship taking a social welfare perspective, see, for example, Keith N. Hylton, *The Economic Theory of Nuisance Law and Implications for Environmental Regulations*, 58 CASE W. RES. L. REV. 673 (2008), Henry E. Smith, *Exclusion and Property Rules in the Law of Nuisance*, 90 VA. L. REV. 965 (2004).

<sup>44</sup> Robert Cooter, *Structural Adjudication and the New Law Merchant: A Model of Decentralized Law*, 14 INT'L REV. L. ECON. 215, 226 (1994); ERIC POSNER, *LAW AND SOCIAL NORMS*, 176, 179 (2000); and Robert C. Ellickson, *The Market for Social Norms*, 3 AM. L. ECON. REV. 1, 30-36 (2001).

<sup>45</sup> Most articles directly addressing the benefits and drawbacks of the knock-for-knock rule are still relegated to less-prominent journals and draw little attention as of yet. *See, e.g.*, Nick Kangles et al., *Risk Allocation Provisions in Energy Industry Agreements: Are We Getting It Right?*, 49 ALTA. L. REV. 339 (2011); Christopher L. Evans & F. Lee Butler, *Reciprocal Indemnification Agreements in the Oil Industry: The Good, the Bad, and the Ugly*, 77 DEF. COUNSEL J. 226 (2010). Even three years after the Deepwater Horizon explosion, only one article analyzing the knock for knock rule in light of the disaster has been written. Chidi Egbchue *Reviewing Knock for Knock Indemnities Following the Macondo Well Blowout*, 7 CONST. L. INT'L 7 (2013).

### III. THE EFFECT OF KNOCK-FOR-KNOCK ON SOCIAL WELFARE

Economic models of tort liability teach that a no liability regime places the burden of investing in precautions solely on the potential victim.<sup>46</sup> The injurer, for her part, has no incentive to expend resources on accident avoidance or on mitigation of harm since she does not bear the cost of harms to third parties. The injurer will invest in precautions only to prevent self-harm and only if the expected harm is greater than the cost of the precautions.<sup>47</sup> Any expenditure that exceeds the magnitude of the expected self-harm is a pure waste.

This means that the rate of accidents and their order of magnitude should be greater under the knock-for-knock rule than they would be under either a negligence or a strict liability rule—the two standard default settings of the torts system. Hence, the knock-for-knock rule would be welfare-enhancing only if one of the following conditions obtains: (1) the inter-se activities of the contracting parties are completely separate from the activities that affect the rest of society, such that the harms resulting from these activities will not affect third parties (we term this condition “the perfect separating equilibrium”); (2) the expected private harm to the contracting parties from accidents exceeds the expected social harm and the parties contractually adopted optimal measures to address the private harm (we term this option the “perfect alignment hypothesis”); (3) the knock-for-knock rule creates negative externalities for third parties, but those are outweighed by the gains to the contracting parties.

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<sup>46</sup> For the canonical expositions, see SHAVELL, *supra* note 5, and John Prather Brown, *Toward an Economic Theory of Liability*, 2 J. LEGAL. STUD. 323 (1973). CALABRESI, *supra* note 5, is the main prior contribution. However, more than a century ago, the Austrian lawyer-economist Victor Mataja offered the following observations on tort liability for e.g. environmental harms. First, he pointed out that, a negligence rule is sometimes insufficient and strict liability is desirable on the basis of cost-internalization considerations. Second, he noted that a system of strict liability must rely on a broad conception of compensable harm is required, one that goes beyond pecuniary harm. Only in this case will it be safe to assume that cost internalization leads to a powerful enough incentive to take precautions. See Izhak Englard, *Victor Mataja's Liability for Damages from an Economic Viewpoint: A Centennial to an Ignored Economic Analysis of Tort*, 10 INT'L R. L. ECON. 173 (1990). The interdependence of the issues of strict liability and compensable harm illustrated by Mataja with the help of the welfare economics of his day is confirmed by the now standard economic model of precaution, harm, and liability. See e.g., Endre Stavang, *Explaining Welfare-Based Torts*, 4 GLOBAL JURIST TOPICS 1 (2004). Finally, “the economic model of precaution and liability” may be seen as a corollary of Aristotle’s famous quip about how un-owned resources are least well managed. In a similar vein, Dari-Matiacci and Parisi remarks: “[A]lthough the cost-benefit calculus is a tool of modern economists, lawmakers have long understood the need to balance the costs and benefits produced by desirable activities. The intellectual roots of tort law can be traced back as far as the Roman principle that a party reaping the benefits (*commoda*) of an activity should also bear its costs (*incommoda*). And in a broad sense, the economic analysis of tort law can be seen as a mere formalization of that pre-theoretical intuition.” Amsterdam Law School Legal Studies Research Paper No. 2013-09/Amsterdam Center for Law & Economics Working Paper Paper No. 2013-01, 2. In sum, the model crystallizes sustainable (contingent) normative insights.

<sup>47</sup> Robert Cooter & Ariel Porat, *Does Risk to Oneself Increase the Care Owed to Others – Law and Economics in Conflict*, 29 J. LEGAL STUD. 19, 21-22 (2000).

Otherwise, the knock-for-knock system is inefficient. We therefore proceed to discuss the likelihood that one of one of the aforementioned conditions exists in reality.

### A. The Perfect Separating Equilibrium

The knock-for-knock rule could be efficient in a world in which there is perfect separation between the activities undertaken by the contracting parties vis-à-vis each other and their activities that affect third parties. The perfect separation condition implies the existence of two distinct sets of relationships: one between the parties to the joint venture contract and another between those parties and the rest of the world. It also requires that there are no spillovers between the two relationships.

Under these conditions, the erosion of the parties' motivation to optimally invest in precautions would not adversely affect third parties. And if one assumes—as gas and oil insiders do—that the knock-for-knock system is internally efficient, then it is also socially acceptable as the external risks created by the activities of the contracting parties are governed by the tort system.

