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Muhammad Masum Billah
Sultan Qaboos University, Oman

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ARTICLE

The Role of Insurance in Providing Adequate Compensation and in Reducing Pollution Incidents: the Case of the International Oil Pollution Liability Regime

MUHAMMAD MASUM BILLAH*

In terms of *compensation*, the international oil pollution liability regime[1] is very successful, but its success in *deterring* negligent navigation is not above question. That said, the stated primary goal of the oil pollution liability regime is to provide adequate *compensation* against oil pollution damage.[2] In

* Muhammad Masum Billah, Assistant Professor, Sultan Qaboos University, Oman, LL.D (University of Ottawa), LL.M (University of Alberta), LL.B (Int. Islamic University Malaysia).

1. The international oil pollution compensation regime consists of two international conventions: (1) International Convention on Civil Liability for Oil Pollution Damage, Nov. 29, 1969, 9 I.L.M. 45 (1970); and (2) International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, Dec. 18, 1971, 16 I.L.M 621 (1972). This article discusses the conventions as amended in 1992, *see* INT'L CONVENTION ON CIVIL LIABILITY FOR OIL POLLUTION DAMAGE, 1992, *reprinted in* INT'L OIL COMPENSATION FUNDS, LIABILITY AND COMPENSATION FOR OIL POLLUTION DAMAGE: TEXTS OF THE 1992 CONVENTIONS AND THE SUPPLEMENTARY FUND PROTOCOL 7-19 (2005), *available at* http://www.iopcfund.org/npdf/Conventions%20English.pdf [hereinafter CLC]; *see* INT'L CONVENTION ON THE ESTABLISHMENT OF AN INT'L FUND FOR COMPENSATION FOR OIL POLLUTION DAMAGE, 1992, *reprinted in* INT'L OIL COMPENSATION FUNDS, LIABILITY AND COMPENSATION FOR OIL POLLUTION DAMAGE: TEXTS OF THE 1992 CONVENTIONS AND THE SUPPLEMENTARY FUND PROTOCOL 25-48 (2005), *available at* http://www.iopcfund.org/npdf/ Conventions%20English.pdf [hereinafter Fund Convention].

2. This goal is explicitly stated in the preambles to both the CLC and the Fund Convention: "The State Parties to the present Convention . . . [are] CONVINCED of the need to ensure that *adequate compensation* is available . . ." CLC, *supra* note 1, at 7 (emphasis added); Fund Convention, *supra* note 1, at 27 (emphasis added).

fulfilling this goal, the oil pollution liability regime has achieved great success.[3] The success of the oil pollution liability regime in guaranteeing adequate compensation can be attributed to its various insurance provisions. It not only imposes *compulsory insurance* on ship-owners but also requires them to carry a *certificate of insurance* as proof. The regime then ensures oil pollution victims access to insurance proceeds by allowing them to bring *direct* action against the insurers.

To further guarantee adequate compensation, it creates various compensation funds, contributed mainly by the oil industry. Under the international liability regime, there are two such funds: the International Oil Pollution Compensation Fund (IOPC) and the Supplementary Fund. Additional funds exist in North America: in Canada, the Ship-Source Oil Pollution Fund (SOPF)[4] covers oil pollution damage not recoverable under the international regime; and in the United States, the Oil Spill Liability Trust Fund (OSLTF)[5] provides compensation above and beyond ship-owners' liability under the Oil Pollution Act of 1990 (OPA).[6] These funds function as an additional tier of *insurance* against oil pollution damage.

3. The problem with *compensation* as the primary goal is that it ignores the possible effect of law on the behavior of liable parties in reducing pollution incidents. Consequently, the primary focus of the states' representatives during the negotiation of the CLC and the Fund Convention was on *who should pay* for oil pollution damage instead of *who could be induced through liability to reduce the damage*. *See* R. MICHAEL M'GONIGLE & MARK W. ZACHER, POLLUTION, POLITICS, AND INTERNATIONAL LAW: TANKERS AT SEA 183-90 (1981) (providing for an excellent account of the negotiation).

4. Marine Liability Act, S.C. 2001, c. 6, s. 91-93 (Can.). Canada ratified the conventions on April 24, 1989. *See* Suzanne Hawkes & R. Michael M'Gonigle, *A Black (and Rising?) Tide: Controlling Maritime Oil Pollution in Canada*, 30 OSGOODE HALL L. J. 165, 226-27 (1992). Canada cast the sole negative vote against the adoption of the CLC in 1969, objecting to its limited liability and narrow geographical scope of application. Its application was limited at that time to territorial water, although the 1992 Protocol extended its application to the exclusive economic zone (EEZ). *See* M'GONIGLE & ZACHER, *supra* note 3, at 176.

5. 26 U.S.C. § 9509 (2006). The U.S. is not a party to the international oil pollution liability regime. It has its own oil pollution liability regime, contained in the Oil Pollution Act, 33 U.S.C. §§ 2701-2761 (2006) [hereinafter OPA]. Although the OPA is similar in structure to the international liability regime, the OPA's scope is wider than that of the international regime.

6. 33 U.S.C. §§ 2701-2761.

Though intended mainly to provide adequate *compensation*, these insurance provisions also incidentally lead to improved *deterrence*. This is because insurance premiums needed for the above-mentioned insurance arrangements will roughly reflect the compensation paid to oil pollution victims; higher compensation will entail higher premiums. Higher premiums will in turn induce insured ship-owners and the oil industry towards a heightened standard of care so that they pay less in premium. This incidental effect of insurance arrangements explains at least partly why incidents of oil pollution are on the decline.[7]

The main focus of this article is to prove how the above insurance arrangements under the oil pollution liability regime have made it a very effective liability regime both in terms of compensation and deterrence (the effect of deterrence being the reduction of oil pollution incidents). As these two concepts would be repeated throughout the article, brief discussion of their relative weight as goals of liability law may not be out of place here. Although both compensation and deterrence are legitimate goals of liability law,[8] the latter is the more important goal between the two. In fact, under economic analysis of liability law, which is used quite extensively in this article, deterrence is the primary goal of liability law due to its effect on the reduction of future incidents of liability.[9] Fewer incidents will lower social loss and thus will improve total social welfare/utility. On the other hand, compensation transfers money from one party to another without any change in the total social welfare.

Of course, when compensation is paid by a party at fault, as is the case in most situations of liability, that party is also deterred from similar acts or omissions in the future. However, the goal of adequate compensation can also be achieved without any improvement on deterrence. This may happen when compensation comes from a source/party not liable for an incident

7. *See Statistics*, INT'L TANKER OWNERS POLLUTION FED'N, http://www.itopf.com/information-services/data-and-statistics/statistics/index.html (last visited Oct. 6, 2011).

8. *See* Craig Brown, *Deterrence and Accident Compensation Schemes*, 17 U. W. ONT. L. REV. 111, 111 (1978-79).

9. STEVEN SHAVELL, FOUNDATIONS OF ECONOMIC ANALYSIS OF LAW 230-32, 267-69, 635-38 (2004).

(e.g., various funds under oil pollution liability regimes; they are funded by oil companies and not by liable ship-owners) or when insurance covers the loss suffered by the insured, though caused by a third party.[10]

After a brief outline of the international oil pollution liability regime in Part I, Part II analyzes the success of the liability regime in providing adequate compensation through its various innovative insurance arrangements. Where relevant, the article will also compare similar insurance arrangements in other maritime liability laws. Part III briefly examines the connection between the above-mentioned insurance arrangements and the reduction of oil pollution incidents worldwide.

I. OIL POLLUTION LIABILITY REGIME IN SHORT

Prior to 1969, there was no special liability law for oil pollution damage.[11] Historically, oil pollution liability was not a distinct heading of ship-owners' liability. Parties suffering damage due to oil spills could claim compensation under the common law principles of negligence, trespass, nuisance, and strict liability.[12] Ship-owners could limit their liability under the general maritime liability law.[13] In the aftermath of the *Torrey*

10. *See* Muhammad Masum Billah, *Economic Analysis of Limitation of Shipowners' Liability*, 19 U.S.F. MAR. L. J. 297, 300-301 (2007).

11. *See* ALAN KHEE-JIN TAN, VESSEL-SOURCE MARINE POLLUTION: THE LAW AND POLITICS OF INTERNATIONAL REGULATION 288 (2006).

12. *See e.g.*, Southport Corp. v. Esso Petroleum Co., [1953] 2 Lloyd's Rep. 414 (Q.B.D.) (Eng.), *appeal denied* [1954] 1 Lloyd's Rep. 446 (A.C.) (Eng.), *rev'd* [1955] 2 Lloyd's Rep. 655 (H.L.) (Eng.); The Wagon Mound, [1961] A.C. 388 (P.C.) (appeal taken from New South Wales); Kirwin v. Mexican Petroleum Co., 267 F. 460 (D.R.I. 1920); Salaky v. Atlas Tank Processing Corp., 120 F. Supp. 225 (E.D.N.Y. 1953), *rev'd on other grounds sub. nom.* Salaky v. Atlas Barge No. 3, 208 F.2d 174 (2d Cir. 1953); *In re* New Jersey Barging Corp., 168 F. Supp. 925 (S.D.N.Y. 1958); Oppen v. Aetna Ins. Co., 485 F.2d 252 (9th Cir. 1973). The American cases are cited and discussed in Lawrence I. Kiern, *Liability, Compensation, and Financial Responsibility Under the Oil Pollution Act of 1990: A Review of the First Decade*, 24 TUL. MAR. L. J. 481, 490-502 (2000).

13. In international maritime settings, ship-owners' general liability law was at that time contained in the International Convention Relating to the Limitation of the Liability of Owners of Sea-Going Ships, Oct. 10, 1957, 52 U.K.T.S. (1958), *available at* http://www.fco.gov.uk/resources/en/pdf/treaties/TS1/1968/52. The liability was fault-based and the limit was calculated on the basis of 1,000 gold francs (US$67) per ton for property damage and 2,000 francs

Canyon incident in 1967, the international community realized the inadequacy of general maritime law in covering the expenses of devastating oil pollution damage.[14] The international community adopted a specific liability regime to address the problem of inadequate compensation for oil pollution. This regime now comprises the CLC and the Fund Convention.[15] The CLC deals with ship-owners' liability, which is strict but limited in amount, while the Fund Convention created the IOPC Fund to provide for oil pollution damage when compensation from ship-owners is either inadequate or unavailable. That said, the Fund's compensation is limited as well, albeit at a higher ceiling.

