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SHOULD BP BE LIABLE FOR ECONOMIC LOSSES
DUE TO THE MORATORIUM ON OIL DRILLING
IMPOSED AFTER THE DEEPWATER HORIZON ACCIDENT?

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Steven Shavell^{*}

In the aftermath of the *Deepwater Horizon* accident and the BP oil spill, the government imposed a moratorium on deepwater oil drilling in the Gulf of Mexico. The question addressed here is whether on grounds of policy BP should be held responsible for moratorium-related economic losses caused by the spill. The answer that is developed is no. The reason, in essence, is that although the spill caused the moratorium, the moratorium might be viewed as a socially beneficial event on net because its purpose was to avert a significant danger.

^{*} Samuel R. Rosenthal Professor of Law and Economics. I thank John C. P. Goldberg, A. Mitchell Polinsky, David Rosenberg, and W. Kip Viscusi for comments on this article, Rajiv Mohan and Christopher Quinlan, for research assistance, and the John M. Olin Center for Law, Economics, and Business at Harvard Law School for research support.

Should BP Be Liable for Economic Losses Due to the Moratorium on Oil Drilling Imposed after the Deepwater Horizon Accident?

Steven Shavell*

On April 20, 2010, a catastrophic explosion and fire occurred aboard an oil drilling platform, the Deepwater Horizon, which was leased by BP and stationed approximately 50 miles off the coast of Louisiana, where the ocean depth was nearly 5,000 feet.¹ The Deepwater Horizon accident resulted in the largest-ever oil spill in U.S. waters.² Stating his concern about the dangers of future oil spills from deepwater drilling, President Obama announced a wide-ranging moratorium on this practice on May 27, 2010.³ As will be described, the moratorium has had significant economic repercussions in the Gulf states.

Because the Deepwater Horizon spill (hereafter, the BP spill) led to a moratorium and to economic losses, the question arises whether as a matter of policy BP (and possibly other involved firms⁴) should have to pay for these losses. The Obama

* Samuel R. Rosenthal Professor of Law and Economics. I thank John C. P. Goldberg, A. Mitchell Polinsky, David Rosenberg, and W. Kip Viscusi for comments on this article, Rajiv Mohan and Christopher Quinlan, for research assistance, and the John M. Olin Center for Law, Economics, and Business at Harvard Law School for research support.

¹ Campbell Robertson, *11 Remain Missing After Oil Rig Explodes Off Louisiana; 17 Are Hurt*, N.Y. TIMES, Apr. 22, 2010, at A13; Ben Casselman, Russell Gold, & Angel Gonzalez, *Blast Jolts Oil World*, WALL. ST. J., Apr. 22, 2010, at A1.

² Leslie Kaufman, *Gulf Studies Yield More Than Damage*, N.Y. TIMES, Apr. 12, 2011, at D1.

³ Bruce Alpert & Rebecca Mowbray, *Obama suspends drilling at 33 wells; Halt allows time for deepwater safety study*, TIMES-PICAYUNE, May 28, 2010, at A1.

⁴ These include Transocean, owner of the Deepwater Horizon; Halliburton, provider of cement for drilling; and Cameron International, manufacturer of the blowout preventer at the well head. See, e.g., John Schwartz, *BP Sues 3 Companies Over Oil Spill*, N.Y. TIMES, Apr. 21, 2011, at A17. Two additional firms that are involved as part owners of drilling rights are Anadarko Petroleum and Mitsui Oil Exploration Company. See, e.g., John Schwartz, *Liability Questions Loom, for BP and Ex-Partners*, N.Y. TIMES, June

administration apparently believes that the answer to this question is yes. Press Secretary Robert Gibbs said that “the moratorium is a result of the accident that BP caused” and therefore that demands by deepwater drilling rig workers for lost wages “are claims that BP should pay.”⁵ The answer to the policy question is also of interest because there exist legal arguments to be discussed that could in principle result in BP owing damages for certain moratorium-related losses. For its part, BP has asserted that it faces no legal obligation to compensate parties for moratorium-caused losses. When BP reached an agreement with President Obama to establish a \$20 billion fund to compensate for losses resulting from the spill, it claimed that it did not have any legal responsibility for moratorium-associated losses.⁶ And when BP also agreed with the President to establish a separate \$100 million fund to compensate drilling rig workers for moratorium-related wage losses, it averred that it was doing so only as a voluntary act.⁷

The main point that I develop here is that it is undesirable on grounds of social policy⁸ to hold BP responsible for moratorium-related losses. The nub of the argument is readily summarized. Although BP may be said to have caused the moratorium – I assume that had the spill not occurred, there would have been no moratorium – the

25, 2010, at A23. Nevertheless, and solely for expositional ease, I refer to BP below as if it were the only party potentially liable for the spill.

