

THE OIL-SPILL LIABILITY SOLUTION

An insurance-centric approach would avert further disasters and help preserve independents' presence in the offshore arena.

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Restoring the vibrant economic milieu that existed in the deepwater Gulf of Mexico prior to the Macondo blowout will require, among other things, a complete restructuring of how oil-spill risk is mitigated and its liability parsed.

To do nothing is not an option. Estimates of BP's total expenditures for plugging the Macondo well, cleaning up the spill and paying claims are as high as \$20 billion. At present, it is doubtful that sufficient capacity exists in the insurance market for handling liability of this magnitude.

In theory, this problem could be overcome if the national oil companies (NOCs)—with their effectively infinite balance sheets—and the largest of the supermajors elect to self-insure. However, it is not clear that these companies will pursue this option. After all, wouldn't oil-spill liability be reflected by a reduction in the supermajor's share price?

A cynical view is that the NOCs and the supermajors will indeed self-insure. It would effectively eliminate competition for very attractive assets. Moreover, what are the odds of another spill occurring, particularly in light of the increased safety standards and regulations that are sure to come?

Leaving the deepwater Gulf of Mexico to the relatively few companies that can and would self-insure would be an unfavorable outcome. A recent study by IHS Global Insight concluded that, if independents are excluded from the Gulf of Mexico, hundreds of thousands of jobs would disappear and more than \$100 bil-

lion in taxes and royalties would vanish in just 10 years. There is a reason why nearly half of the reserves in the deepwater Gulf of Mexico have been developed, compared with just a quarter of the deepwater reserves in Brazil and Angola: the economic dynamism provided by independents.

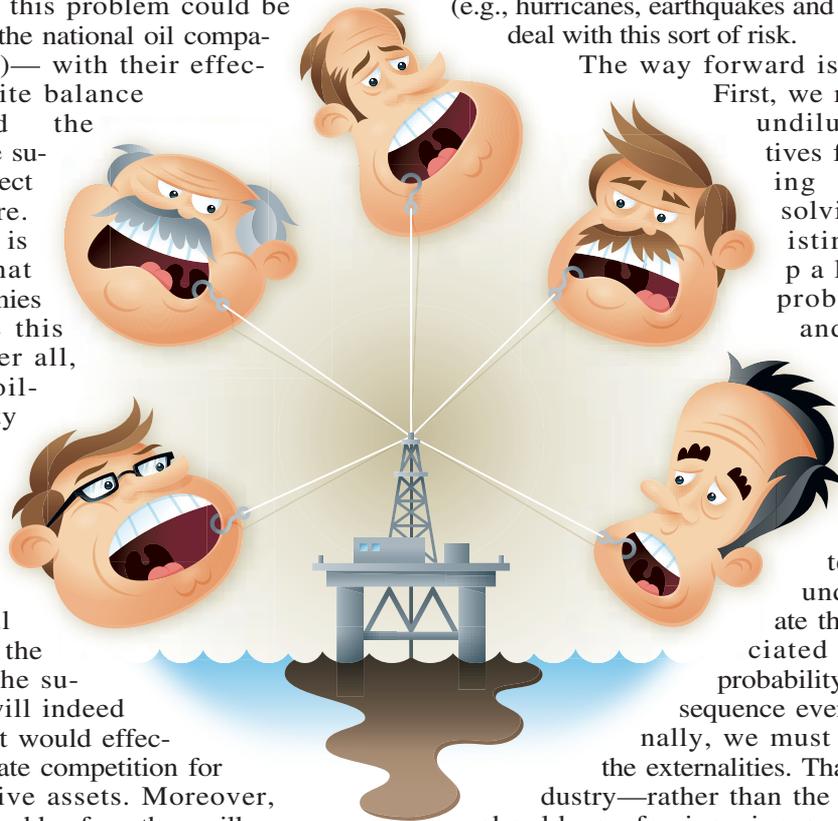
Fortunately, this dynamism can be preserved. Managing low-probability, high-consequence risk such as that posed by oil spills is a well-worn path. Industries that face similar risk include nuclear power, chemicals, and aviation. Insurers who deal with catastrophic weather (e.g., hurricanes, earthquakes and floods) also deal with this sort of risk.

The way forward is threefold.