The combined maximum limit of compensation under the CLC and the Fund Convention is SDR[16] 203 million (approximately US$320 million).[17] In 2003, the International Maritime Organization (IMO) adopted a new Protocol to the Fund Convention to create a Supplementary Fund, a third tier of compensation with a SDR750 million (approximately US$1.18 billion) ceiling. The ceiling applies to the total compensation available from the IOPC Fund and the Supplementary Fund combined per oil pollution incident.[18] The Protocol came into

per ton for personal injury and death claim. Unlike the CLC, the 1957 Convention did not have any maximum ceiling for total liability.

14. Clean-up alone costs the British and French governments £7.70 million (US$18 million). Although it was impossible to estimate the damage to the environment, the total quantifiable cost was £14.24 million. *See* Paul Burrows, Charles Rowley & David Owen, *The Economics of Accidental Oil Pollution by Tankers in Coastal Waters*, 3 J. PUB. ECON. 258 (1974). Ultimately, the U.K. and France settled for slightly over US $7 million. M'GONIGLE & ZACHER, *supra* note 3, at 153.

15. *See* M'GONIGLE & ZACHER, *supra* note 3, at 196.

16. Special Drawing Right (SDR) is the monetary unit of the International Monetary Fund (IMF). As of October 12, 2011, SDR 1 is the equivalent of US $1.57526. *See SDR Valuation*, INT'L MONETARY FUND, http://www.imf.org/external/np/fin/data/rms_sdrv.aspx (last visited Nov. 12, 2011).

17. *See* CLC, *supra* note 1, at art. V, para. 1; Fund Convention, *supra* note 1, at art. 4, para. 4. Under the CLC, the calculation is based on the tonnage of ships and ship-owners' maximum liability is SDR89.77 million. However, for ships with 5,000 gross register tons (grt) or less, the limit is SDR4.51 million. Any ship above 5,000 grt may incur additional liability of SDR631 per ton, but the total cannot exceed SDR89.77 million. It is noteworthy that one grt is equivalent to 100 cubic feet of enclosed space in a ship.

18. Protocol of 2003 to the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, 1992, art. 2,

force on March 3, 2005.[19] It is now very unlikely that liability for oil pollution damage from any one incident will exceed the Supplementary Fund's limit. The U.S. is not a party to any of these international conventions. Canada is party to both the CLC and the Fund Convention,[20] including its 2003 Protocol,[21] and implements the law through its Marine Liability Act.[22]

The U.S. played a leading role during the negotiation of the CLC and the Fund Convention and the 1984 Protocols to these conventions[23] but did not ratify them, objecting to their inadequate liability limit and preemption of U.S. state laws.[24] Until 1990, the U.S. enacted numerous federal acts to deal with both general and specific geographic oil pollution damage.[25] The

para. 4, May 16, 2003, Int'l Mar. Org., LEG/CONF.14/20, *available at* http://www.iopcfund.org/npdf/
Supp_Fund_e.pdf [hereinafter Supplementary Fund Protocol].

19. *See Status of Conventions*, INT'L MAR. ORG., http://www.imo.org/About/Conventions/StatusOfConventions/Pages/Default.aspx (last updated Sep. 30, 2011).

20. *See About the IOPC Funds*, INT'L OIL POLLUTION COMP. FUNDS, http://www.iopcfund.org/92members.htm (last updated Oct. 1, 2011). As of October 1, 2011, there were 105 contracting states to both the Fund Convention and the CLC, as amended by the 1992 Protocols. *Id.* Nineteen states are parties to the CLC but not to the Fund Convention. *Id.* There are another 37 states, which are parties to the CLC in its original 1969 version. *About the IOPC Funds*, INT'L OIL POLLUTION COMP. FUNDS, http://www.iopcfund.org/69civilliability.htm (last updated Oct. 1, 2011).

21. As of October 6, 2011, there were twenty-seven state parties to the Supplementary Fund; most of the states are from the European Union. *About the IOPC Funds*, *supra* note 20.

22. Marine Liability Act, S.C. 2001, c. 6 (Can.).

23. *Protocol of 1984 to Amend the International Convention on Civil Liability for Oil Pollution Damage, 1969*, 15 J. MAR. L. & COM. 613, 613-23 (1984); *Protocol of 1984 to Amend the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage*, 15 J. MAR. L. & COM. 623, 623-33 (1984). These protocols never came into force due to the U.S.'s non-ratification and were reintroduced through the 1992 protocols with modification in the entry-into-force requirement.

24. Edgar Gold, *Marine Pollution Liability After "Exxon Valdez": The U.S. "All-Or-Nothing Lottery!"*, 22 J. MAR. L. & COM. 423, 432-33 (1991). *See also* TAN, *supra* note 11, at 318-19.

25. *Cf.* Federal Water Pollution Control Act [Clean Water Act] § 311, 33 U.S.C. § 1321 (2006) (liability for discharge of oil or hazardous substance into any navigable waters); Deepwater Port Act of 1974 § 2, 33 U.S.C § 1501 (2006) (regulating oil pollution in deep-water ports); Outer Continental Shelf Lands Act § 2, 43 U.S.C. § 1331 (2006) (controlling oil pollution in outer-continental shelf);

need for a comprehensive oil pollution liability regime had long been felt and Congress debated the issue for over fifteen years. The *Exxon Valdez* disaster in 1989, the largest oil pollution disaster in U.S. history[26] up until the recent incident of the *Deepwater Horizon* oil spill,[27] brought an abrupt end to the congressional debate, and Congress quickly enacted the Oil Pollution Act (OPA) in reaction to the incident. Although more than 150 bills on various aspects of oil spill incidents were presented to Congress after the *Deepwater Horizon* oil spill, none have yet become law.[28]

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43 U.S.C. § 1651 (2006) (regulating oil pollution from Trans-Alaska pipeline). *See also* Akintayo A. Ayorinde, *Inconsistencies Between OPA '90 and MARPOL 73/78: What is the Effect on Legal Rights and Obligations of the United States and Other Parties to MARPOL 73/78?*, 25 J. MAR. L. & COM. 55, 69-70 (1994); Kiern, *supra* note 12, at 505-07.

26. A total of 37,000 tons of crude oil spilled into the pristine water of Prince William Sound, Alaska. Although it is the second largest oil spill in the United States, it ranks only thirty-fifth in major oil spills worldwide. *See Statistics*, INT'L TANKER OWNERS POLLUTION FED'N, http://www.itopf.com/information-services/data-and-statistics/statistics/index.html (last visited Oct. 6, 2011). Its total economic cost was estimated to exceed $12 billion. *See* Kiern, *supra* note 12, at 481-82.

27. The *Deepwater Horizon* oil spill in the Gulf of Mexico is the largest oil spill incident not only in the United States but also in the world. An estimated 4.9 million barrels (over 671,000 tons; 7.3 barrels = 1 ton) of crude oil escaped from the leaked well from April 20 to mid-July, 2010, when it was finally capped. *See* Ronen Perry, *The Deepwater Horizon Oil Spill and the Limits of Civil Liability*, 86 WASH. L. REV. 1, 3 (2011). Technically, it may not be vessel-source oil pollution because almost all the oil spilled from the leaked well. However, some of the oil may have spilled from the *Deepwater Horizon*, a mobile offshore drilling unit (MODU). The unit may be termed as a "vessel" under the OPA because the Act defines vessel very broadly to include any "watercraft or other artificial contrivance used, or *capable of being used*, as a means of transportation on water." 33 U.S.C. § 2701 (2006) (emphasis added). Although the structure was attached to the seabed at the time of explosion, it was *capable* of transporting the drilling equipment on navigable water. In addition, the structure and the well together would be an "offshore facility" and such a facility is subject to the OPA. The OPA defines an "offshore facility" as "any facility of any kind located in, on, or under any of the navigable waters of the United States, and any facility of any kind which is subject to the jurisdiction of the United States and is located in, on, or under any other waters, other than a vessel or a public vessel." *Id.*; *see also* Vincent J. Foley, *Post-Deepwater Horizon: The Changing Landscape of Liability for Oil Pollution in the United States*, 74 ALB. L. REV. 515, 520-21 (2011).

28. *See* Marcus Baram, *Nil, Baby, Nil: Congress Fails to Pass a Single Oil Spill Law*, HUFFINGTON POST (Apr. 19, 2011, 7:19 PM),

The scope of the OPA is broader than the international regime in terms of vessel types[29] and polluting oil.[30] Ship-owners' liability under the Act is also higher than their liability under the CLC, especially for larger ships.[31] The right to limit liability can also be denied more easily under the OPA than under the CLC. Unlike the international regime, there is no maximum ceiling on ship-owners' liability under the OPA other than the per ton limit;[32] liability increases in proportion to the increased tonnage and can never be less than US$3,000 per ton for single-hull tankers or US$1,900 per ton for double-hull tankers.[33] In

http://www.huffingtonpost.com/2011/04/19/nil-baby-nil-congress-fai_n 851274.html.

29. "Vessel" is defined in the OPA to include "every description of watercraft or other artificial contrivance used, or *capable of being used*, as *a means of transportation on water*, other than a public vessel." 33 U.S.C. § 2701(37) (emphasis added). On the other hand, in the CLC and the Fund Convention, vessel is defined to include only *oil tankers* and other ships which are adapted *to carry oil and are actually carrying oil*. *See* CLC, *supra* note 1, at art. I, para. 1; Fund Convention, *supra* note 1, at art. 1, para. 2 (adopting the same definition by cross-reference to the CLC). As discussed in the previous note, the *Deepwater Horizon* unit would be considered a vessel under the OPA but not under the international oil pollution regime because the mobile drilling unit was neither an oil tanker nor a ship "adapted to carry oil."

30. While the international regime covers only pollution from "persistent oil" such as crude oil, fuel oil, heavy diesel oil, and lubricating oil, CLC, *supra* note 1, at art. I, para. 5, the OPA includes pollution damage occurring both from persistent and non-persistent oil. 33 U.S.C. § 2701(23). The OPA also includes non-petroleum oil such as vegetable oil and animal fat. *See* Kiern, *supra* note 12, at 509.

31. This is because per ton liability for oil pollution from a tanker cannot be less than US$3,000 for a single-hull tanker or US$1,900 for double-hull tankers. Under the original OPA, per ton liability could not be less than US$1,200 for any kind of tanker. *See* Coast Guard and Marine Transportation Act of 2006, Pub. L. No. 109-241, 120 Stat. 516 (2006). The Act increased the liability limit provided in the OPA. On the other hand, under the CLC, liability could be as low as SDR450 for a large tanker of 200,000 tons because the maximum liability for a tanker owner under the CLC cannot be more than SDR89,777,000. *See* CLC*, supra* note 1, at art. V, para. 1(b).