Although the perfect separating equilibrium is a theoretical possibility, it is hard to see how it can exist in reality. The operations of gas and oil companies are very complex. It is completely unrealistic to expect the contracting parties to cordon off the harm generating activities that come under the knock-for-knock system from those that may affect third parties. In fact, the opposite is true. Experience teaches us that any accident potentially affect insiders and outsiders alike. This is clearly true for large scale accidents, such as the BP leak, but it is also true for accidents whose effects are more limited. This does *not* mean of course that *all* accidents in the gas and oil industry generate third party effects. But, of course, this is not the relevant inquiry. All it takes to refute the perfect separating equilibrium hypothesis is to show that *some* accidents give rise to adverse third party effects and that these accidents occur as result of the lower level of care resulting from the knock-for-knock system.

### B. The Perfect Pooling Equilibrium



The knock-for-knock system may also be socially desirable if it does *not* lower the contracting parties' investment in precautions. The investment of the contracting parties in precaution may not change on account of various internal and external mechanisms—some of them private and some of the public—that operate on them. In particular, there are four possible mechanisms that may induce the contracting parties to adopt the socially optimal level of care, notwithstanding the knock-for-knock system: (1) self-regulation; (2) repeat interactions; (3) health and safety regulation; and (4) mandatory provisions in insurance policies. A rich literature suggests that each of these mechanisms may ameliorate the moral hazard problem to which the knock-for-knock system gives rise. We examine each mechanism in turn.

### 1. Self-Regulation

It is important to note that knock-for-knock clauses are supplemented by other contractual mechanisms designed to curb opportunistic behavior by the contracting parties. Left unchecked, the knock-for-knock principle gives rise to a severe moral hazard problem. Since each party bears none of the cost it imposes on other contracting parties, but bears the full cost of precautions, parties operating under the knock-for-knock principle have an inherent incentive to under-invest in precautions and take on an excessive level of risk. To address this problem, the contracting parties introduced contractual measures to ensure that parties do not abuse the knock-for-knock system. In the main, those measures fall into two categories: exclusions and deductibles.<sup>48</sup>

As their name implies, exclusion clauses deny coverage to parties in cases of harm resulting from intentional acts and gross negligence. Exclusions provide an effective mechanism for controlling the insured's behavior when the insurer can set the proper standard of behavior and can monitor the activities of the insured at a reasonable cost.<sup>49</sup> Although the degree of an actor's negligence cannot always be readily established, insiders in the gas and oil industry have developed shared conceptions of behaviors that fall outside of ordinary negligence.

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<sup>48</sup> See, e.g., JEFFREY W. STEMPEL, *STEMPEL ON INSURANCE CONTRACTS*, 2-95 et seq. (2007).

<sup>49</sup> *Id.* at 2-96.

The second standard mechanism employed to counter opportunistic behavior is deductibles.<sup>50</sup> Deductibles are a standard feature in all insurance contracts.<sup>51</sup> The purpose of deductibles is to prod the insured to invest in precautions up to the amount of the deductible. Deductibles should ideally be set to equal the cost of optimal precautions.<sup>52</sup> In the real world, however, insurers often do not have the information necessary to achieve such accuracy.<sup>53</sup> Yet, even if a deductible is set too high, it would induce the insured to take optimal precautions.<sup>54</sup>

Although the exclusions and deductibles operate within the framework of the knock-for-knock system, they also reduce the risk of harm to third parties. Accidents resulting in harm to third parties may arise from negligent acts, gross negligence or intentional acts. It is reasonable to hypothesize that, on average, the magnitude of the harm will be greater in cases of gross negligence or intentional behavior. If this is true, then the contractual exclusions dramatically lower the risk of harm to third parties.

Furthermore, since it is often difficult to distinguish between “merely” negligent acts and acts that constitute gross negligence, it is possible that the contracting parties would prefer to err on the side of safety (both literally and figuratively) and refrain from behaving negligently in their internal interactions.<sup>55</sup> But irrespective of the veracity of these conjectures, the exclusions and deductibles, simply by lowering the probability of inter-se accidents, also reduce the likelihood of harm to the environment. Moreover, the said contractual mechanisms also obviate the need for regulatory oversight to some extent, and thereby save society’s resources.

## 2. Repeat Interactions

The moral hazard problem is further mitigated by the fact that the members of the gas and oil industry interact with one another on an ongoing basis. As Robert Axelrod<sup>56</sup> and

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<sup>50</sup> EUGENE R. ANDERSON ET AL., *INSURANCE COVERAGE LITIGATION*, 1-59 (2004).

<sup>51</sup> *Id.*

<sup>52</sup> B. Peter Pashigian et al, *The Selection of an Optimal Deductible for a Given Insurance Policy* 39 J. BUS. 35 (1966).

<sup>53</sup> *Id.* at 42.; Ralph A. Winter, *The Liability Insurance Market*, 5 J. ECON. PERSP. 115, 122-24 (1991).

<sup>54</sup> Given that the underlying legal system constitutes the right incentives as in SHAVELL, *supra* note 5, at 5-47.