⁵ Press Briefing by Press Secretary Robert Gibbs, 6/9/10, The Whitehouse, Office of the Press Secretary, available at <http://www.whitehouse.gov/the-press-office/press-briefing-press-secretary-robert-gibbs-6910>.

⁶ Scott Wilson & Joel Achenbach, *BP agrees to \$20 billion fund for gulf claims*, WASH. POST, June 17, 2010, at A1.

⁷ *Id.*

⁸ By social policy, I refer mainly to the two standard instrumental objectives of tort law: deterrence of risky behavior, and compensation of victims of harm. I focus on the deterrence objective – see Section 3 – but also comment on the compensation objective – see Section 4.

moratorium might be viewed as a socially beneficial event. In particular, the asserted justification for the moratorium was that it would reduce the danger of additional oil spills, a danger that society appreciated to be more significant in light of the BP spill. If this risk-reduction benefit from the moratorium outweighed the moratorium-related losses, the moratorium should be seen as a socially desirable event on balance. Under that assumption, there is no affirmative policy basis for holding BP liable for the moratorium-associated losses. Moreover, holding a party liable for causing a socially desirable outcome that arises as a byproduct of an accident could have a socially perverse effect on its incentives to exercise precautions and to engage in activities like oil drilling that are socially desirable on average even though they sometimes result in accidents.

Suppose, however, that the moratorium was ill-advised, because its benefit was less than the losses it engendered. Under this alternative assumption, the conclusion is the same – BP should not be held liable for moratorium losses – but for a different reason, namely, to motivate the government not to err in declaring moratoriums.

This article is organized as follows. In Section 1 I describe the moratorium on oil drilling and its economic importance, and in Section 2 I address the possible liability of BP for moratorium-related losses. In Section 3, I develop the basic policy argument of the article. In Section 4, I discuss and interpret the policy argument and conclude.

1. The Moratorium on Oil Drilling

As noted, the Obama administration announced a moratorium on deepwater drilling following the accident at the Deepwater Horizon platform and the realization that oil was escaping at an extraordinary rate from the well head into the waters of the Gulf of

Mexico. Specifically, after President Obama's declaration of a moratorium, Secretary of the Interior Ken Salazar issued an order, on May 30, 2010, halting drilling operations on new deepwater wells and stopping consideration of permits for the drilling of new deepwater wells for a period of six months (although production on existing deepwater wells was allowed to continue).⁹ However, the legality of the moratorium was successfully challenged in federal court by a supplier of services to offshore oil and gas drilling operators. On June 22, 2010, U.S. District Judge Martin L. C. Feldman issued an opinion in the case and granted a preliminary injunction against enforcement of the moratorium.¹⁰ The basis for Judge Feldman's decision was his view that the government failed to offer specific evidence of the need for the general moratorium and that the moratorium would result in irreparable economic harm to plaintiffs and to the Gulf state economies.¹¹ After the court's rejection of the moratorium, Secretary Salazar changed its terms, announcing on July 12, 2010, a revised, and in some respects slightly less general, order permitting drilling to continue on a number of new deepwater wells, provided that they adhered to adjusted and more rigorous safety rules.¹² On October 12, 2010, the

⁹ Secretary Salazar's order is described in *Press Release, Dept. of the Interior, Interior Issues Directive to Guide Safe, Six-Month Moratorium on Deepwater Drilling* (May 30, 2010), <http://www.doi.gov/news/pressreleases/Interior-Issues-Directive-to-Guide-Safe-Six-Month-Moratorium-on-Deepwater-Drilling.cfm>. This moratorium was actually a broadening of an earlier moratorium applying only to the granting of certain new permits for drilling; see Peter Baker, *Obama Extends Moratorium; Agency Chief Resigns*, N.Y. TIMES, May 28, 2010, <http://www.nytimes.com/2010/05/28/us/28drill.html>.