32. *See* WU CHAO, POLLUTION FROM THE CARRIAGE OF OIL BY SEA: LIABILITY AND COMPENSATION 241 (1996).

33. *See supra* text accompanying note 31. The concept of a maximum ceiling on liability was something new for maritime liability law at that time. Such a ceiling did not exist in the then-existing general liability law, the 1957 Convention and its predecessor the 1924 Convention. *See* International Convention for the Unification of Certain Rules Relating to the Limitation of Owners of Seagoing Vessels, Aug. 24, 1924, 2763 L.N.T.S. 123. It even did not

addition to ship-owners' liability, the federal government created the Oil Spill Liability Trust Fund (OSLTF), which is authorized to spend up to US$1 billion for any single oil pollution incident.[34]

II. ADEQUATE COMPENSATION THROUGH VARIOUS INSURANCE ARRANGEMENTS

Oil pollution liability regimes under both the international system and the U.S. domestic laws have proven to provide adequate compensation in most of the actual oil pollution cases. Since the adoption of the OPA, no oil pollution incident in the U.S. has exceeded the combined limit of ship-owner's liability and that of the OSLTF.[35] Although oil pollution damage in some of the incidents falling under the CLC and Fund Convention did exceed their earlier combined limit,[36] it is highly unlikely that damage from any future incident will do so especially in a country which is party to the Supplementary Fund Protocol.

The success of oil pollution liability regimes in providing adequate compensation can be attributed to their various

appear in the IMO's Legal Committee's draft. It was proposed in the 1969 IMO conference by the UK delegation and the proposal was probably inspired from a similar measure in the tanker-owners' private agreement, TOVALOP, designed to provide for governments' cleanup costs due to oil pollution. *See* Tanker Owners' Voluntary Agreement on Liability for Oil Pollution [TOVALOP], 8 I.L.M. 497 (1969). *See also* M'GONIGLE & ZACHER, *supra* note 3, at 158-59, 173.

34. 26 U.S.C. § 9509 (2006).

35. *See* U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-01-1163T, MARITIME TRANSPORTATION: MAJOR OIL SPILLS OCCUR INFREQUENTLY, BUT RISKS TO THE FEDERAL OIL SPILL FUND REMAIN 28 (2007), *available at* http://www.gao.gov/cgi-bin/getrpt?GAO-07-1085. However, GAO now fears that claims to the OSLTF fund following the incident of the *Deepwater Horizon* oil spill may well exceed the US$1 billion limit. This limit applies to all the money paid from the OSLTF even though some of the payments are later reimbursed by the responsible parties under the OPA. Therefore, GAO recommended that Congress amend the provisions of the OPA to calculate the limit of $1 billion based on net expenditures (i.e., expenditures after deducting the reimbursed amount from responsible parties). *See* U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-11-397R, DEEPWATER HORIZON OIL SPILL: UPDATE ON FEDERAL FINANCIAL RISKS AND CLAIMS PROCESSING 14, 16-19, 30 (2011), *available at* http://www.gao.gov/new.items/d11397r.pdf.

36. Among these incidents are the *Amoco Cadiz* in France (1978), the *Erika* again in France (1999), the *Prestige* in Spain (2002), and the *Hebei Spirit* in South Korea (2007). For descriptions, *see Incidents*, INT'L OIL POLLUTION COMP. FUNDS, http://www.iopcfund.org (last updated Jul. 11, 2011).

insurance arrangements as well as the higher limit on ship-owners' liability. The word "insurance" is used in this article in its wider sense—that is, any guaranteed source of compensation for victims of oil pollution damage. Thus, not only does ship-owners' actual insurance come within the term but the compensation from the IOPC Fund, the Supplementary Fund, the SOPF, and the OSLTF also fall under the term since the common goal of these funds is to provide for adequate compensation against oil pollution damage. These funds collect contributions or premiums from the companies which receive oil transported by sea, while ship-owners pay the premium for their liability insurance against oil pollution liability. The following is an analysis of how various insurance arrangements in the international oil pollution liability regime led to its success in providing adequate compensation for oil pollution damage.

A. Compulsory Insurance

The most important provision in the oil pollution liability regime in regard to adequate compensation is the provision of compulsory insurance up to the maximum liability limit of a ship-owner under the CLC.[37] The concept of compulsory insurance was quite revolutionary in maritime law at the time of the adoption of the CLC, although it was not without precedent.[38]

37. Under the CLC, owners of tankers over 2,000 grt are required to carry insurance. CLC, *supra* note 1, at art. VII, para. 1. In comparison, under the OPA, insurance is compulsory on any ship over 300 grt. 26 U.S.C. § 2716(c)(2) (2006). Although the provisions give ship-owners the option to have other financial security or guarantees instead of insurance, they all function like insurance in terms of their effect—guaranteed compensation against oil pollution damage. Consequently, this article treats them all as insurance in their functional sense. Proceeds from these insurance mechanisms are exclusively available for oil pollution compensation. *See* CLC, *supra* note 1, at art. VII, para. 9.

38. The concept of compulsory insurance existed in the 1962 Convention on the Liability of Operators of Nuclear Ships. *See Convention on the Liability of Operators of Nuclear Ships*, 57 AM. J. INT'L L. 268, 268-278 (1963) (text of convention). As can be seen from the name of the convention, the ships on which compulsory insurance was imposed were *not ordinary merchant ships*. *See* Alfred Popp, *The International Oil Pollution Compensation Funds*, *in* THE CIVIL LIABILITY AND FUND CONVENTIONS: MODEL COMPENSATION SCHEMES 81, 82 (2003); *see also*, Erik Røsæg, *Compulsory Maritime Insurance*, 2000 SCANDINAVIAN INST. OF MAR. & PETROLEUM L.Y.B. (2000).

Before the oil pollution liability regime took effect, compulsory insurance had been in existence for quite some time in some non-maritime liability laws such as laws on automobile accident and workmen compensation. The usual explanation of compulsory insurance is that it secures the provision of adequate compensation against certain unforeseeable accidents.[39]

The provision of compulsory insurance is the key element for the continuous success of oil pollution liability regimes. Without compulsory insurance, the imposition of liability, no matter how high the liability limit, may prove useless due to the ability of a ship-owning company to hide behind its "corporate veil."[40] Together with the provision of direct action against the insurer, compulsory insurance guarantees the availability of compensation up to the required insurance amount regardless of a corporation's ability to shelter its assets.

Compulsory insurance forces potentially liable parties to buy insurance up to the required limit. These potentially liable parties may otherwise decide not to buy insurance because their total assets would be less than their maximum liability.[41] Empirical studies in automobile insurance have borne out this observation. Those studies showed that the number of uninsured motorists can be as high as 20 percent in states with no

39. Although compulsory insurance is mainly thought of as providing protection for the victims of accidents, it also protects the injurer at the same time from the ruinous effect of high liability. *See* Richardson v. Pitt-Stanley, [1995] QB 123 (Eng.). In *Richardson*, Stuart-Smith L.J. rationalized the provision of compulsory workmen compensation insurance as a protection for *employers* by saying that "a small or even medium-sized employer may be faced with disastrous consequences for his business . . . if he is faced with a large claim by an injured workman, which will make large inroads into his resources." *Id.* at 131. In the same case, the dissenting justice, Sir John Megaw, opined that the insurance was made compulsory for the "protection to a particular class of individuals, the employees." *Id.* (Sir John Megaw, dissenting). *See also* Janet O'Sullivan, *Industrial Injuries and Compulsory Insurance: Adding Insult to Injury*, 54 CAMBRIDGE L.J. 227, 242-43 (1995).

40. *See* 46 U.S.C. § 30505 (2006); *see also infra* text accompanying note 47.

41. Steven Shavell, *On the Social Function and the Regulation of Liability Insurance*, 25 GENEVA PAPERS ON RISK AND INSURANCE 166 (1990); *see also* GUIDO CALABRESI, THE COSTS OF ACCIDENTS: A LEGAL AND ECONOMIC ANALYSIS 58-59 (1970).

compulsory insurance as compared to one percent in states with compulsory insurance.[42]

Although it may be a rare incident when the liability of a shipping company would exceed its *real* assets, the company may *artificially* keep its assets low through forming corporate subsidiaries. A ship-owning company can, and usually does, form a separate corporation for each ship in its fleet. This has the practical effect of limiting liability to the value of the ship,[43] which may be zero in cases of accidents where the ship is a total loss.[44] The practice of forming one-ship companies is widespread in the shipping industry,[45] with the practical consequence of this being that the liability of the corporation may be limited to the "congeries of wooden planks or pieces of iron."[46] This is exactly what would have happened in the case of the *Torrey Canyon* incident had the liability not been ultimately settled.[47]

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42. Gary T. Schwartz, *A Proposal for Tort Reform: Reformulating Uninsured Motorist Plans*, 48 OHIO ST. L.J. 419, 421-22 (1987); Frank A. Sloan et al., *Effects of Tort Liability and Insurance on Heavy Drinking and Drinking and Driving*, 38 J. L. & ECON. 49, 54 (1995).

43. Even though a ship's liability is calculated on the basis of its tonnage under general maritime law today, in the absence of compulsory insurance the only asset a plaintiff can get a hold on may be the damaged ship.

44. In the case of the *Deepwater Horizon* oil spill of April 2010, the mobile offshore drilling unit completely sank after burning for three days. Transocean Ltd., the company owning the unit, filed for limitation of liability petition. *See* 46 U.S.C. § 30505. The limit of a ship-owner's liability is the value of the vessel after the incident and the pending freight. The company sought to limit its liability to its pending freight (US$26.7 million) from the lessee of the unit, an affiliate of British Petroleum (BP). Even if Transocean succeeds in its petition, the limit under the Limitation of Liability Act would not apply to the claims falling under the OPA. Only the non-OPA claims such as personal injury would be limited. *See* Foley, *supra* note 27, at 528-29.

45. *See* TAN, *supra* note 11, at 34.