First, we must create undiluted incentives for promoting safety by solving the existing principal/agent problem in oil and gas drilling. Second, we must counteract the natural human tendency to underappreciate the risk associated with low-probability, high-consequence events. And finally, we must internalize the externalities. That is, the industry—rather than the taxpayer—should pay for insuring and guarding against oil-spill risk, and this must be done without destroying the economics of drilling in oil provinces like the Gulf of Mexico.

The principal/agent problem

The oil and gas industry suffers from a severe principal/agent problem. Consider, for example, the quandary that clearly existed during the drilling of the Macondo well. There, com-



pany representatives on the rig (the agents) had incentives that were misaligned with the interests of their employer and society as a whole (the principals). Certainly, society places the avoidance of oil spills and concern for safety above all else. A company representative drilling a well costing \$1 million per day that is over time and over budget may be very concerned about safety, but nonetheless is subject to economic pressures that could lead to decisions running counter to the interests of the principals.

To solve the principal/agent problem, there must be an agent that has an undiluted interest in promoting safety and the authority to immediately halt unsafe drilling operations. In many industries—particularly those susceptible to high-consequence events—this role is played by insurance companies. For example, in the nuclear-power industry, American Nuclear Insurers (ANI) and Nuclear Electric Insurance Ltd. (NEIL) have an undiluted interest in, and actively promote, nuclear-reactor safety. FM Global plays a similar role in certain other heavy industries.

A critical characteristic of these insurance companies is that they are independent of the

companies they underwrite. Their undiluted goal is to provide an appropriate return to their shareholders by correctly pricing the risk, being adequately capitalized and implementing practices and technologies that reduce the risk.

Underappreciation of risk

The second order of business in managing oil-spill risk is to counteract the well-known human tendency to throw expected-utility theory (where the decision maker chooses between risky prospects by comparing their expected utility values) out the window and underinsure and underprepare for low-probability, high-consequence events. Low subscription rates for flood, earthquake, and crop insurance are examples.

Insurance against oil-spill liability is required, of course, for oil and gas operations. So are oil-spill-response plans. However, an insurance company concerned only with safety would have a strong incentive to guarantee sufficient liability coverage (it's clearly missing now) and that the technology and operational capability actually exist to implement an oil-spill-response plan (currently they don't exist for deepwater).

Shared loss is another effective defense against complacency in the face of low-probability, high-consequence events. Shared loss is

The oil spill in the Gulf prompted a spate of legislative initiatives.

Legislation Update	
Safety / Operations	Environmental
The Consolidated Land, Energy, and Aquatic Resources (CLEAR) Act <i>Sponsor: Rep. Nick J. Rahall (D-WV)</i>	
Independent certification of critical equipment	Demonstration of the ability to respond to potential blowouts or major spills
Monthly inspections of drilling rigs, annual inspections of OCS facilities, and periodic surprise inspections	Cessation from issuing environmental waivers
Increases civil penalties from \$20,000 per day to \$75,000 or \$150,000 per day, depending on the violation, and raises the maximum criminal fine from \$100,000 to \$10,000,000	New procedures for the use of chemical dispersants
Training academy for federal inspectors	
The Blowout Prevention Act <i>Sponsors: Rep. Henry A. Waxman (D-CA), Rep. Edward J. Markey (D-MA) and Rep. Bart Stupak (D-MI)</i>	
CEO certification of all well designs and drilling plans	Requirement to maintain a team of experienced and highly qualified engineers to advise the well operator on safety
Minimum requirements for blowout preventers	Potential fine of up to \$10 million per day for knowing and willful violations
New standards for casing and cementing procedures	
Independent, third-party inspectors selected by the government to certify all blowout preventers, well designs, and cementing procedures	
OCS Management Reform Act <i>Sponsors: Sen. Jeff Bingaman (D-NM), Byron Dorgan (D-ND), Lisa Murkowski (R-AK) and Debbie Ann Stabenow (D-MI)</i>	
Replaces MMS with a new structure that separates the revenue and royalty collection activities from the leasing, environmental protection, and safety functions	Requires potential penalties be automatically increased every year to keep pace with inflation
Limits lease sales to operators who have fulfilled all of their safety and environmental responsibilities	Eliminates deadlines for processing drilling applications to allow for increased environmental analysis
Requires redundancy in systems such as blowout preventers	
Minimum number of both scheduled and unscheduled inspections	

Source: Pine Brook Road Partners LLC

the concept that, if an oil spill occurs in a particular country or basin, all oil companies operating in the area incur loss. The advantage of this concept is that it imparts shared ownership of the risk. Companies must be concerned not only with their environmental, health and safety performance, but also with that of their peers.