¹⁰ See, Order and Reasons, *Hornbeck Offshore Services et al v. Kenneth Lee "Ken" Salazar et al*, Civil Action No. 10-1663, 6/22/10. United States District Court, Eastern District of Louisiana.

¹¹ *Id.* at 17-19 (stating that government provided little or no evidence); at 20 (observing that government failed to consider alternative policies) and at 21-22 (discussing irreparable harm).

¹² See *DOI News, Secretary Salazar Issues New Suspensions to Guide Safe Pause on Deepwater Drilling* (July 12, 2010), <http://www.doi.gov/news/doinews/Secretary-Salazar-Issues-New-Suspensions-to-Guide-Safe-Pause-on-Deepwater-Drilling.cfm> and *Q's and A's, New Deepwater Drilling Suspensions*, (July 12, 2010), <http://www.doi.gov/deepwaterhorizon/loader.cfm?csModule=security/getfile&PageID=38349>, which states in Q. 5 restrictive conditions under which new drilling would be permitted and in Q. 6 that only 12 of 33

administration ended the revised moratorium, allowing drilling at new wells, but subject to enhanced safety rules.¹³

The purpose of the moratorium was to prevent accidents from deepwater drilling until the risks of these operations could be better assessed and appropriate steps to remedy them could be identified and undertaken.¹⁴ The BP spill was presumably viewed by the government as constituting important new information about the risks of drilling, as it dramatically demonstrated that serious accidents could occur in deepwater operations and that the oil industry's ability to staunch a spill is compromised when wells are drilled at depth.

The moratorium resulted in substantial economic losses. They included forgone profits of owners of deepwater wells and forgone wages of rig workers and other employees of the deepwater oil industry. Losses were also suffered by owners and employees of firms that provide goods and services to the deepwater oil industry, including manufacturers of drilling equipment and platforms, food and catering services,

new deepwater sites where drilling was ongoing on May 28, 2010, would be allowed to continue drilling. See also John M. Broder, *U.S. Revises Rules for Drilling Ban*, N.Y. TIMES, July 13, 2010, at A15.

¹³ See *Press Release, Dept. of the Interior, Salazar: Deepwater Drilling May Resume for Operators Who Clear Higher Bar for Safety, Environmental Protection* (10/12/10) <http://www.doi.gov/news/>. See also Peter Baker and John M. Broder, *U.S. Lifts the Ban on Deep Drilling With New Rules*, N.Y. TIMES, Oct. 13, 2010, at A1.

¹⁴ See, e.g., *Press Release, Dept. of the Interior, Interior Issues Directive to Guide Safe, Six-Month Moratorium on Deepwater Drilling* (5/30/2010), <http://www.doi.gov/news/>, quoting Secretary Salazar as follows, "The six month moratorium on deepwater drilling will provide time to implement new safety requirements and to allow the Presidential Commission to complete its work Deepwater production from the Gulf of Mexico will continue subject to close oversight and safety requirements, but deepwater drilling operations must safely come to a halt. With the BP oil spill still growing in the Gulf, and investigations and reviews still underway, a six month pause in drilling is needed, appropriate, and prudent." See also *Increased Safety Measures For Energy Development On The Outer Continental Shelf*, Department of the Interior (May 27, 2010), <http://www.doi.gov/>, which in the Executive Summary states that "The Secretary recommends a series of steps immediately to improve the safety of offshore oil and gas drilling operations in Federal waters and a moratorium on certain permitting and drilling activities until the safety measures can be implemented and further analyses completed."

and ocean transport services. Additional losses were experienced by local economies and the nation generally on account of reduced spending by the first two categories of victims of economic losses. Further economic losses fell on the government because it collected less in taxes from businesses and employees, as well as less in royalties from oil production. The magnitude of these various types of losses was large. In a widely-cited report, Joseph Mason, a professor at Louisiana State University, estimated that the moratorium would cause approximately \$2.1 billion in economic losses to the Gulf states, including approximately \$500 million in lost wages.¹⁵ Given the importance of deepwater drilling in the Gulf – 64% of drilling leases in the Gulf are in deep water¹⁶ – it is not surprising that the economic losses due to the moratorium were significant.