46. Lord Watson in Sailing Ship "Blairmore" Co. Ltd. v. Macredie [1898] A.C. 593, 603 (H.L.).

47. *See* 46 U.S.C. § 30505 (2006) (liability is based on the value of the ship and pending freight after the incident). The liability of the ship-owner was held by a U.S. district court to be US$50, the value of the single salvaged lifeboat. *See also In re* Barracuda Tanker Corp., 281 F. Supp. 228 (S.D.N.Y. 1968), *rev'd on other grounds*, 409 F.2d 1013 (2d Cir. 1969); Kiern, *supra* note 12, at 503. The corporate structure of the *Torrey Canyon* also illustrates the concept of hiding behind the "corporate veil" in its extreme. There, the ship was registered in Liberia and owned by a Bermudian company, the Barracuda Tanker Corporation, which was a corporate subsidiary of the Union Oil, an American

The goal of adequate compensation requires that all ships carry insurance regardless of whether the flag state of a ship is party to the international oil pollution liability regime. To achieve this goal, the CLC imposes an obligation on state parties to ensure that both local ships[48] and foreign ships above 2,000 grt carry insurance before entering ports or off-shore terminals of a contracting state.[49] This requirement neutralizes any competitive advantage that a ship from a non-contracting state may have over ships from contracting states. The provision is quite innovative in the sense that it forces *ships from non-contracting states* to purchase compulsory insurance if they wish to trade in a contracting state to the CLC.

Traditionally, a ship is obliged to follow the law of its flag state; coastal and port states cannot usually impose their laws on a foreign vessel.[50] The principle of flag state supremacy over port or coastal states gives ships of a state with less stringent maritime laws some competitive advantage over ships from states with stricter laws.[51] For example, in the absence of the above provision, a state might decide not to become a party to the CLC so that the ships from that state do not incur the cost of compulsory insurance, thereby gaining a competitive advantage over ships from states that are party to the CLC. The obligation to carry compulsory insurance under the CLC removes the incentive for ship-owners to register their ships in so-called "flags of convenience" in an attempt to avoid the cost of insurance. In other words, when it comes to compulsory insurance for oil pollution liability, these ships cannot avoid purchasing such insurance by hiding behind a flag state not party to the CLC.[52]

company. The ship was then bareboat-chartered to the Union Oil, which in turn voyage-chartered it to the British Petroleum, a UK company. *See* M'GONIGLE & ZACHER, *supra* note 3, at 149-50; TAN, *supra* note 11, at 288-89.

48. CLC, *supra* note 1, at art. VII, para. 10.

49. *Id.* at art. VII, para. 11.

50. *See* RONALD B. MITCHELL, INTENTIONAL OIL POLLUTION AT SEA: ENVIRONMENTAL POLICY AND TREATY COMPLIANCE 76 (1994).

51. *See* TAN, *supra* note 11, at 23-25, 34-35, 47-67; *see also* William Tetley, *The Law of the Flag, 'Flag Shopping' and the Choice of Law*, 17 TUL. MAR. L.J. 175 (1992); Richard Payne, *Flags of Convenience and Oil Pollution: A Threat to National Security*, 3 HOUS. J. INT'L L. 67 (1980).

52. *See* Hawkes & M'Gonigle, *supra* note 4, at 224; M'GONIGLE & ZACHER, *supra* note 3, at 226, 67, 236; TAN, *supra* note 11, at 181-82.

The success of the international oil pollution liability regime in providing adequate and secured compensation inspired the international community and the IMO to adopt similar insurance arrangements in other maritime liability law conventions. For example, the convention on compensation for passengers' personal injury or death as well as for personal property damage and loss,[53] the conventions on compensation for loss or damage from hazardous and noxious substance (HNS) and from bunker oil[54] pollution (Bunker Convention), all now have provisions for compulsory insurance.[55] In fact, there were attempts to include similar provisions covering all areas of maritime liability law via amendment of the 1976 Liability Convention during the negotiation of its 1996 Protocol.[56]

Although the 1976 Liability Convention and its predecessors[57] do not provide for compulsory insurance, a shipowner may still be required to carry insurance up to the liability limits of these conventions when the Bunker Convention applies to the ship. This is because the Bunker Convention imposes compulsory insurance for oil pollution from bunkers of non-

53. INT'L MAR. ORG, PROTOCOL OF 2002 TO THE ATHENS CONVENTION RELATING TO THE CARRIAGE OF PASSENGERS AND THEIR LUGGAGE BY SEA, 1974, art. 3 (2002), *available at* http://folk.uio.no/erikro/WWW/corrgr/dipcon/20.pdf [hereinafter 2002 Athens Convention].

54. Bunker oil is fuel oil for a ship as opposed to the oil the ship is carrying. Pollution from such oil is not covered by CLC and Fund Conventions unless it is from an oil-carrying ship. *See* CLC, *supra* note 1, at art. I, para. 5 (providing the definition of "oil").

55. International Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substance by Sea (HNS) art. 7, May 3, 1996, U.N.T.S. [hereinafter HNS Convention]; International Convention on Civil Liability for Bunker Oil Pollution Damage, art. 7, Mar. 23, 2001, *available at* http://www.official-documents.gov.uk/document/cm66/6693/6693.pdf [hereinafter Bunker Convention].

56. *See* MAR. TRANSP. COMM., ORG. FOR ECON. CO-OPERATION & DEV., REPORT ON THE REMOVAL OF INSURANCE FROM SUBSTANDARD SHIPPING 1, 62 (2004), *available at* http://www.oecd.org/dataoecd/58/15/32144381.pdf.

57. The predecessors are the 1924 and 1957 Conventions. These are still in force for some states. A resolution by the 2001 IMO conference during the adoption of the Bunker Convention urged the states to adopt the 1976 convention and its 1996 protocol so that a uniform liability for bunker oil pollution can be maintained in all contracting states to the Bunker Convention. *See* LING ZHU, COMPULSORY INSURANCE AND COMPENSATION FOR BUNKER OIL POLLUTION DAMAGE 33, 45 (2007).

tankers,[58] and the maximum amount of compulsory insurance for bunker oil pollution is set at the liability limit under the 1976 Liability Convention or its 1996 Protocol.[59] Consequently, when a country is a signatory to the Bunker Convention,[60] ships registered in that country are automatically required to carry insurance up to the liability limit of the general maritime liability conventions. Even when a ship is not registered in a contracting state to the Bunker Convention but wants to enter the ports of a contracting state, it has to carry such insurance.[61]

Since the claimants for bunker oil pollution and for other maritime liabilities have to share the same liability fund,[62] the existence of compulsory insurance for bunker oil pollution also ensures compensation for all other types of maritime liability. Such liabilities include, *inter alia*, liability for cargo loss or damage.[63] As a result, compulsory insurance for bunker oil pollution also guarantees compensation for cargo liability claimants despite the fact that the conventions on cargo liability do not require compulsory insurance.[64] In short, the provision of

58. Oil pollution from the bunkers of *tankers* is already covered by the CLC. The CLC defines "oil" as any "persistent hydrocarbon mineral oil such as crude oil, fuel oil, heavy diesel oil and lubricating oil, whether carried on board a ship as cargo or *in the bunkers* of such a ship." CLC, *supra* note 1, at art. I, para. 5 (emphasis added).

59. Bunker Convention, *supra* note 55, at art. 7.1. Insurance is required for any ship over 1,000 grt.

60. The Bunker Convention entered into force on November 21, 2008. *See* Bunker Convention, *supra* note 55.

61. *See* Bunker Converntion, *supra* note 55, at art. 7, para. 12; CLC, *supra* note 1, at art. VII, para. 11. Like in the CLC, this provision also checks the competitive advantage of a ship flying the flag of a non-contracting state over the ships from contracting states. *See* ZHU, *supra* note 57, at 34.

62. This is because unlike the liability for oil pollution under the CLC or for pollution under the HNS Convention, the Bunker Convention does not envisage an *exclusive fund* for bunker oil pollution. Liability for bunker oil pollution is treated equally with other liabilities of a ship-owner under general liability conventions. *See* CLC, *supra* note 1, at art. VII, para. 9; HNS Convention, *supra* note 55, at art. 12, para. 9. *See also* Chao Wu, *Liability and Compensation for Bunker Pollution*, 33 J. MAR. L. & COM. 553, 564 (2002).

63. *See* Convention on Limitation of Liability for Maritime Claims, art. II, Nov. 19, 1976, 1456 U.N.T.S. 221; *see also* PATRICK GRIGGS ET AL., LIMITATION OF LIABILITY FOR MARITIME CLAIMS 134-36 (4th ed. 2005).

64. International Convention for the Unification of Certain Rules of Law Relating to Bills of Lading, Aug. 25, 1924, 51 Stat. 233, 120 L.N.T.S. 155;

compulsory insurance under the Bunker Convention indirectly ensures the availability of insurance against almost all types of maritime liabilities. It can thus be said that compulsory insurance has become a feature common to almost all types of maritime liability.[65] The HNS Convention, however, is not yet in force[66] so there is no compulsory insurance for liability arising from an accident involving hazardous and noxious substances except when such claims fall under the general maritime liability law.

B. Direct Action against Insurers

The object of ensuring *adequate compensation* to oil pollution victims is further strengthened by the provision of direct action against the insurer of a liable ship-owner.[67] This is a major departure from traditional insurance policy under which a third party may not bring an action against the insurer because insurance is a contract between the insurer and the insured ship-owner. Therefore, there is no privity of contract between the insurer and a third party victim. This is especially the case in *indemnity* insurance as opposed to mere *liability* insurance.[68]

Protocol to Amend the International Convention for the Unification of Certain Rules of Law Relating to Bills of Lading, Feb. 23, 1968, 1412 U.N.T.S. 127; United Nations Convention on the Carriage of Goods by Sea, Mar. 31, 1978, 17 I.L.M. 806. The liability limit under the cargo conventions is further subject to the overall limit under the 1976 Liability Convention as cargo claim is only one of many possible property claims to be met from the general limitation fund set up according to the 1976 Liability Convention.

65. However, claimants for non-bunker oil pollution may encounter difficulties to obtain compensation despite compulsory insurance because they would not be able to bring direct action against the insurer. *See infra,* text accompanying discussion on direct action against insurers.

66. For the status of the HNS Convention, *see Status of Conventions*, INT'L MAR. ORG., *supra* note 19. In order to expedite the ratification process by removing some obstacles that stand in the way of ratification, a protocol to the HNS Convention was adopted in April 2010. For an overview and the texts of the HNS Convention and the 2010 Protocol, *see The Convention*, HNS CONVENTION, http://www.hnsconvention.org/en/theconvention.html (last visited Nov. 11, 2011).