<sup>55</sup> See, e.g., ROBERT D. COOTER & THOMAS S. ULEN, *LAW AND ECONOMICS* (4th ed.) (2003); John E. Calfee & Richard Craswell, *Some Effects of Uncertainty on Compliance with Legal Standards*, 70 VA. L. REV. 965 (1984)

<sup>56</sup> ROBERT AXELROD, *THE EVOLUTION OF COOPERATION: REVISED EDITION* (2009).

others<sup>57</sup> established, parties who are engaged in repeated interactions tend to follow the tit-for-tat strategy. Specifically, Axelrod demonstrated that the dominant strategy in repeat interactions is to cooperate as long as the other party cooperates and to punish defection by defection.<sup>58</sup> An important implication is that long-term relationships between the same actors tend to foster cooperative behavior.<sup>59</sup>

Historically, the gas and oil industry constituted a near-perfect setting for a tit-for-tat strategy. The industry is comprised of a relatively small group of members that interact with one another on an ongoing basis. The companies in the gas and oil industry are also well familiar with one another, and the reputational stakes they face are high. Consequently, members have an incentive to maintain a good relationship with their peers and not “defect” and risk retaliation. At least historically, the industrial setting in the gas and oil sector has been quite similar to the setting Ellickson found in Shasta County. And as the setting in Shasta County led to the adoption of a cooperative norm of “live and let live,” the conditions that prevail in the gas and oil industry are very likely to induce a similar cooperative approach among the industry members.

Specifically, we expect repeat interactions among the members to exert a disciplinary effect on the behavior of the members in their inter-se relationships. Members are likely to pass up small short term gains by avoiding investment in precautions in order to reap the long term gains resulting from cooperation. If, indeed, the contracting parties are guided by the long term benefits of cooperation, their investment in precautions even in their inter-se relationships may *not* fall short of the socially desirable standard. Consequently, the fear that the knock-for-knock regime gives rise to negative externalities is much smaller than one would think. That said, one cannot rule out the possibility that some industry participants may not be adequately informed about the risks involved in gas and oil operations, which may lead, in turn, to distortions in the pricing of risks.<sup>60</sup> Furthermore, if the current trend among regulators, to increase the number of firms active in a given oil province in order to make the

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<sup>57</sup> See, e.g., Paul G. Mahoney & Chris William Sanchirico, *Norms, Repeated Games, and the Role of Law*, 91 CAL. L. REV. 1281, 1289 (2003); GEORGE J. MAILATH & LARRY SAMUELSON, REPEATED GAMES AND REPUTATIONS: LONG-RUN RELATIONSHIPS 3-4 (2006); Robert E. Scott, *Conflict and Cooperation in Long-Term Contracts*, 75 CAL. L. REV. 2005, 2026 (1987).

<sup>58</sup> AXELROD, *supra* note 56.

<sup>59</sup> See e.g., Mailath & Samuelson, *supra* note 57; Jane Sell & Rick K. Wilson, *Maintenance of Cooperation: Expectations of Future Interaction and the Trigger of Group Punishment*, 77 SOC. F. 1551, 1552-54 (1999); Rachel E. Kranton, *The Formation of Cooperative Relationships*, 12 J. L. ECON. & ORG. 214, 217-19 (1996).

<sup>60</sup> Wilhelmsen, *supra* note 4, at 101.

industry more competitive persists, it may exacerbate knock-for-knock induced moral hazards without ever reaching the elusive goal of perfect competition.

### 3. Health and Safety Regulation

Another factor that ameliorates the potential moral hazard problem that may arise from the knock-for-knock regime is the presence of health and safety regulation. Gas and oil companies operate within a regulatory framework that affects every facet of their activities. As a rule, regulatory standards are immutable and thus they are not affected by private ordering. The presence of health and safety regulations forces gas and oil companies to comply with their content and ensure that they do not fall below the regulatory standard. Hence, if the relevant regulatory standards are set appropriately, they should guarantee that the operations of oil and gas companies do not pose a risk to third parties.

Critically, the need to comply with regulatory standard should also affect the level of care taken by gas and oil companies in their internal relations. Assuming, as we do in this part, that it impossible to surgically separate the activities that may cause harm to other contracting parties from those that jeopardize outsiders, the measures taken to comply with regulatory standards should also yield benefits to contracting parties. In other words, the reduction in the external risk brought about regulation should also diminish the internal risk faced by the contracting parties.

Consider, for example, the safety regulations that pertain to the construction and operation of drilling rigs. The regulations are designed to protect the public at large. But first and foremost they protect the employees of the companies that operate the rig and perform the drilling. Of course, accidents may and unfortunately do happen, but clearly there are positive spillovers from the regulation for the contracting parties.

Clearly, the more comprehensive the regulation, the lesser the scope of the moral hazard problem.<sup>61</sup> In the extreme, if the regulation were to cover every aspect of the operations of the contracting parties and if it were perfectly enforced, there would be no moral hazard problem. In this case, the regulation would force the parties to adopt the socially

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<sup>61</sup> See, generally, on the comparative analysis of approaches to the control of risk, SHAVELL, *supra* note 5, at 277-91 1987.

optimal level of care and the sole effect of the knock-for-knock regime would be to economize on litigation costs. Yet, in the real world, not all aspects of the operations of gas and oil companies are subject to regulation. It must also be recognized that not all regulatory standards are set properly and that industry participants do not always comply with them. The administrative and information costs that are endemic to the regulatory process often lead to regulatory lacunas or gaps.<sup>62</sup> This in turn makes it rational for efficiency-minded regulators to rely on courts to fill those gaps.<sup>63</sup>

Notwithstanding this observation, regulation is only as effective as its enforcement. Even the best regulatory standards would fail to yield socially optimal results if they were not properly enforced. The dynamic and highly complex nature of the operations of the gas and oil industry calls for continuous monitoring and enforcement. Naturally, doing so is very costly and time consuming and even the best regulators may not live up to this standard. Tellingly, in its final report, the National Commission on the BP Deepwater Horizon Oil Spill concluded that the accident was avoidable and that responsibility for the accident should be apportioned between the private companies that operated the site, “in the first instance by BP, Halliburton and Transocean” and “government officials who, relying too much on industry's assertions of the safety of their operations, failed to create and apply a program of regulatory oversight that would have properly minimized the risk of deep water drilling.”<sup>64</sup>

At the end of the day, the degree and content of regulation of the gas and oil industry varies dramatically from among countries. In Norway, for example, regulation of maritime

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<sup>62</sup> SHAVELL, *supra* note 5, at 282.