2. Legal Responsibility for Moratorium-Related Losses

Is it possible that BP would have to pay damages resulting from the moratorium on oil drilling that followed the Deepwater Horizon accident? The most important source of liability for oil spills is the Oil Pollution Act of 1990 (OPA), which was enacted after the Exxon Valdez oil spill.¹⁷ OPA holds parties strictly liable for a number of categories of harm caused by oil spills,¹⁸ including economic losses.¹⁹

¹⁵ See Joseph Mason, *The Economic Cost of a Moratorium on Gas and Oil Exploration to the Gulf Region*, Louisiana State University, July, 2010. See also Mason's related Congressional testimony, including "Testimony of Joseph Mason Before the Senate Committee on Small Business and Entrepreneurship, July 27, 2010, "The Deepwater Drilling Moratorium: A Second Economic Disaster for Small Businesses?"

¹⁶ See, Increased Safety Measures, *supra* note 14, at 3.

¹⁷ Oil Pollution Act of 1990, 33 U.S.C. §2701, *et seq.* (2004). Responsibility for economic losses from oil spills may also be found under state common law and under admiralty law, but it is less broad than under OPA, so that I consider only OPA here. On possible liability for economic loss caused by the BP oil spill, see generally John C. P. Goldberg, *Liability for Economic Loss in Connection with the Deepwater Horizon Spill*, Nov. 22, 2010. This report was written by Goldberg, a professor at Harvard Law School, at

Although OPA is not explicit about the principles of causation to be employed in its use, the legislative history of OPA, several closely-related statutes, the common law and admiralty law backgrounds on which OPA expands, and some judicial decisions that have applied OPA suggest that OPA authorizes claims for economic losses in two types of situation: a party suffered a loss because an income earning resource to which the party has rights of use was *physically harmed* due to the spill; or a party suffered a loss because the party was *denied access* to such an income earning resource due to the spill.²⁰ The award of damages for economic losses in the second type of situation will be of particular interest to us. Such award of damages is consistent with the view that under OPA, fishermen would be able to obtain compensation for economic losses if the authorities barred fishing due to the risk of contamination of fish.²¹ The award of damages in the second type of situation is illustrated by the decision in a case that was brought under OPA, *Sekco Energy, Inc. v. M/V Margaret Chouest*.²² In that case, Sekco Energy, the owner of an oil drilling platform, obtained damages for lost profits from the owner of a vessel, the Margaret Chouest. Sekco Energy lost profits because its platform

the request of Kenneth Feinberg in his capacity as administrator of the Gulf Coast Claims Facility, which distributes the \$20 billion fund noted above.

¹⁸ 33 U.S.C. § 2702(a) (2006).

¹⁹ 33 U.S.C. §2702(b)(2)(E).

²⁰ Goldberg, *supra* note 17, at 25-35, 39-42.

²¹ *Id.* at 12, where Goldberg describes the following example: “C is a commercial fisherman who relies for his business on fisheries in the Gulf of Mexico. C claims that oil from a spill for which Oil Co. is responsible has polluted the waters in which he fishes, and that he has been and will be unable to fish for a period of time, resulting in lost profits.” Goldberg states at 40 that C would clearly recover lost profits under OPA. He also refers at 33-34 to similar examples discussed in the hearings on OPA suggesting that the intent of legislators was that fishermen be able to collect economic losses if fishing was prevented by an oil spill.

²² 820 F. Supp. 1008 (E.D La. 1993).

had to be shut down to enable the government to conduct an investigation of a spill caused by the vessel. Significantly, the accident that led to the spill did not damage the platform itself.

The moratorium can be analogized to government authorities barring fishing or to their preventing the use of the drilling platform in *Chouest*. Likewise, the moratorium was a governmental act ostensibly taken for prudential reasons that denied owners of deepwater drilling platforms and workers on those platforms access to the platforms. Consequently, it appears that these owners and workers could make a colorable claim under OPA for economic losses arising from the moratorium.

Of course, counterarguments could be made to such a claim. One would anticipate these to revolve around issues of proximate causation. Notably, it might be asserted that the moratorium was a risk outside the ambit of those that OPA was intended to address, or that the moratorium was the result of a supervening, discretionary act of the government. To these counterarguments, there are responses,²³ and I offer no opinion on the likelihood that claims for moratorium-related losses would fare well under OPA. Rather, I suggest that it is conceivable that a claim for these losses would succeed.