67. CLC, *supra* note 1, at art. VII, para. 8.

68. *See* STEVEN J. HAZELWOOD, P & I CLUBS LAW AND PRACTICE 141 (3d ed. 2000). *See also* West Wake Price & Co. v. Ching, [1957] 1 W.L.R. 45 at 49 (Eng.); Ali Galeb Ahmed et al. v. Am. S.S. Owners Mut. Prot. & Indem. Ass'n et

Although the purpose of both liability and indemnity insurance is the same—i.e., protection against the financial burden of third party liability—*indemnity* insurance, particularly the type provided by the ship-owners' liability insurers (Protection and Indemnity [P&I] clubs), is strictly based on a "pay-to-be-paid" policy.[69] An insured ship-owner has to first pay out the victim in order to claim indemnification from the insurer. The oil pollution liability regime has changed this practice by affording the pollution victims the right to bring direct action against insurers.[70]

Compulsory insurance would be of no use to a victim of oil pollution if insurers could deny compensation to victims of oil pollution by pleading policy defenses or exceptions against insured ship-owners.[71] Commensurate with its primary goal of adequate compensation, the oil pollution liability regime prevents insurers from invoking an insured's breach of contractual obligations, such as arguing failure to pay premium to deny insurance benefits to victims of oil pollution. The CLC stipulates that insurers cannot avail themselves of any defense against a pollution victim which they could otherwise raise against the insured.[72]

The only exception to the above rule is the defense of willful misconduct of the insured;[73] however, an insurer never has to pay more than the liability limit under the CLC even when the insured ship-owner would be unable to use its right to limit liability due to certain conduct which may not necessarily amount to willful misconduct.[74]

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al., 640 F.2d 993, 995 (9th Cir. 1981); Weeks v. Beryl Shipping Inc., 845 F.2d 304, 306 (11th Cir. 1988).

69. *See* GOTTHARD GAUCI, OIL POLLUTION AT SEA: CIVIL LIABILITY AND COMPENSATION FOR DAMAGE 221-24 (1997); *see also* TAN, *supra* note 11, at 42-43.

70. *See* CLC, *supra* note 1, at art. VII, para. 8 ("Any claim for compensation for pollution damage may be brought *directly* against the insurer or the person providing financial security for the owner's liability for pollution damage.") (emphasis added).

71. Røsæg, *supra* note 38, at 10.

72. CLC, *supra* note 1, at art. VII, para. 8.

73. *Id.*

74. *Id.* at art. V, para. 2. Willful misconduct appears to be different from conduct barring limitation of liability. The latter conduct is ship-owner's "personal act or omission, committed with the intent to cause [pollution]

Again inspired by the success of the oil pollution liability regime in providing adequate compensation, the IMO incorporated the provision of direct action against the insurer into other maritime liability conventions such as the HNS Convention, the Athens Convention, and the Bunker Convention.[75] As discussed earlier, compulsory insurance has *incidentally* become a feature of all maritime liability laws through the Bunker Convention. This, however, cannot be said with regard to direct action against insurers. When compulsory insurance in the amount of the general liability fund exists against combined liability for both bunker oil pollution and other liability claims, only claimants for bunker oil pollution liability can bring a direct action against the insurer.[76] This is because the basis of non-bunker oil pollution claims are in the general liability conventions, which do not contain provisions allowing direct action. The basis for bunker oil pollution liability is, of course, the Bunker Convention with its provision on direct insurance.

Direct action against an insurer as well as compulsory insurance should be included in general liability conventions, if *adequate compensation* is thought to be a desirable goal of other maritime liability laws as well. Although adequate compensation

damage, or recklessly and with knowledge that such damage would probably result." Ship-owners' personal acts or omissions to cause pollution damage do not appear to be a defense for an insurer against a pollution victim's claims. In this respect, willful misconduct seems to be a more serious offense than a personal act or omission with the intent to cause damage. Yet, for the purpose of denying the right to limited liability, willful misconduct appears to be a lesser fault than personal act or omission because the latter – and not the former – deprives the ship-owner the right to limit liability. In practice and in their ordinary meaning, they may be one and the same thing. In that case, there seems to be some contradiction or oversight in article VII, paragraph 8 of the CLC because one act is a defense and the other is not. Similar comments can be made also with regard to "reckless conduct," the other conduct barring the right of limitation. However, if this conduct also amounts to willful misconduct, victims of pollution would lose the right of direct action against insurers more often than would be the case otherwise.

75. *See* HNS Convention, *supra* note 55, at art. 12, para. 8; 2002 Athens Convention, *supra* note 53, at art. 5, para. 10; Bunker Convention, *supra* note 55, at art. 7, para. 10.

76. Bunker Convention, *supra* note 55, at art. 7, para. 10.

per se should not be the goal of liability law,[77] adequate compensation through compulsory insurance and direct action may enhance the *deterrence* purpose of liability law.[78] Without compulsory insurance and direct action, there is the possibility that a ship-owner may escape its liability, which may in turn lead the ship-owner to reduce its level of care.

Ship-owners and their liability insurers, the P&I clubs,[79] are naturally opposed to the inclusion of compulsory insurance and direct action provisions in general maritime liability laws like the 1976 Liability Convention. They may argue that such provisions are not feasible in non-oil pollution liability regimes because of the diverse nature of cargo on non-tankers and the lack of insurability for such cargo. These arguments are tenuous because ship-owners already have insurance against these types of liability through their P&I clubs. There may not be any need to change the present insurance arrangements at all. All that would be needed is to make compulsory what ship-owners always purchase voluntarily and then to secure the benefit of existing insurance for liability claimants through direct action against the insurer. As mentioned earlier, compulsory insurance forces ship-owners, who try to escape liability through the "corporate veil," to buy insurance. Direct action, on the other hand, ensures that the intended beneficiaries will in fact have access to the proceeds of the compulsory insurance.

77. *See supra* text accompanying notes 8 and 9; *see* also SHAVELL, *supra* note 9, at 267-69, 635-38.

78. It is noteworthy here that *compensation* does not affect the goal of *deterrence* if compensation is *fully* borne by the party who can cost-effectively prevent or reduce oil pollution. On how to balance both deterrence and compensation goals through liability law, *see* Michael J. Trebilcock, *Incentive Issues in the Design of 'No-Fault' Compensation System*, 39 U. TORONTO L.J. 19 (1989).

79. Protection and Indemnity (P&I) clubs are the mutual insurance companies of ship-owners. Ship-owners are both the owners and customers of the clubs. The thirteen largest clubs, covering more than ninety percent of the world's tonnage, formed the International Group of P&I Club. *See* INT'L GRP. OF P&I CLUBS, http://www.igpandi.org (last visited Nov. 13, 2011).

C. Certificate of Insurance

Compulsory insurance and direct action against insurers may fail to guarantee *adequate compensation* if ship-owners can avoid verification by state authorities of insurance. In order to facilitate such verification, ship-owners are required to carry on board proof of insurance in the form of an insurance certificate.[80] A state party to the CLC can deny entry to a port or terminal installation any ship without a certificate.[81] Traditionally, a flag state issues the various certificates a ship is required to carry.[82] However, for insurance certification under the CLC, the flag state must be a party to the CLC for its certification to be acceptable to other CLC state parties.[83]

A ship from a non-CLC state wishing to trade in a state party to the CLC has to obtain the certificate from a CLC state. This provision has effectively checked the possibility of a certificate by a flag state without properly verifying the existence of insurance and the financial viability of the insurer. The provision also indirectly induces states to become parties to the CLC so that they can issue the certificate to their own ships in order to enable them to trade with major oil-importing countries,[84] most of whom are parties to the CLC/Fund Convention regime with the notable exception of the United States.[85] In order to further ensure that

80. CLC, *supra* note 1, at art. VII, para. 4.

81. *Id.* at art. VII, para. 10.

82. For example, under MARPOL 73, flag states are required to issue certificates of compliance with regard to the conformity of a ship to construction and design provisions. Similarly, it is also the duty of a flag state to issue certificate confirming that the tank size of oil tankers conforms to the MARPOL provisions. *See* United Nations Convention on the Law of the Sea, art. 217(3), Dec. 10, 1982, 1833 U.N.T.S. 397 [hereinafter UNCLOS]. UNCLOS requires flag states to ensure the existence of necessary certificates on board their ships: "States shall ensure that vessels flying their flag or of their registry carry on board certificates required by and issued pursuant to international rules and standards. . . . " *Id.* at art. 217(3).

83. CLC, *supra* note 1, at art. VII, para. 2.

84. The major oil importers are now the United States, Japan, China, Italy, and South Korea. With the exception of the United States, the rest of the countries are parties to the CLC. *See About the IOPC Funds*, INT'L OIL POLLUTION COMP. FUNDS, *supra* note 20 (under the heading "States Parties to both the 1992 Civil Liability Convention and the 1992 Fund Convention").

85. However, in the United States, a similar certificate is also required under the OPA. *See* 26 U.S.C. § 9509(c)(2)(A) (2006).

insurance does not exist only on paper, a contracting state, when in doubt about the financial capability of an insurer, can consult with the certificate-issuing contracting state.[86]

D. Insurance through the IOPC Fund

The primacy of the goal of adequate *compensation* over that of *deterrence* under the international oil pollution liability regime is most obvious in its creation of the IOPC Fund. As contributions to this fund come exclusively from cargo owners – i.e., the oil industry and not ship-owners – the question of *deterrence* seems to be irrelevant. If oil pollution incidents arise as a result of negligence, whether human or mechanical, it will be almost without exception the negligence of ship-owners or their employees.[87] Despite the absence of any direct *deterrence* effects from this provision, the creation of the IOPC Fund serves the oil pollution liability regime's stated purpose of *adequate compensation* by providing for a second layer of insurance protection against pollution damage.

As a second layer of insurance, the IOPC Fund provides compensation only if a victim of oil pollution damage is unable to obtain *full compensation* from ship-owners for one reason or another despite the above insurance arrangements. The IOPC Fund provides compensation when compensation from the owner of the involved ship is either unavailable[88] or inadequate.[89] The first scenario may occur in the unlikely event that both a ship-

86. CLC, *supra* note 1, at art. VII, para. 7.

87. Although it is true that a shipping incident involving oil as cargo may cause more damage to third parties and the environment than shipping incidents involving non-oil cargo, there is no logic in putting the blame on owners of the cargo (i.e., oil companies) since damage such as this will not improve deterrence. Despite this, during the negotiations of the CLC and the Fund Conventions, some delegates argued to impose liability on cargo owners. For example, according to the Danish delegate in the 1969 conference, "Maritime transport was not dangerous in itself: it was only dangerous if the goods carried were dangerous and it was therefore normal to impose liability on the cargo for any damage caused to a third party. The industry which made a profit from that business should also accept the risks entailed." INT'L MAR. ORG., OFFICIAL RECORDS OF INTERNATIONAL LEGAL CONFERENCE ON MARINE POLLUTION DAMAGE 1969, 628 (1973). *See also* M'GONIGLE & ZACHER, *supra* note 3, at 172.