<sup>63</sup> Susan Rose-Ackerman, *Public Law versus Private Law in Environmental Regulation: European Union Proposals in the Light of United States and German Experiences*, in LAW AND ECONOMICS OF THE ENVIRONMENT 13, 19-22 (Erling Eide & Roger van den Bergh, eds. 1996). For economic modeling of the argument that regulation and liability should be used jointly because neither policy used alone incentivizes firms to choose the efficient level of care, see Edward L. Glaeser & Andrei Schleifer, *The Rise of the Regulatory State*, 41 J. ECON. LIT. 401 (2003); Charles D. Kolstad, Thomas S. Ulen, & Gary V. Johnson, *Ex Post Liability for Harm vs. Ex Ante Safety Regulation: Substitutes or Complements?*, 80 AM. ECON. REV. 888 (1990); Patrick W. Schmitz, *On the Joint Use of Liability and Safety Regulation*, 20 INT'L REV. L. ECON. 371 (2000); Steven Shavell, *A Model of the Optimal Use of Liability and Safety Regulation*, 15 RAND J. ECON. 271 (1984). For a study contextualizing these and other theoretical contributions through analysis of Norwegian law, see Ekaterina Denisova, *The Role of Environmental Civil Liability in Regulation of Marine Oil Pollution in Norway*, 383 MARIUS (Scandinavian Institute of Maritime Law) 1 (2009).

<sup>64</sup> John M. Broder, *Blunders Abounded Before Gulf Spill, Panel Says* N.Y. TIMES, January 6, 2011, at A14, available at [http://www.nytimes.com/2011/01/06/science/earth/06spill.html?\\_r=3&ref=gulfmexico2010&](http://www.nytimes.com/2011/01/06/science/earth/06spill.html?_r=3&ref=gulfmexico2010&). For broader discussions of the regulatory aspects of Macondo, see, e.g. Rebecca M. Bratspies, *A Regulatory Wakeup Call: Lessons from BP's Deepwater Horizon Disaster* 5 GOLDEN GATE U. ENVTL. L.J. 7 (2011); Mark A. Cohen et. al. *Deepwater Drilling: Law, Policy, and Economics of Firm Organization and Safety*, Resources for the Future Discussion Paper 10-65 (2011); Sandra Zellmer, Joel A. Mintz, and Robert Glicksman, *Throwing Precaution to the Wind: NEPA and the Deepwater Horizon Blowout* 2 J. ENERGY ENV. L. 62 (2011).

and petroleum safety is largely based on self-assessment and self-regulation.<sup>65</sup> The particular regulatory standards prescribe broad end-result wordings while containing no reference to specific behavior. It is therefore up to the industry to choose exactly how to reach the performance requirements. In the case of an accident, sanctions may be meted out on the company level. This, in turn, may lead to under-deterrence on the individual level. Moreover, the informational ex ante advantage enjoyed by firms in assessing the costs and benefits of rules aimed at inducing safety can be used by them to subvert the regulation and in some cases may even result in industry wide collusions.

### 4. Insurance

The economic and legal literatures suggest that insurance contracts significantly affect the behavior of the insured.<sup>66</sup> This theme was developed by multiple insurance scholars who termed this phenomenon “insurance as governance.”<sup>67</sup> Insurance contracts often require policy holders to adopt various precautionary measures on the insured party as a precondition for collecting the insurance money. Furthermore, insurance policies employ exclusions and deductibles to ameliorate the problems of adverse selection and moral hazard that plague insurance markets. Consequently, insurance markets can supplement or even supplant private litigation, regulation and social norms as a means for guiding behavior.<sup>68</sup>

We do not dispute the cogency of the general observation about the ability of the insurance market to curb risky behavior. That said, the insurance market plays a very limited role in regulating the operations of large oil and gas companies around the world. To begin with, first party insurance contracts only target the behavior of accident victims. Obviously, first party insurance contracts cannot significantly influence the level of care of the other companies in the joint venture. One could nonetheless suggest that if the same insurance company were to insure all industry members, it could affect the behavior of all parties involved and induce them to adopt the appropriate level of care. However, this is not the case

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<sup>65</sup> Anita Ronne, *Alternative Approaches to Regulatory Agency Structures and Powers: Eastern and Western Europe*, 15 J. ENERGY & NAT. RESOURCES L. 41, 44 (1997).

<sup>66</sup> Steven Shavell, *On Liability and Insurance*, 13 BELL J. ECON. 120 (1982).

<sup>67</sup> See, e.g., Kenneth Abraham, *Four Conceptions of Insurance*, 161 U. PA. L. REV. 653, 683-697 (2013); RICHARD V. ERICSON & AARON DOYLE, *UNCERTAIN BUSINESS: RISK, INSURANCE AND THE LIMITS OF KNOWLEDGE* (2004); RICHARD V. ERICSON ET AL., *INSURANCE AS GOVERNANCE* (2003).

<sup>68</sup> FAURE AND SKOGH, *supra* note 5, 263, 264.

in the real world. Oil companies and many of their contractors sometimes self-insure and more typically own or control small insurance companies that provide them first party insurance. The insured risks then get traded on reinsurance markets. Our conjecture is that this approach treats risk more as a basis for bets and financial calculations in the “Protection and Indemnities (P&I)” market<sup>69</sup> rather than a governance scheme, which is more likely to arise under a regime of tort liability for harm combined with liability insurance.

#### IV. THE HIDDEN PERILS OF KNOCK FOR KNOCK

While our analysis thus far does not prove that the contractual measures adopted by the parties together with the regulations and the norms born out of repeat interactions ensure optimal investment in precautions, it does suggest that, in combination, they ameliorate the moral hazard problem to some extent. In light of this conclusion, it is impossible to say, in the abstract, that the private gains to the contracting parties from the knock-for-knock rule may be greater than the marginal reduction in deterrence affected by the rule. Hence, based on our analysis so far, we cannot assert with any degree of certainty that the knock-for-knock rule is efficient, as industry insiders insist.