If damages for economic losses were allowed under OPA, the types of economic losses would include losses of profits of oil companies that would have been able to drill in the absence of the moratorium, and forgone income of their employees. However, the

²³ As to the ambit of risks, it could be averred that just as OPA is intended to compensate for losses due to a prohibition on fishing caused by oil pollution, so also OPA is intended to compensate for other prohibitions taken in the public interest following an oil spill. Regarding government discretion, it could be observed that even though a prohibition on fishing due to pollution of the waters is a discretionary act of government, recovery under OPA would be allowed, assuming that the prohibition was clearly in the public interest. Likewise, it could be said that even though a moratorium on deepwater drilling is a discretionary act of government, recovery under OPA should not be barred, assuming that the moratorium was clearly in the public interest.

economic losses would not seem to include forgone earnings of local economies on account of lower spending by the deepwater drilling industry and its employees, for these losses are not the immediate result of denial of access to income earning resources.

Let me now turn from the law to policy and consider whether there is a policy basis for holding BP liable for losses due to the moratorium. I will argue that there is none, so that if the law is informed by policy, it should not result in BP being held liable for losses associated with the moratorium.

3. The Economic Policy Argument Against Imposition of Liability for Moratorium-Related Losses

The general economic basis for setting damages equal to harm. Let me begin by reviewing the economic logic supporting the conclusion that damages under strict liability should equal harm for the purpose of inducing potential injurers to reduce risk optimally.²⁴ (I will comment on the other major purpose of tort law, compensation of victims, in the next section.)

One aspect of risk reduction is motivating potential injurers to adopt socially desirable precautions, that is, precautions for which the cost is less than the benefit in terms of risk reduction. For example, suppose a blowout protector at a new oil well that is being drilled would lower the chance of a \$100 million accident from 10% to 5%.

Then the blowout protector would yield an expected reduction in harm of $5\% \times \$100$

²⁴ I focus on strict liability because this is the form of liability under OPA. I note, however, that under the negligence rule, it is also socially desirable that damages equal harm for the purpose of inducing potential injurers to take optimal precautions. On the economic theory of liability and incentives summarized here, see generally WILLIAM M. LANDES & RICHARD A. POSNER, *THE ECONOMIC STRUCTURE OF TORT LAW* (1987), chapters 3 and 4, and STEVEN SHAVELL, *ECONOMIC ANALYSIS OF ACCIDENT LAW* (1987), chapters 2 and 3.

million, or \$5 million. Hence, the blowout protector would be socially desirable for the driller to obtain if, but only if, its cost were less than \$5 million.

It is clear that the driller would purchase the blowout protector exactly when that is socially desirable if liability is strict and damages for an accident equal the harm it causes. In these circumstances, having the blowout protector will save the driller expected liability expenses of \$5 million, implying that the driller will buy the protector if and only if its cost is less than \$5 million.

Furthermore, it is evident that if damages are less than the harm from an accident, the driller might not take a desirable precaution when it ought, and that if damages exceed the harm, the driller might take a precaution when that is not socially desirable. To illustrate, if damages are \$50 million, then the driller would save only $5\% \times \$50$ million, or \$2.5 million, from having the blowout protector. Thus, if the protector's cost is between \$2.5 million and \$5 million, the driller would not purchase the protector even though that would be socially desirable. Conversely, if damages are \$150 million, the driller would save $5\% \times \$150$ million, or \$7.5 million, from having the blowout protector, so the driller would obtain it as long as it costs less than \$7.5 million. Hence, if the protector costs between \$5 million and \$7.5 million, the driller would purchase it even though that would not be socially desirable.

A second dimension of risk reduction concerns engagement in risky activities. Society has an interest in motivating parties not to undertake risky activities unless the benefits obtained from the activities outweigh their costs, including the accident losses that the activities generate. Note that many activities create substantial accident losses even though injurers take socially desirable precautions when engaging in them, for such

precautions often, if not usually, only reduce – they do not eliminate – the risk of accidents. In our example, if the blowout protector costs \$3 million, it will be desirable for the driller to purchase it, but there will be a residual risk of 5% of an accident, resulting in expected harm of \$5 million. It would therefore be best that the activity of drilling go forward only if the net benefit derived from drilling exceeds the \$3 million cost of the blowout protector plus the \$5 million in expected harm.