88. IOPC Funds, *supra* note 36, at art. 4(1)(b).

89. *Id.* at art. 4(1)(c).

owner and its liability insurer go bankrupt.[90] The second and more likely scenario arises where the ship-owner has limited liability. In fact, most cases involving compensation from the IOPC Fund in the past arose due to the inadequacy of ship-owners' liability limit.[91]

The contributions to support the IOPC Fund come collectively from cargo interests, meaning the oil companies who receive oil via the sea from contracting states to the Fund Convention.[92] The contribution mechanisms of the oil-receiving companies to the Fund are comparable to the premium paid by ship-owners to their mutual protection and indemnity insurance (P&I) clubs. In both cases the total contribution is calculated on the basis of the Fund's or the P&I club's annual oil pollution liability payouts to pollution victims. The only difference is that while the P&I clubs take into account the *claim history* and/or *care level* of each ship-owner for the calculation of that individual ship-owner's contribution, the IOPC Fund does not and cannot consider these factors in determining the levies it imposes on each contributing oil company.[93] The single factor for purposes of calculating the contributions of an individual oil company is the amount of its total oil-receipt via sea transport.[94] Like the

90. This may also occur if a tanker does not have insurance at all because insurance is not compulsory for tankers of 2,000 grt or below.

91. *See* Thomas Mensah, *The IOPC Funds: how it all started*, *in* THE IOPC FUNDS' 25 YEARS OF COMPENSATING VICTIMS OF OIL POLLUTION INCIDENTS 48 (2003); *see also* TAN, *supra* note 11, at 305-06.

92. Fund Convention, *supra* note 1, at art. 10.

93. This is simply because there is hardly anything an oil company can do to reduce accidental oil spills from ships except that the company may take some care to choose seaworthy ships for the carriage of its cargo.

94. There were suggestions for imposing differentiated levies on oil companies based on the pollution incidents from the carriage of each company's oil. The justification of this suggestion is that such differentiation would force the oil companies to charter ships of best quality and to avoid chartering sub-standard ships as a means of cutting the cost of chartering at the expense of safety. *See* TAN, *supra* note 11, at 342-43. The benefit of such mechanisms would be indirect whereas inducing ship-owners to properly maintain their ships would be direct and thereby more efficient. For comments on similar suggestions about the identical contribution formula to oil industry's private agreement, *see* Contract Regarding an Interim Settlement of Tanker Liability for Oil Pollution, Jan. 14, 1971, 10 I.L.M. 137, 137 (1971); *see also* M'GONIGLE & ZACHER, *supra* note 3, at 182.

advance and supplementary "calls" (premium) charged by the P&I clubs,[95] the IOPC Fund also levies the oil companies based on the anticipated liability first and on the actual liability later.[96] Technically, there may be credit back to the contributors if the actual liability is less than the anticipated amount. However, this situation is rare.[97]

Although the creation of the IOPC Fund is a praiseworthy innovation in terms of providing adequate *compensation*, its presence may reduce the *deterrence* effect of ship-owners' liability to the extent the Fund pays for oil pollution damage caused by the negligence of ship-owners. This argument is not really against the Fund's role to provide adequate compensation but against its role to partially absorb a negligent ship-owner's liability. However, there are many situations under the Fund Convention where the IOPC Fund pays compensation and there is no question of ship-owners' negligence.[98] These situations include natural disaster,[99] action of a third party, or negligence of the government authority in charge of maintaining lights and navigational aids.[100] In the latter two situations, the Fund may

95. HAZELWOOD, *supra* note 68, at 122.

96. *See* SECRETARIAT, INT'L OIL POLLUTION COMP. FUNDS, THE INTERNATIONAL REGIME FOR COMPENSATION FOR OIL POLLUTION DAMAGE: EXPLANATORY NOTE 4-5 (Sept. 2011), *available at* http://www.iopcfund.org/npdf/genE.pdf [hereinafter *Explanatory note of IOPC Fund*]. *See also* M'GONIGLE & ZACHER, *supra* note 3, at 192.

97. In the 1992 IOPC Fund, in the year 2000 alone, £3.7 million was credited back to the contributors from the unused contributions of 1999. *See Explanatory note of IOPC Fund*, *supra* note 96, at 4-5.

98. Fund Convention, *supra* note 1, at art. 4, para. 1(a).

99. This situation is expressly mentioned in the CLC as an exonerating factor for ship-owner's liability. *See* CLC, *supra* note 1, at art. III, para. 2(a). Its absence among exonerating factors in the Fund Convention is deliberate as article 4(4)(b) of the Fund Convention stipulates the conditions for the Fund to pay compensation in such situation. *See* Fund Convention, *supra* note 1, at art. 4, para. 4(b).

100. Again, the liability of the Fund in these two situations is implied since they are not mentioned among the exonerating situations. This is also clear from the negotiations of the parties at the 1971 Conference, where some states (including Canada and the United States) demanded that the Fund should cover *all* cases of oil pollution damage not covered by the CLC. However, as a compromise, the Fund is exonerated from any liability for oil pollution from unknown sources (mysterious spills) or when the cause of the damage is war or war-like situation. *See* M'GONIGLE & ZACHER, *supra* note 3, at 184-85.

claim reimbursement from the third party and the government under the principle of subrogation.[101]

Payment by the Fund for oil pollution damage caused solely by natural disasters reinforces the fact that the primary goal of the oil pollution liability regime is the provision of adequate *compensation* as opposed to the creation of *deterrence* from negligence.[102] However, providing adequate *compensation* through the IOPC Fund in the above three situations does not affect the *deterrent* effect of the liability law because no optimal precautionary steps taken by ship-owners could prevent pollution damage in those cases.[103] Consequently, there can be no objection to the Fund's role in providing compensation where ship-owners' *negligence* has no causal connection with an incident of oil pollution damage. In these cases, the Fund functions solely as an insurer for pollution victims and not for negligent ship-owners.

The justification for compensation from the Fund in cases of natural disaster lies in the social benefit of internalizing the cost of "externalities" arising from oil pollution.[104] Oil pollution damage suffered by people not involved in the transportation contract is an external social cost (i.e., an externality) flowing from the transportation of oil.[105] If neither ship-owners nor oil companies bear this cost, the price of oil to consumers would not reflect this externality. Consequently, the market price of oil would be less than its real social cost and there would be excessive consumption of oil. This means that some people whose

101. Fund Convention, *supra* note 1, at art. 9, para. 2.

102. It is noteworthy here that the maximum liability limit of the Fund applies to *per natural disaster* regardless of the *number of shipping incidents* caused by the same natural disaster. *See* Fund Convention, *supra* note 1, at art. 4, para. 4(a), (b); *see also* M'GONIGLE & ZACHER, *supra* note 3, at 185.

103. The deterrence effect of liability is compromised when a potentially liable person who can take care to prevent or reduce the loss does not have to pay for full liability because other parties such as the IOPC Fund foot the bill.

104. For the definition of "externality," *see* Ralph C. d'Arge & Emery K. Hunt, *Environmental Pollution, Externalities, and Conventional Economic Wisdom: A Critique*, 1 B.C. ENVTL. AFF. L. REV. 266, 266-67 (1972); *see also* ARTHUR C. PIGOU, THE ECONOMICS OF WELFARE (4th ed. 1932) (the classic work on externalities).

105. MITCHELL, *supra* note 50, at 74-75.

benefits from consumption of oil are less than the consumed oil's real social costs would buy oil.

On the other hand, if oil companies pay for this kind of oil pollution damage through the IOPC Fund, the price of oil will reflect its real social cost; and those consumers whose utility from consumption of oil is below this cost will not consume this valuable limited resource.[106] In other words, the cost of oil pollution externalities will thus be internalized. Internalization of externalities leads to optimal resource allocation and prevents social waste. This also indirectly reduces the incidents of oil pollution to the extent the incidents of oil pollution are causally correlated to the amount of oil transported via sea because reduced consumption will naturally reduce the amount of oil transported via sea. As a result, imposing levies on oil companies for oil pollution damage from ships due to natural elements of the sea makes economic sense.

The innovative insurance arrangement through the IOPC Fund has greatly contributed to the success of the oil pollution liability regime in providing adequate *compensation*. Although provisions have been made for a similar fund under the HNS Convention,[107] one of the important elements of an insurance pool is rather weak in the case of the HNS Fund; that is, a large pool of similar insured risks. Unlike oil, the hazardous and noxious substances covered under the HNS Convention and carried via sea are diverse in nature and pose dissimilar risks. The number of such substances is likely to exceed 6,000 and they are carried in different vessel types and sizes.[108] This would be the main obstacle to the provision of a second tier of insurance through the HNS Fund, when the HNS Convention comes into force. Contributors of the HNS Fund would be the various chemical companies.[109]

106. *See generally* CALABRESI, *supra* note 41, at 70-72.

107. *See* HNS Convention, *supra* note 55, at art. 9, para. 1(a)(ii), art. 14, para. 5(a)—(b). The HNS Fund would cover damages up to SDR250 million including SDR100 million from ship-owners.

108. TAN, *supra* note 11, at 335-36.

109. *See generally id.* at 334-56.

E. Insurance through the Supplementary Fund

The goal of *adequate compensation* for oil pollution damage has been greatly achieved by the creation of a new Supplementary Fund in 2003, culminating from a succession of initiatives following the *Erika* incident off the coast of Brittany, France, in 1999.[110] As mentioned earlier, the Supplementary Fund would provide up to SDR750 million (US$1.18 billion) for a single oil pollution incident on the waters of a contracting state.[111] The Supplementary Fund functions as a *third tier of insurance* against oil pollution damage.[112] It kicks in when the liability limit of the IOPC Fund is exhausted in providing compensation for oil pollution damage. With the exception of the higher compensation ceiling, the Supplementary Fund's scope of application and compensation procedures is similar to those of the IOPC Fund. As a result, all the above discussion related to the IOPC Fund's effect on *deterrence* from negligent navigation applies equally to the Supplementary Fund.

The contribution mechanism of the Supplementary Fund is also similar to that of the IOPC Fund: its contributions come from the oil companies in the contracting states to the Supplementary Fund Protocol. Like the IOPC Fund, the Supplementary Fund levies those oil companies that receive over 150,000 tons of oil via the sea from the contracting States.[113] One important difference between the two funds is that each contracting state to the Supplementary Fund has to make a minimum contribution

110. The ship broke into two with 31,000 tons of heavy fuel oil. It spilled 19,800 tons of oil. As of October 2010, a total of 7,131 claims had been made, and the total amount claimed reached as high as €388.9 million, of which 5,939 were admitted and €129.7 million paid for. The remaining 1,016 claims were rejected. *See Incidents*, INT'L OIL POLLUTION COMP. FUNDS, http://www.iopcfund.org/erika.htm (last updated May 9, 2011) (discussing *Erika*).