In this part, we highlight three additional factors that cast further doubt as to the desirability of knock-for-knock arrangement in the gas and oil industry. The first is the assumption introduced in Part III.B, *supra*, namely risk interdependencies. We show that the gas and oil industry displays a high level of risk interdependencies. As a consequence, relatively minor oversight can rapidly evolve into major accidents. This means that in the gas and oil industry, it is critical to prevent even the smallest risks from arising. The second factor is what we call “litigation externalities.” As we will explain, knock for knock clauses, by barring suits by other contractual parties, effectively eliminate the most natural plaintiffs, who are best positioned to sue for deviations from socially acceptable practices. The third factor we highlight in this part is harm to environmental interests. Here, we will demonstrate that the knock-for-knock rule exacerbates the risk of environmental harm relative to standard liability regime. Fourth, and finally, we will explain why *ex post* compensation does not provide an

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<sup>69</sup> Remarks, although not as skeptical as here, on P&I clubs, are made in Jan C. Bongaerts & Aline F.M. De Bièvre *Insurance for Civil Liability for Marine Oil Pollution Damages*, 12 GENEVA PAPERS ON RISK AND INSURANCE 145 (1987); FAURE AND SKOGH, *supra* note 5, at 273-74; Gary D. Libecap & Steven N. Wiggins, *Contractual Responses to the Common Pool: Prorating of Crude Oil Production*, 74 AM. ECON. REV. 87 (1984).

adequate solution for the erosion in deterrence resulting from knock for knock clauses. The harms resulting from accidents in the gas and oil industry are so grave that compensation after the fact would not be a viable solution. In the case of large scale accidents the damage amounts are so substantial that the responsible party would prefer to file for bankruptcy protection or pledge for government intervention to cap its liability to victims. Ironically, the gravity of the harm prevents society from relying on ex post compensation, requiring instead that society puts the premium on ex ante deterrence.

### A. Risk Interdependencies

As we explained in Part III.A., in a world in which the interactions among the contracting parties who agree to the knock for knock arrangement can be kept completely distinct from actions that affect third parties, society has no reason to worry about the effect of the regime on third parties. By contrast, in a world in which the actions of the contracting parties, and especially their investment in precautions, adversely affects the public at large, knock for knock clauses present a serious cause for concern. In the latter case, the contracting parties' decision to forego certain precautions on account of the knock-for-knock regime increases the risk to third parties.

More generally, the desirability of the knock-for-knock clauses critically depends on the existence of interdependencies between the risks to which they expose each other and the risks to which they expose the public at large. If the risks are independent, there is no inherent reason to oppose knock-for-knock clauses as long as first party insurance is built into the contract. If there is a high degree of interdependence between the risks to other contractual parties and the risk to the public at large, lawmakers should be wary of knock for knock clauses.

Naturally, the degree of interdependence varies from industry to industry. In the gas and oil industry, the degree of interdependence is high. Relatively minor errors in the operation of oil rigs and drilling equipment may have disastrous consequences for the public at large. The Gulf of Mexico oil spill, also known as the "Macondo Blowout," provides a gruesome illustration. A report by a White House commission placed the blame for the accident on the cost cutting policies adopted by British Petroleum and its partners.



Specifically, it stated that “many of the decisions that British Petroleum, Halliburton, and Transocean made that increased the risk of the Macondo blowout clearly saved those companies significant time (and money).” Furthermore, the report cautioned that “absent significant reform in both industry practices and government policies, might well recur.”

While these findings do not directly link the knock for knock regime to the oil spill, it does suggest that cutbacks on investment in precautions can have serious adverse effects on third parties. And although we cannot prove the knock for knock clauses were the cause of the insufficient precautions that were adopted by British Petroleum and its partners, it is clear from our earlier analysis as well as from the logic of knock for knock clauses that they are liable to effect a reduction in the level of care relative to standard tort liability.

### **B. Litigation Externalities**

The deterrent effect of legal rules critically depends on enforcement. In the present context, liability is largely governed by private enforcement. Both standard tort liability and contract liability require the filing of private enforcement suits by victims.<sup>70</sup> If private lawsuits are not brought, under-deterrence would result. Once litigation is incorporated into our analysis, another peril of knock-for-knock clauses comes to the fore. Knock-for-knock clauses take out of the game the parties who are most likely to sue, namely, the other participants in the joint venture. The other members of the joint venture are not only the most likely victims but also the parties who can sue most cost-effectively. The private parties involved in the venture are best-situated to prove deviations from the socially desirable standard of behavior. Their daily presence on gas and oil sites coupled with their familiarity with safety standards puts them in a unique position to monitor the actions of their partners and collect evidence of sub-standard behavior. Hence, they are the most natural private enforcers.

The elimination of suits for negligence by other contracting parties leaves the lion’s share of the enforcement effort to third parties who are not bound by knock for knock clauses. However, in many cases the harm to third parties be too low to justify legal action. This is especially true in jurisdictions that do not recognize class actions and whose laws do not

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<sup>70</sup> SHAVELL, *supra* note 5, at 262-77.

incorporate other procedural mechanisms for aggregating small claims. In this context, it behooves us to remind our readers that class actions are not recognized in Europe,<sup>71</sup> as well as in most other countries around the world.<sup>72</sup> Furthermore, even in those cases in which the harm to third parties may be substantial, it may be too difficult or costly for them to prove negligence in court. Third parties wishing to sue for harms they suffered at the hands of gas and oil companies would be forced to expend significant resources to substantiate their claims. The high cost of litigation means that only parties who incurred a severe harm—that is, a harm greater than the expected cost of filing suit—should be expected to sue. The upshot is that many small and even medium may be left unaddressed. (?)