This socially desirable outcome will occur if the injurer faces strict liability for harm and damages for an accident equal the harm of \$100 million. In these circumstances, the driller will make the socially correct decision whether to engage in drilling operations because the driller would bear an expected liability cost equal to the expected social cost of \$5 million for engaging in its operations.

Further, if the level of damages is less than harm, the driller might engage in drilling too much from a social standpoint, and if the level of damages exceeds harm, the driller might be undesirably discouraged from drilling. If damages are \$50 million, the expected liability cost of drilling would be \$2.5 million, so the driller would engage in drilling whenever its profits exceed \$2.5 million, rather than only when its profits exceed \$5 million; and if damages are \$150 million, the driller would engage in drilling only when its profits exceed \$7.5 million.

The benefits and costs associated with a socially desirable moratorium. Now consider a socially desirable moratorium on an activity, such as oil drilling, that is declared in the aftermath of an accident. Specifically, make the following assumptions: First, an accident not only causes direct harm, but it also generates new information about the dangers of the activity and added precautions that can be taken to lower the dangers at

other locations where the activity is undertaken. Second, this new information implies that a temporary cessation of the activity would yield social benefits that exceed its costs because the cessation would allow the precautions to be taken.

To illustrate, suppose that drilling is being undertaken at two new wells and an accident resulting in an oil spill occurs at the first well. Before the accident, drilling at the second well had been thought completely safe, but as a result of the accident, it is realized that drilling at the second well involves risk which, if not addressed, will generate an expected harm of \$20 million over the next six months. If, though, the second well is shut down for six months, a period that will allow for additional safety steps to be taken, the risk will be eliminated. The total costs of the shutdown are \$5 million, comprised of lost profits and wages of \$3 million, and the expense of safety devices of \$2 million.²⁵ Then it will be socially desirable to shut down the second well for six months, as this will save society \$20 million minus \$5 million, or \$15 million.²⁶ Thus, a six-month moratorium would be socially desirable.

Why damages for an accident should not include moratorium-caused losses if the moratorium is socially desirable. Let us next examine the question what damages should be when an accident occurs at the first well that leads to a socially desirable moratorium

²⁵ I treat such economic losses as social losses here and elsewhere in this article. However, economic losses generally are not equivalent to social losses. For example, the profits lost by one firm on account of an interruption in its ability to carry on its operations may result in an increase in the business and profits of another firm, as demand is diverted to this other firm; hence, the second firm's increase in business mitigates the social loss caused by the first firm's loss of business. See Shavell, *supra* note 24, at 135-140; and Urs Schweizer, *Tortious Acts Affecting Markets*, 27 INTL. REV. LAW AND ECONOMICS 49 (2007). It would be distracting for our purposes, however, to consider the complexities of this issue.

²⁶ I am implicitly assuming that total production of oil from the second well will be the same whether or not there is a moratorium – the only effect of the moratorium is to allow time to install new safety devices, in order to prevent \$20 million in harm, and to generate economic losses over that period. In a realistic rather than stylized model, the time value of money would have to be taken into account, for the moratorium would in part delay the time pattern of earnings. Consideration of this issue is not needed for our purposes, so I abstract from it.

on drilling at the second well. Note that under our assumptions, the accident causes the moratorium in the usual “but for” sense – the moratorium would not have been declared had the accident at the first well not occurred, for the accident produced new information about dangers elsewhere that led to the moratorium.

The total loss due to an accident is the combined effect of the direct loss from the accident and the moratorium-associated effect of the accident. The direct effect of the accident at the first well we will assume to be \$100 million, as in the earlier example. The moratorium-associated effect of the accident at the second well is the benefit it provides less the loss it generates, which is \$15 million. Hence, the total loss due to the accident at the first well is the \$100 million direct loss minus the \$15 million net benefit from the moratorium. This equals \$85 million; the amount is less than the \$100 million direct loss since on balance the moratorium was a good thing – the accident was effectively a wake-up call to society that allowed it to avert expected losses from drilling at a different new well. Note that there is no paradox in the calculation that the harm from the accident is less than its direct amount of \$100 million. One way of understanding this point is to consider that if the accident had not happened, society would not have known that the risk at the second well was so high, and given my assumptions, society would have suffered an additional \$20 million in expected losses because there would not have been any moratorium on drilling at that well.