111. *See* Supplementary Fund Protocol, *supra* note 18 and accompanying text. This amount is, however, in combination with SDR230 million from the IOPC Fund and SDR89.77 million from ship-owners.

112. Even though no incident requiring compensation from the Supplementary Fund has yet occurred since its coming into existence on March 3, 2005, the contracting states or the oil companies in those states have been levied £0.0017223 per ton of contributing oil on March 1, 2007 for meeting the Supplementary Fund's administrative expenses. *See Explanatory note of IOPC Fund*, *supra* note 96, at 5-6.

113. Supplementary Fund Protocol, *supra* note 18, at art. 10.

regardless of whether any company in the state receives over 150,000 tons of oil. This minimum contribution is based on a presumed receipt of one million tons of contributing oil, if the total oil receipt in the state falls below the one million ton threshold.[114] The responsibility to pay for any amount falling short of the threshold limit lies with the contracting state's government,[115] as opposed to the oil companies in it. The purpose of this provision is to ensure that each contracting state bears some of the costs of the Supplementary Fund's total yearly expenses.[116]

The compulsory minimum payment makes the Supplementary Fund resemble a mutual *insurance* fund more than a pure compensation fund. Like any insurance pool where each insured has to pay a premium in order to obtain insurance protection, each contracting state to the Supplementary Fund Protocol has to contribute something in order to benefit from this third layer of insurance protection. On the other hand, a contracting state to the Fund Convention can receive compensation from the IOPC Fund without making any contribution to the fund if no oil company in that state receives over 150,000 tons of oil in a fiscal year.[117] For example, twenty-five states out of one 104 state parties to the Fund Convention in 2009 did not have to pay any contribution to the IOPC Fund since no oil companies in those countries received oil over the minimum threshold.[118] The non-contributing states are usually *developing* states with small economies. Lack of contribution, however, does not affect their eligibility to seek compensation from the IOPC Fund. The IOPC Fund's formula is a laudable approach to the

114. *Id.* at art. 14, para. 1.

115. *Id.* at art. 14, para. 2.

116. THIRD INTERSESSIONAL WORKING GROUP, REPORT OF THE SECOND AND THIRD MEETINGS OF THE THIRD INTERSESSIONAL WORKING GROUP OF THE 1992 FUND 19-20, *available at* http://documentservices.iopcfund.org/meeting-documents/search-results/?query=92FUND%2FWGR.3%2F9&titles-only=0&titles-only=1&fund-session=fund-2&session_number=&working_group_number=&agenda_item=&start-year=1978&end-year=2011 (follow "92 FUND/WGR3/9" hyperlink).

117. Fund Convention, *supra* note 1, at art. 10, para. 1.

118. INT'L OIL POLLUTION COMP. FUNDS, ANNUAL REPORT 2010: INTERNATIONAL OIL POLLUTION COMPENSATION FUND 19 (2010), *available at* http://www.iopcfund.org/npdf/AR2010e.pdf.

goal of adequate compensation for oil pollution damage, as well as to the protection of the marine environment.[119]

From an environmental point of view, the Supplementary Fund's contribution and compensation formulae are regrettable. An oil spill incident may cause as much damage to a developing country as to a developed one and may require as much compensation for both clean-up costs and monetary damage arising from oil pollution. Despite this equal need for compensation, the burden of minimum compulsory contribution on the developing states would be unequally heavy. Fear of this burden discourages them from becoming parties to the Supplementary Fund Protocol.[120]

Developing states usually receive less oil and via smaller tankers. Thus, they may be exposed to fewer, if any, devastating oil pollution incidents, an observation supported by the history of the most disastrous oil pollution accidents.[121] This observation, however, actually provides additional support for requiring minimum compulsory contributions to the Supplementary Fund from developing countries, as they would hardly require compensation from the Supplementary Fund. Yet, this does not completely obviate their need for assurance of compensation from the Supplementary Fund for a random extraordinarily large incident exceeding the limit of the IOPC Fund. Following such a spill, clean-up operations and adequate compensation should not be affected by a state's financial ability to contribute to the Supplementary Fund.

In addition, oil pollution incidents in some developing countries may occur due to the transport of oil to the developed

119. It is noteworthy here that oil pollution compensation covers not only the losses suffered by individual victims but also expenses for preventive measures taken by private individuals or public authorities to reduce or eliminate environmental damage from an oil spill. *See* CLC, *supra* note 1, at art. I, para. 6 (defining "pollution damage"). In fact, most of the compensation payouts are made against the latter type of damage.

120. One factor for the widespread acceptance of the Fund Convention is that the governments of the contracting states do not have to contribute any money to the IOPC Fund. The burden only falls on the oil companies in the state parties. *See* TAN, *supra* note 11, at 332-33.

121. *Deepwater Horizon*, *Torrey Canyon*, *Amoco Cadiz*, *Exxon Valdez*, *Erika*, *Nakahodka* and *Prestige* all occurred on the waters of developed countries.

world en route through the developing countries' waters. For example, oil tankers from the Persian Gulf to Western Europe, Japan, and the U.S. touch the waters of many African and Asian countries.[122] Yet, if a serious oil pollution incident occurs in those countries, compensation will not be forthcoming from the Supplementary Fund because these countries are not parties to the Supplementary Fund Protocol, having been discouraged by its compulsory minimum contribution.

F. Insurance from national oil pollution funds

Although the question of *adequate compensation* may seem to be fully addressed by the creation of the Supplementary Fund, the international oil pollution liability regime neither recognizes all types of 'oil' nor covers all pollution from the recognized types of oil. Compensation under the international regime is limited to pollution damage from "persistent oil."[123] Even if the pollution arises from persistent oil but the source of pollution is unknown or is not a ship, neither the ship-owners nor the two funds will provide compensation.[124] In addition, there are only twenty-seven state parties to the Supplementary Fund compared to 105

122. M'GONIGLE & ZACHER, *supra* note 3, at 185, 233.

123. The CLC defines "oil" as "any *persistent hydrocarbon mineral oil* such as crude oil, fuel oil, heavy diesel oil and lubricating oil, whether carried on board a ship as cargo or in the bunkers of such a ship." CLC, *supra* note 1, at art. I, para. 5 (emphasis added). The same definition is included in the Fund Convention by reference. Fund Convention, *supra* note 1, at art. 1, para. 2. Canada's proposal to define the word "oil" broadly under the Fund Convention in order to include "liquid hydrocarbon of any kind" was opposed by the oil industry and many oil-importing countries on the ground, *inter alia*, that such a wide definition would cause the involvement of the IOPC Fund in a large number of minor oil spill cases. *See* INTER-GOVERNMENTAL MAR. CONSULTATIVE ORG., OFFICIAL RECORDS OF THE CONFERENCE ON THE ESTABLISHMENT OF AN INTERNATIONAL COMPENSATION FUND FOR OIL POLLUTION DAMAGE, 1971 320-21 (1978) [hereinafter Official Records of the 1971 Fund Conference].

124. An American proposal to require the IOPC Fund to pay compensation for "mysterious" spills was also rejected by the oil industry and some states on the same ground that it would necessitate frequent involvement of the Fund for many small spills. Yet, the Scandinavian proposal to limit the Fund's contribution only to cases of oil pollution damage exceeding 15 million francs (US$1 million) was not accepted by the oil industry. Official Records of the 1971 Fund Conference, *supra* note 123, at 355-65, 384-88; M'GONIGLE & ZACHER, *supra* note 3, at 185-89, n. 78.

parties to the Fund Convention.[125] As a result, there is always the likelihood that either an oil pollution incident will not fall under the international oil pollution liability regime[126] or oil pollution in non-state parties to the Supplementary Fund will exceed the IOPC Fund's limit.

The goal of *adequate compensation*, however, requires that these gaps in the international oil pollution liability regime be filled by national compensation funds, another layer of *insurance* against oil pollution damage. Canada responded to this need through the creation of the Ship-Source Oil Pollution Fund (SOPF).[127] The Oil Spill Liability Trust Fund (OSLTF) in the U.S. also serves a similar function. The SOPF covers any oil pollution damage not covered by the international liability law regime for any of the above reasons; however, it heavily subsidizes ship-owners at the expense of oil companies, who are the main contributors to the SOPF.[128] In many cases, there is no connection between the contributors and the beneficiaries of the SOPF in Canadian domestic oil pollution cases. Most of the oil pollution cases compensated by the SOPF arose from the *bunker of non-tankers*,[129] while the contributions to the SOPF mainly come from oil companies. The solution seems to be to require all vessels, tankers and non-tankers, small or large, to carry compulsory insurance against oil pollution.

125. *See About the IOPC Fund*, INT'L OIL POLLUTION COMP. FUNDS, *supra* note 20.

126. As indicated, although the *Deepwater Horizon* would be considered a vessel under the OPA, this would not be so under the international oil pollution liability regime. *See supra* note 29. Thus, even if the U.S. were a party to the international liability regime, no compensation would come from any of the international funds.

127. *See* THE SHIP-SOURCE OIL POLLUTION FUND, ADM'R'S ANNUAL REPORT 2005-2006 37 (2006), *available at* http://www.ssopfund.gc.ca/documents/2006ShipSourceAR_e.pdf [hereinafter SOPF ANNUAL REPORT].

128. *Id.* at 3-5.

129. This is evidenced from the fact that most of the 47 incidents reported in the SOPF ANNUAL REPORT were not from oil tankers (ships carrying oil as cargo), indicating bunkers as the source of spilled oil. *See id.* at 7-29. This was one of the reasons the oil industry rejected the proposal to provide compensation in cases of oil spills from unknown sources in the 1971 IMO conference. *See* Official Records of the 1971 Fund Conference, *supra* note 123, at 320-21.