It is critical to understand that litigation costs are not symmetrical.<sup>73</sup> Furthermore, there is a substantial heterogeneity among defendants as far as litigation costs are concerned. The cost of litigation is much higher for individuals who are not repeat players.<sup>74</sup> Such parties must build their cases from scratch and incur expenditures that repeat players avoid on account of economies of scope and scale.<sup>75</sup> To give a concrete example, compare the cost of defense for a gas and oil company that gets sued for negligence to the cost of first time plaintiff. The company typically has a legal department that is well versed in such claims after handling multiple similar suits. The plaintiff, by contrast, would have to search for an attorney, who would have to educate herself about the facts of the case and the applicable law. This means that defendants enjoy an inherent cost advantage over most individual defendants. The corporations that participate in the joint venture could level the litigation play field to some extent on account of their being repeat players who are well familiar with the legal machinery of litigation. But for the knock for knock clauses, those companies could bestow a positive externality on third parties and remediate to some degree the inherent under-deterrence problem. However, the knock-for-knock regime prevents this from happening.

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<sup>71</sup> See generally, Deborah R. Hensler, *Goldilocks and Class Actions* (response to Margaret H. Lemos, *Aggregate Litigation Goes Public: Representative Suits by State Attorneys General*, 126 Harv. L. Rev. 486 (2012)), 126 Harv. L. Rev. F. 56, 56-7 (2012) (noting that this issue is the subject of vigorous debate in the European Union, where advocates for private enforcement of antitrust and consumer protection law have struggled against those who champion traditional European reliance on public enforcement and deride proposals for ‘American-style class actions.’»).

<sup>72</sup> *Id.* at 57 («[T]wenty-odd countries outside the United States that have adopted class actions, most have limited standing to represent a class to public officials or nonprofit organizations vetted or approved by the government.»).

<sup>73</sup> See generally Gideon Parchomovsky & Alex Stein, *The Relational Contingency of Rights*, 98 Va. L. Rev. 1313 (2012) (noting the phenomenon and analyzing its implications).

<sup>74</sup> *Id.* at 1344 (explaining the cost advantage of repeat litigators).

<sup>75</sup> *Id.* at 1318 (discussing the effect of economies of scale on scope on litigants).

### C. Harm to Environmental Interests

The environmental harm caused by various gas and oil companies are well-documented and one may surmise that there are other, long term, harms that are yet to come to the fore. Let us be clear: we do *not* dispute the evidence.<sup>76</sup> But this is not the point. The critical question is whether the knock-for-knock principle contributes to these harms. Or, to state the question somewhat differently: would those harms not occur under a negligence or strict liability regime? Although standard liability regimes are highly imperfect in protecting the environment, our analysis suggests that the knock for knock system exacerbates the risk of environmental harm.

Environmental interests may be protected under a strict liability rule or a negligence rule. At least in theory, however, both negligence and strict liability can lead to desirable results, depending upon how the liability rules are operationalized by the relevant decision-makers.<sup>77</sup> It is important that a negligence rule set the right legal standard, adopting a too lax or a too stringent legal standard would distort actors' investment decision, leading to too few or too many precautions. Under a strict liability regime, it is crucial to carefully calibrate the sanction to the harm caused by the activity.<sup>78</sup> If the assessment of harm is too lax or too stringent, actors would be incentivized to under-, or over-, invest in precautions.<sup>79</sup>

Legislators around the world, often under the rhetoric of the so-called "polluter pays" principle,<sup>80</sup> have increasingly gravitated toward strict liability as the main tort regime in this context.<sup>81</sup> A major rationale for adopting strict liability concerns information asymmetries. In order for a negligence rule to function properly, the court has to weigh the marginal social costs and benefits of various courses of action and then adopt the optimal behavior standard.

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<sup>76</sup> See, e.g., James Hansen & Makiko Sato, *Greenhouse Gas Growth Rates*, 101 PROC. NAT. ACAD. SCI. U.S.A. 16109, 16109 (2004); Andrew K. Jorgenson, *Global Warming and the Neglected Greenhouse Gas: A Cross-National Study of the Social Causes of Methane Emissions Intensity, 1995*, 84 SOCIAL FORCES 1779, 1981-82; Max Blumer & Jeremy Sass, *Oil Pollution: Persistence and Degradation of Spilled Fuel Oil*, 176 SCI. 1121, 1122 (1972).

<sup>77</sup> SHAVELL, *supra* note 5 at 121. FAURE AND SKOGH, *supra* note 5, at 247-48.

<sup>78</sup> SHAVELL, *supra* note 5, at 9, 128.

<sup>79</sup> See *supra* Part I.C.

<sup>80</sup> Hans Chr Bugge, *The Principles of «Polluter-Pays» in Economics and Law*, in LAW AND ECONOMICS OF THE ENVIRONMENT 53 (Erling Eide & Roger van den Bergh eds. 1996); Hans Chr Bugge, *The Polluter Pays Principle: Dilemmas of Justice in National and International Contexts*, in ENVIRONMENTAL LAW AND JUSTICE IN CONTEXT 411 (Jonas Ebbesson & Phoebe Okowa eds. 2008); FAURE AND SKOGH, *supra* note 5, at 26-30.

<sup>81</sup> See, e.g. Ursula Kettlewell, *The Answer to Global Pollution – A Critical Examination of the Problems and Potential of the Polluter-Pays Principle*, 3 COLO. J. INT'L ENVTL. L. & POL'Y 429, 438-441 (1992).

To perform this task, courts must consider (and monitor) all the actions tortfeasors can take. If, however, certain aspects of the tortfeasor's behavior cannot be monitored under a negligence rule, strict liability will tend to be superior. The reason is that strict liability dictates the behavior, while allowing the actor to adjust any aspect of her behavior that he controls, and about which he may have superior information.<sup>82</sup> Another problem with negligence as the sole basis for imposing liability (as opposed to a hybrid system of negligence with partial strict liability regime as is in the case of liability for ultra-hazardous activities) is that negligence determinations may in practice be reduced to enforcement of settled industry practices<sup>83</sup> or regulatory standards.<sup>84</sup> These sources may not necessarily represent the social ideal, but be adopted by courts, nonetheless, owing to institutional constraints and incomplete information.