Let us now consider the issue of damages. Should the moratorium-caused economic losses of \$3 million be added to the direct accident losses of \$100 million? Clearly, the answer is no. The true total social losses caused by the accident are \$85 million. Thus, normal damages of \$100 million are too high, so that making them higher

still, equal to \$103 million, would only exacerbate the problem of excessive damages. Thus, according to conventional economic deterrence arguments, we arrive at an unambiguous conclusion: damages should not be augmented by the economic losses caused by the moratorium. Imposing excessive damages, such as \$103 million, could lead in general to the undesirable consequences I noted above, namely to the taking of precautions that cost more than they are worth to society and to the discouragement of participation in socially desirable activities.

Indeed, in principle, damages should be reduced from \$100 million to \$85 million. This could be achieved by giving the party liable for the accident at the first well a net credit of \$15 million against its conventional damages of \$100 million. Although this is the theoretically correct result, I do not suggest that damages in fact be computed in this way, as I explain in Section 4.

Why damages should not include moratorium-caused losses if the moratorium is undesirable. Suppose that a moratorium is declared after an accident but that the moratorium is socially undesirable because the benefits it yields are less than the costs it generates. For example, suppose that we modify our moratorium example: a cessation of drilling at the second well would prevent expected losses of only \$10 million, but would involve economic losses of \$20 million and expenses for safety devices of \$15 million. Then the moratorium would create a net loss of \$35 million minus \$10 million, or \$25 million (rather than the net benefit of \$25 million in the original example of the moratorium).

Under this assumption, what should damages be for the firm that caused the accident at the first well, leading to the moratorium? It might seem that \$25 million

should be added to the direct losses of \$100 million, since the total losses caused by the accident include the \$25 million of net social harm due to the moratorium.

However, imposing damages for moratorium losses might perversely affect the government's incentives to declare ill-advised moratoriums. Suppose that if damages are awarded for moratorium-related economic losses, the government will hear fewer complaints, experience less political blowback, from those who suffer economic losses on account of a moratorium, for the victims of economic losses will be compensated by damage payments. The government may therefore be more often tempted for political reasons (notably, to appear to address the problem caused by a dramatic accident, such as the Deepwater Horizon accident) to declare moratoriums that are not in the true public interest. In particular, suppose that if damages are not awarded for moratorium-related economic losses, the government will be induced to declare only socially desirable moratoriums. Then damages for economic losses should not be awarded when a moratorium is socially undesirable.

4. Discussion and Conclusion

I want here to interpret the analysis in the preceding section, comment on some of the assumptions that I made, and then conclude.

First, the main point, that adding moratorium losses to normal damages is unsound from a policy perspective, can be better appreciated by considering a hypothetical example. Suppose that before engaging in any deepwater operations in the Gulf of Mexico, an oil company, "Oilco," drilled a test well to ascertain the dangers of deepwater operations. Suppose too that Oilco discovered – but without causing any spill

– that the risks of these operations were significantly higher than anticipated, calling for use of enhanced safety practices there and at other deepwater sites. Suppose also that as a result of this information, President Obama justifiably declared a moratorium to prevent excessively risky deepwater drilling by oil companies in the Gulf from going forward until new safety steps were undertaken. Under this counterfactual scenario, the reader would presumably agree that imposing damages on Oilco for economic losses due to the moratorium would not be sensible: Oilco caused no spill; all that Oilco did was develop useful information that saved society from experiencing future harm from deepwater drilling. To impose liability in these circumstances would not only serve no positive purpose, it could have undesirable consequences, including an undesirable chilling effect on drilling test wells. Indeed, Oilco might not have drilled its test well to gauge danger if it had thought that that could lead to large moratorium-related liability. This example is revealing because it isolates the effect of new information about danger as the cause of a moratorium. That the actual BP event resulted both in a spill and in the development of information leading to the moratorium is, I suspect, what leads to a misleading intuition held by some that the moratorium-related losses should be made good by BP.