There is ample precedent for shared loss in industries subject to low-probability, high-consequence events. For example, in the U.S. nuclear-power business, the Price-Anderson Nuclear Industries Indemnity Act creates an effective framework for implementing shared loss.

Under Price-Anderson, each nuclear facility is on the hook for up to \$300 million in damages to others and up to \$1 billion in cleanup costs at the facility itself in the event of an accident. Shared loss kicks in when the \$300 million limit in damages to others is exceeded. When this happens, the entire nuclear industry is responsible for more than \$10 billion of this “third-party” liability.

This shared, \$10-billion second tier of insurance increases the chances of a loss for every company in the nuclear industry. This has led to the formation of INPO—the Institute of Nuclear Power Operations—which promotes safety and reliability through accreditation, plant evaluations, training and information exchange.

Shared loss undoubtedly will be objectionable to individual oil and gas operators. They will ask: Why should I be on the hook for another’s bad deeds? The answer to this question is that they already are on the hook. After all, the economic and reputational losses incurred during the Macondo disaster have been quite material and shared widely. Bad actors must not merely be shunned. They must be eliminated. Shared loss creates the incentives for this outcome.

Internalizing externalities

Shared loss also is the key to internalizing the externalities of oil-spill liability. That is, it creates a mechanism wherein the costs of insuring against oil-spill liability are borne by the oil industry, rather than by the taxpayer. It also provides a way to insure risk without bankrupting the industry or making certain petroliferous basins uneconomic except for companies with effectively limitless balance sheets.

Again, Price-Anderson provides an example. Here, both tiers of insurance—the initial \$300 million for an individual nuclear facility and the \$10 billion from the industry—are provided by a combination of private insurance and insurance pools funded by the industry itself. Thus, environmental, health and safety risks are properly priced into the business, as they should be.

In addition, Price-Anderson creates enormous insurance capacity without bankrupting the industry. It does this through retrospective premiums for the second tier of third-party lia-

bility rather than prospective premiums. That is, the nuclear industry only funds the second tier when an accident actually happens. Of course, each facility must demonstrate to the Nuclear Regulatory Commission’s satisfaction that it has the ability to make good on its obligation to the second tier by posting a bond, letter of credit or through some other means. The government also has the ability to act as a buffer for the second tier by funding it immediately in the event of an accident and then recouping its costs from the industry over time.

Similar to Price-Anderson, all oil and gas operators in a given region (e.g., the Gulf of Mexico) should provide a second tier of liability insurance that is sufficient to handle an oil spill. However, since the oil industry is more fragmented than the nuclear industry, the premiums for this tier should be both prospective and retrospective.

The prospective premiums should be in the form of a fee on production and drilling in the region. This is similar to the existing Oil Pollution Act of 1990, which imposes an eight-cent-per-barrel fee on production to fund an Oil Spill Liability Trust Fund. As in Price-Anderson, each operator in a region would have to post a bond or some other instrument to make good on its retrospective premiums.

The way forward

One can easily imagine how useful a properly capitalized and incentivized insurer would have been in averting the Macondo tragedy. Surely, insurance would not have been available in deepwater until technologies were developed for immediately and completely containing a blowout in the unlikely event that one should occur.

Surely, a response such as “no cement bond log, no insurance; no insurance, no drilling” from a risk manager with an undiluted interest in safety present on the rig floor would have been a better response than “...Well, I guess that’s what we have those (blowout preventer) pincers for...” during that fateful meeting 11 hours before the Macondo explosion.

It is clear that an insurance-centric solution that corrects the diluted incentives associated with the principal/agent problem, raises the specter of loss for the low-probability, high-consequence events that are oil spills and internalizes the external costs of insuring oil-spill risk is the way forward. Precedent for these solutions may be found in portions of the Price-Anderson Nuclear Industries Indemnity Act and the Oil Pollution Act. By following this strategy, the U.S. oil and gas industry and its tens of thousands of jobs and billions of dollars in revenue will be preserved. □

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