Unfortunately, in the context of environmental harms strict liability, national legal systems, although gradually improving at assessing liability for environmental harms are still far off the theoretical mark. The legal system still lags behind at defining compensable harm, both conceptually and institutionally.<sup>85</sup> Moreover, insolvency<sup>86</sup> and damage caps<sup>87</sup> further complicate the task of "pricing" of environmental risk through the tort system. More generally, there are so many loopholes and imperfections in the current design of strict liability that there

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<sup>82</sup> To elaborate, one can distinguish between two forms of precautions: level of care and level of activity. An example, in the context of noise from traffic, is the distinction between protective measures such as thicker walls and double paned windows (care) and the lowering of the amount of traffic (activity). Another example in the context of wind energy is the distinction between the improvement of windmill technology (care) and the number of hours of operation (activity). Finally, in the context of toxic releases from ships in fjords, bays and harbors, the distinction lies between the choice of chemicals and ship paint (care) and the number of trips (activity). In these examples, inclusion of the activity level in the determination of negligence may be hampered for two reasons. First, such inclusion requires precise information about the use that the actor obtains from carrying out the activity. Yet, the court may lack such information. Secondly, such negligence-balancing requires the finding of a certain level of activity as a matter of fact, and that factual determination may be hard to make in practice. For these reasons, strict liability enjoys an advantage over negligence in certain pollution contexts. For more refined analysis adding more, see esp. Shavell, *Strict Liability Versus Negligence*, 9 J. LEGAL STUD. 1 (1980).

<sup>83</sup> Gideon Parchomovsky & Alex Stein, *Distortionary Effect of Evidence on Primary Behavior*, 124 HARV. L. REV. 518, 545-46 (2010).

<sup>84</sup> Endre Stavang, *The European Court of Justice and the Environmental Liability Directive*, 5 ENVIRONMENTAL LIABILITY 198 (2010).

<sup>85</sup> Donald N. Dewees, *The Role of Tort Law in Controlling Environmental Pollution*, 28 CAN. PUB. POL'Y 425, 430-31 (1992); Claus Ott and Hans-Bernd Schäfer, *Widening the Scope of Environmental Liability*, in LAW AND ECONOMICS OF THE ENVIRONMENT 91, 99-100 (Erling Eide & Roger van den Bergh eds. 1996); FAURE AND SKOGH, *supra* note 5, at 284. On the new and so-called Ecosystem Services Approach and the worry of its lacking legal implementation in the Macondo context, see Carrie Presnall, Laura López-Hoffman & Marc L. Miller, *Can the Deepwater Horizon Trust Take Account of Ecosystem Services and Fund Restoration of the Gulf?* 40 ELR 11129 (2010).

<sup>86</sup> FAURE AND SKOGH, *supra* note 5, at 267-270, 276-277.

<sup>87</sup> MICHAEL G. FAURE & HUI WANG, *Financial Caps for Oil Pollution Damage: A Historical Mistake?* 32 MARINE POL'Y 592 (2008).

is very little reason to believe that the tort system fully internalize environmental risks.<sup>88</sup> In practice, therefore, neither negligence nor strict liability provides optimal protection to environmental interests.

Enter knock-for-knock. The knock-for-knock system does not take full account of environmental interests. Hence, to some degree it widens the gap between the optimal level of protection and that taken in practice. This implies that the introduction of the knock-for-knock system marginally worsens the fate of environmental interests. However, in light of the risk interdependencies introduced in Part III.B. and discussed in Part IV.A., *supra*, and the fact that they may create massive environmental harms that are not always measurable and may not even be readily observed, there is reason to believe that the knock for knock system presents a real threat to environmental interests.

At this point, one may invoke the precautionary principle to call for a ban on knock-for-knock clauses. The precautionary principle maintains that when an activity threatens to harm the environment, measures should be adopted to control it even if the precise nature of the cause and effect has not yet been established.<sup>89</sup> To rephrase, the precautionary principle embodies the idea that regulators should err on the side of safety. Although we are sympathetic to the precautionary principle, we do not think that its application in this case necessitates an outright ban on knock-for-knock clauses. Properly understood, the precautionary principle requires the imposition of regulation on the operations of the gas and oil industry. Of course, such regulation already exists. The precautionary principle does not prescribe the precise nature, or even the scope, of the regulatory measures that need to be adopted. Given the highly incomplete data on the relationship between knock-for-knock clauses and environmental harm, we feel that currently there is not enough evidence to legally ban knock-for-knock arrangements. But given the genuine uncertainty surrounding the social desirability of knock-for-knock clauses, it is not very surprising that, in some jurisdictions, standard rules of contract enforcement are not fully applicable to such clauses.

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<sup>88</sup> See, e.g., Debra L. Baker, *Bankruptcy – The Last Environmental Loophole*, 34 S. TEX. L. REV. 379, 387, 397 (1993); Catherine Tinker, *Strict Liability of States for Environmental Harm: An Emerging Principle of International Law*, 3 TOURO J. TRANSNAT'L L. 155, 160 (1992); Palma J. Strand, *The Inapplicability of Traditional Tort Analysis to Environmental Risks: The Example of Toxic Waste Pollution Victim Compensation*, 35 STAN. L. REV. 575, 590 (1983)

<sup>89</sup> Stephanie Joan Mead, *The Precautionary Principle: A Discussion of the Principle's Meaning and Status in and Attempt to Further Define and Understand the Principle*, 8 N.Z. J. ENVTL. L. 137, 138 (2004).