It may be useful to observe as well that in contexts other than the BP oil spill, firms engage in activities that occasionally produce information leading to government actions that impose losses on other parties, yet to my knowledge no one contemplates imposing liability on the firms for that reason. Consider the recent problems at the Fukushima Daiichi nuclear power plant after the March 11, 2011, earthquake and tsunami

that struck northeastern Japan.²⁷ This event has resulted in delays in plans to build more nuclear power plants in Japan and in other countries,²⁸ but no one suggests that the plant owner, the Tokyo Electric Power Company, should be responsible for losses in wages of construction workers or other losses associated with these delays in nuclear power plant construction. Similarly, consider the accident in which part of the fuselage of a Southwest Airlines Boeing 737 aircraft blew off during a flight on April 1, 2011.²⁹ This incident led the FAA to call for airlines to inspect certain Boeing 737 aircraft for metal fatigue.³⁰ Again, I am aware of no calls for Southwest Airlines to be held responsible for the losses due to the FAA-mandated inspections, and it would be surprising to encounter such demands.

Second, according to the analysis, BP's damages should in principle be reduced if the moratorium was socially desirable, yet I do not suggest that this necessarily be done in practice. The chief reason is difficulty in estimating the risk-reduction benefits of the moratorium. That would require an unusually complex inquiry, for it would involve predicting the likelihood and magnitude of spills from existing new wells and planned wells affected by the moratorium had the moratorium not been declared. In contrast,

²⁷ See Martin Fackler, *Powerful Quake and Tsunami Devastate Northern Japan*, N.Y. TIMES, March 12, 2011, at A1, and Martin Fackler & Mark McDonald, *Death Toll Estimate in Japan Soars as Relief Efforts Intensify*, N.Y. TIMES, March 14, 2011 at A1.

²⁸ See Andrew Pollack, *Japan's Nuclear Future in the Balance*, N.Y. TIMES, May 10, 2011, at B1, Jo Becker & William J. Broad, *New Doubts About Turning Plutonium Into Fuel*, N.Y. TIMES, April 2011, at A1, Judy Dempsey Berlin, *Panel Urges Germany to Close Nuclear Plants By 2021*, N.Y. TIMES, May 12, 2011 at B7, and Kosuke Takahashi, *Fukushima marks a 'Nuclear Ice Age'*, ASIA TIMES, April 5, 2011.

²⁹ See Elizabeth A. Harris, *After Scare, Southwest Grounds Planes*, N.Y. TIMES, Apr. 3, 2011, at A19.

³⁰ See Jad Mouawad & Christopher Drew, *More 737 Cracks Found; U.S. Seeks Inspections*, N.Y. TIMES, Apr. 5, 2011, at A1.

excluding the economic losses due to the moratorium from damages requires no estimation.

Third, I considered in the analysis both the possibility of a desirable and of an undesirable moratorium, and found that under each possibility BP should not pay for economic losses due to the moratorium. Nevertheless, one may ask whether the moratorium declared after the BP spill began was well-advised. It is not easy to come to a judgment about this question. For although we have some idea of the economic costs of the moratorium, as I described, I am aware of no estimates of its value in reducing risk.

Fourth, I have considered only the deterrence-related goal of tort liability, not its compensatory goal. In this regard, an important general consideration is that the tort system is a very expensive means of accomplishing compensation. On average, it appears to cost more than a dollar to deliver each dollar of compensation to a victim through the medium of the tort system (this average being computed over both settled and adjudicated cases); the tort system can be likened to an ATM machine that imposes a service charge of over a dollar for each dollar that is withdrawn.³¹ The costly nature of the tort system relative to other ways of insuring victims of loss, including government-provided insurance or disaster relief, implies that from an economic policy perspective, the tort system cannot be justified solely as a method of assuring compensation to victims of loss.

In light of the arguments that have been advanced showing that imposition of liability for moratorium-related economic losses does not achieve the deterrence

³¹ Tillinghast-Towers Perrin reports in a nationwide survey of the tort system that victims receive only \$0.46 of every dollar paid by defendants; *see* TILLINGHAST-TOWERS PERRIN, U.S. TORT COSTS: 2003 UPDATE 17 (2003) (victims receive \$0.22 for economic losses and \$0.24 for noneconomic losses). Other authors come to similar conclusions, as discussed in A. Mitchell Polinsky & Steven Shavell, *The Uneasy Case for Product Liability*, 123 HARV. LAW REV. 2010, at 1469-1470.

objective of tort law and that the tort system should not be employed purely as a means of compensation, I conclude that there is no clear policy warrant for BP to pay for these losses.