### D. Deterrence v. Compensation

One might argue that the erosion in deterrence that results from knock-for-knock does not pose a serious concern as long as injured parties are compensated after the fact. Extant theorizing suggests that compensation serves a dual purpose: it restores victims to their pre-accident state and it deters tortfeasors from deviating from socially accepted standards of behavior.<sup>90</sup> Corrective justice scholars emphasize the former purpose,<sup>91</sup> while law and economics scholars put the premium on the latter.<sup>92</sup>

However, ex post compensation cannot always be relied on to effect the socially desirable level of deterrence. Paradoxically, after the fact compensation is especially ineffective in the case of large scale catastrophes. In such cases, the aggregate harm typically exceeds the financial resources of the responsible parties. And although criminal law is supposed to address the deterrence deficit, it often falls short of achieving this goal when corporate entities are involved.<sup>93</sup> Obviously, criminal prosecution, even when successful, offers little solace to tort victims.

The key point for the purpose of this discussion is that after the fact compensation cannot be counted on to prompt members of the gas and oil industry to adopt the socially optimal level of precautions. In this context, the emphasis should be put on preventing accidents ex ante. Ex ante prevention is typically the domain of regulation.<sup>94</sup> But given the inherent difficulty in enforcing regulatory standards and monitoring compliance and in light of the fact that relatively minor failures may evolve into large scale accidents, we believe that it would be a mistake from a societal perspective to allow the members of the gas and oil industry to contract into a liability regime whose effect is to cause a drop in the level of care.

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<sup>90</sup> See Michael G. Faure, *Calabresi and Behavioural Tort Law and Economics*, 1 ERASMUS L. REV. 75, 94 (2008) («When [as a result of liability] an enterprise is held to compensate the costs its activity generates, dangerous activities will become more expensive and the enterprise will, as a result of market forces, have an incentive to increase safety.»).

<sup>91</sup> See MARK R. REIFF, PUNISHMENT, COMPENSATION, AND LAW: A THEORY OF ENFORCEABILITY 170 (2005) («Most corrective justice theorists...contend that a person who wrongfully injures another has a moral obligation to compensate the injured party for his loss.»).

<sup>92</sup> See RICHARD POSNER, FRONTIERS OF LEGAL THEORY 266 (2001) (arguing that deterrence is more important than compensation).

<sup>93</sup> *f.*, Assaf Hamdani & Alon Klement, *Corporate Crime and Deterrence*, 61 STAN. L. REV. 271 (2008) (challenging the conventional view concerning the deterrence value of corporate criminal liability and «demonstrating that harsh entity-level penalties might discourage monitoring for misconduct and undermine compliance incentives within professional firms.»).

<sup>94</sup> See Yael Aridor Bar-Ilan, *Justice: When Do We Decide*, 39 CONN. L. REV. 923, 932-38 (2007) (summarizing the role of ex ante regulation in the law).

### CONCLUSION

Can private ordering successfully replace standard tort liability in industrial setting? In this Essay, we took a hard look at this question by discussing the knock-for-knock regime that formally only governs the inter se relationships of industry participants in the gas and oil sector. Although industry insiders are convinced that knock for knock rule is optimal for the gas and oil industry and that there is no real social downside to its adoption,<sup>95</sup> our analysis sounds a more cautionary note. The knock-for-knock regime lowers operation costs for gas and oil companies, but only at the cost of creating a serious moral hazard problem. From a societal perspective, the knock-for-knock rule is efficient only if the private cost savings it generates are greater than the increase in the rate and severity of accidents that result from its adoption. Our analysis suggests that the moral hazard problem to which the knock-for-knock rule gives rise can be effectively addressed only by far reaching and wide ranging regulation. In this regard, we think it is prudent to consider that both the informational asymmetries and the tendency to exploit it may vary greatly depending on the ownership structure of the operating companies. For example, in Norway, 83% of the largest oil company, Statoil, is owned by the Kingdom of Norway. This should be expected to have an effect on safety when compared to fields like Macondo in the Gulf of Mexico or fields in the developing world, where there is no similar government involvement.

More generally, although the operations of gas and oil companies are regulated everywhere in the world, the scope and nature of the regulation varies dramatically from one country to another. The extent of government ownership of gas and oil companies can also affect the risk to which third parties are exposed. Where the government is the controlling shareholder of gas and oil companies, one can find, on average, stricter regulatory standards and a higher degree of industry compliance. It should be noted, though, that it is difficult to find gas and oil sites where the aforementioned conditions fully obtain. On the other hand, it is fairly easy to identify gas and oil provinces in different parts of the globe where the regulatory oversight is lacking and government ownership of the venture is low to non-existent. At the end of the day, then, one can see the glass as half-full or half-empty.

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<sup>95</sup> Wilhelmssen, *supra* note 17.

One final note is in order. Given the great variation in institutional quality and regulatory cultures around the world, a uniform approach to knock-for-knock clauses may be misguided. We conjecture that knock-for-knock clauses produce the greatest savings for gas and oil companies in developed countries, such as the U.S., Canada and Europe, where litigation costs are very high. These countries have first-rate regulatory institutions and adequate regulatory capabilities. As a consequence, the risk posed by knock-for-knock clauses is relatively moderate. By contrast, the regulatory infrastructure in developing countries is often inadequate and the use of knock-for-knock clauses poses a much greater risk of harm to the environment and third parties. This risk is compounded by the fact that the legal systems of many developing countries do not recognize class actions or a comparable mechanism for aggregating small claims. Correlatively, the cost savings enjoyed by gas and oil companies as a result from knock-for-knock clauses are more modest. If we are right, a clear conclusion emerges: knock-for-knock clauses should be tolerated in developed countries where they produce the highest private gains while arguably posing a manageable public risk and should be banned in developing countries where, by the lights of our analysis, they yield modest private gains while posing a significant risk of harm.