III. DECREASE OF ACCIDENTAL OIL SPILLS AND INSURANCE ARRANGEMENTS

A. Reduced oil pollution incidents

Empirical evidence shows that the incidents of *accidental* oil spills from *tankers* are steadily decreasing.[130] A survey of oil spill incidents in Canada shows that between 1993 and 2006 only 7.5 percent of the total spills were from *tankers*, while 75.5 percent were from *non-tanker* and 17 percent from unknown ships or other sources ("mysterious spills").[131] This trend can also be observed worldwide. The world saw a dramatic decrease in the number of oil spill accidents from *tankers* in the last forty-one years.[132] For large spills of over 700 tons from 1970-1979, there were more than twenty-five spills on average per year. The number of such spills declined to an average of 9.3 per year during 1980-1989, 7.8 per year in the period of 1990-1999, and only 3.3 spills per year over the period of 2000-2010.[133]

In addition to reduction in number, the size of the spills has also gradually decreased. The majority of oil spills from 1970 to 2010 were below seven tons, with most of the large spills occurring in the earlier years.[134] Logically, the amount of total spilled oil per year is also on the decline from 1980 onward except in a few random years when one or two large spills made the total quantity exceed the average by a large amount.[135] This

130. It is noteworthy here that oil pollution liability law addresses the problem of *accidental* as opposed to *operational* oil pollution.

131. *See* SOPF ANNUAL REPORT, *supra* note 127, at 37.

132. *See Statistics*, INT'L TANKER OWNERS POLLUTION FED'N, http://www.itopf.com/information-services/data-and-statistics/statistics/index.html (last visited Nov. 11, 2011); *See also* KEISHA HUIJER, INT'L TANKER OWNERS POLLUTION FED'N, TRENDS IN OIL SPILLS FROM TANKER SHIPS 1995-2004 (2005), *available at* http://www.itopf.com/assets/documents/ amop05.pdf.

133. *See Statistics*, INT'L TANKER OWNERS POLLUTION FED'N, *supra* note 132.

134. *See id.* As the oil spill from *Deepwater Horizon* is not from an oil tanker or a conventional ship, the statistics in the ITOPF's website do not include this incident among the major oil spills.

135. *See id.* As for similar progress in the United States, *see generally Joint Hearing on Oil Pollution Act of 1990 Before the Subcomm. on Coast Guard & Mar. Transp. and Water Res. & Env't of the H. Comm. on Transp. & Infrastructure*, 106th Cong. 12 (1999) (statement of James Loy, Commandant, U.S. Coast Guard).

downward trend in the incidents of oil spills is the result of a combination of many factors including the above-mentioned insurance arrangements. Other factors, which are not discussed in this article, include strict liability for oil pollution damage, higher liability limit, and some non-liability legal aspects such as improved tanker design and strong port state control.[136]

B. Role of insurance in the decrease of oil pollution incidents

Although this article mainly highlights the role of insurance in providing adequate compensation in the above discussion, innovative insurance arrangements in the oil pollution liability regime has also incidentally improved the deterrence aspect of the liability law; increasing deterrence in turn contributes to the reduction of oil pollution incidents. As this article has occasionally alluded to the latter role of insurance when discussing the justifications of the various insurance arrangements, the discussion here will be brief.

First, *compulsory insurance* prevents a negligent ship-owner from escaping liability by keeping its corporate assets low through forming a "one-ship" company.[137] This is because there will always be proceeds from compulsory insurance after an accident regardless of the value of the ship or its corporate status. This increases the probability of actual liability on ship-owners. As a result, their expected liability will now be higher than before, reflected in the insurance premium ship-owners pay.[138]

136. For a discussion on the effect of these factors on the reduction of oil pollution incidents, *see generally* Muhammad Masum Billah, Effects of Insurance's Absence or Presence on Maritime Liability Law with Special Reference to Cargo Liability and Oil Pollution Liability Regimes: An Economic Analysis 222-38 (2009) (unpublished LL.D thesis, Univ. of Ottawa) (on file with author).

137. *See supra* text accompanying note 47 (example of the widespread practice among ship-owners of forming "one-ship" corporations).

138. For example, if oil pollution causes on average $1,000 worth of damage per incident and the probability of liability (compensation) is 100 percent (i.e., liability is certain), the average expected liability of a ship-owner is $1,000 ($1,000 x 100%). On the other hand, if the probability is lower, like 50 percent, the expected liability per incident would be $500 ($1,000 x 50%). The premium for liability insurance is mainly based on this expected liability. Higher

Higher expected liability or increased insurance premiums will make the expenditure on optimal care more cost-efficient.[139] In other words, in some cases where the cost of optimal care seemed higher to an insured than the expected liability in the past because of the possibility of escaping liability through the "corporate veil," this cost may now appear to be lower than the cost of care. Consequently, a rational ship-owner will be induced to take optimal care.[140]

Second, *direct action against insurers* makes the probability of actual liability even higher than would be the case without the provision of direct action even when insurance is compulsory. There are two explanations for this: first, despite compulsory insurance, an insured may be bankrupt and the insurer could simultaneously deny the liability judgment on grounds of lack of privity of contract between the insurer and the liability claimant; second, the insurer may plead some policy defenses or exceptions (e.g., non-payment of premium) against the insured and consequently against the claimant. The provisions of direct action against insurers under the oil pollution liability regime eliminated both these possibilities.[141]

As insurers will be exposed to more frequent payouts to the victims of oil pollution in cases of negligence by the insured ship-owner, insurers will charge higher premiums on negligent ship-owners. Increased premiums will in turn induce the insured to

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expected liability would require a higher premium, while lower expected liability will reduce the premium. *See* Billah, *supra* note 10, at 310.

139. Using the example from the previous note, when the expected liability is $500 due to the low probability of liability, a ship-owner may not want to spend more than $500 on care. On the other hand, when the liability is certain (100 percent probability) and the expected liability is $1,000, a ship-owner would not hesitate to spend up to $1,000 on care in order not to be held liable. Whenever the cost of care is less than the damage it prevents, care is cost-efficient or optimal.

140. Cost of *optimal care* can never be more than the expected liability because *optimal care*, by definition, is care that costs less than the probability-discounted or expected liability. *See* Guido Calabresi & Jon T. Hirschoff, *Toward a Test for Strict Liability in Torts*, 81 YALE L. J. 1055, 1056-57 (1972). However, cost of optimal care might *appear higher* because of the lower probability of being held liable due to a liable party's ability to escape from paying for liability judgment. *See* SHAVELL, *supra* note 9, at 230-32, 387-91.

141. *See* CLC, *supra* note 1, at art. VII, para. 8. *See also* discussion *supra* Part I.B.

reduce their insurer's exposure to oil pollution claims.[142] The only way the insured can do this is through improving their standard of care so that the number of oil pollution incidents decreases from the existing level. The dramatic reduction in oil pollution accidents may be at least partly due to this indirect incentive towards care, emanating from the provision of direct action in the oil pollution liability regime.

The direct action provision also motivates insurers to be extra vigilant against the negligent conducts of their insured ship-owners. Insurers have various tools such as premium rate variance, deductibles, policy limit, and even outright denial of coverage to check the carelessness of insured ship-owners.[143] Since insurers use these tools even when there is no provision for direct action against them, they now have an added incentive to use them more frequently. The end result is increased pressure on the owners of substandard ships to take optimal care.

Lastly, even though the second and third tier of insurance through the IOPC and Supplementary Funds are mainly designed for adequate compensation and are funded by the oil industry and not by ship-owners, these arrangements indirectly put pressure on ship-owners to be more diligent in the operation of their ships. This is because oil companies, who are the main contributors to both funds, are also the main, if not sole, customers of the oil-carrying ships (tankers). Given that the operation of these ships has a direct effect on the ultimate contributions that oil companies make to the Funds, oil companies as a group are naturally opposed to and united against substandard shipping. This opposition translates into various initiatives to motivate ship-owners toward optimal care. One such initiative is a database maintained by the oil industry on substandard ships, known as the Ship Inspection Report (SIRE)

142. *See generally* KENNETH S. ABRAHAM, DISTRIBUTING RISK: INSURANCE, LEGAL THEORY, AND PUBLIC POLICY 15 (1986).

143. *See generally* Muhammad Masum Billah, *Incentive Effect of Liability Rules in the Presence of Liability Insurance in the Maritime Law Context: An Economic Analysis*, 31 DALHOUSIE L. J. 427 (2008). These mechanisms make the insured as "co-insured" or "self-insured" by making the insured bear at least partial risk of the loss or liability. For more on insurance policies and risk allocation, *see* KENNETH J. ARROW, ESSAYS IN THE THEORY OF RISK-BEARING 141-43 (1974).

Program.[144] The database contains inspection reports on many oil-carrying ships.

Another initiative, which is more direct, is to demand indemnification from ship-owners for compensation paid out of the IOPC and Supplementary Funds, especially in cases of liability for small ships where the Funds are more likely to bear the disproportionate burden of oil pollution compensation.[145] In this regard, after the creation of the Supplementary Fund, two voluntary agreements[146] were reached between oil companies and ship-owners through their International Group of P&I clubs, whereby ship-owners agreed to indemnify the IOPC and Supplementary Funds for oil pollution arising from small ships or oil pollution requiring contribution from the Supplementary Fund. Again, the increased burden of liability on ship-owners through these insurance arrangements leads to more deterrence and, consequently, a reduction in oil pollution incidents.

The last point proves a much repeated principle in economic analysis of liability law, known as the Coase Theorem.[147] According to the Theorem, if there is little to no transaction (negotiation) cost, optimal care (i.e., efficient allocation of resources to bring such care) will be undertaken by the party who can take such care regardless of which side bears the initial

144. *See SIRE Introduction*, OIL COMPANIES INT'L MARINE FORUM (OCIMF), http://www.ocimf.com/SIRE/introduction (last visited Nov. 11, 2011).

145. This is because the liability of a ship-owner depends on the tonnage of the ship. So, the maximum liability of small ships may be less than the actual damage they cause, thus requiring more frequent involvement of the IOPC and the Supplementary Funds to pay for the unpaid compensation. *See* Tan , *supra* note 11, at 332.

146. They are the Small Tanker Oil Pollution Indemnification Agreement (STOPIA) 2006 and the Tanker Oil Pollution Indemnification Agreement (TOPIA) 2006. These agreements have been in operation since February 20, 2006. Under STOPIA, the International Group of P&I clubs (the Group) will bear up to SDR20 million of liability for oil pollution from any ship with total tonnage of 29,584 or less in the contracting states to the Fund Convention. This is despite the lower limit of ship-owners' liability under the CLC. Under TOPIA, the Group will indemnify the Supplementary Fund for 50 percent of the payment for oil pollution arising from any ship covered by the Group. *See Explanatory note of IOPC Fund*, *supra* note 96, at 6.

147. *See generally* Ronald Coase, *The problem of social cost*, 3 J. L. & ECON. 1 (1960).

liability.[148] Although a transaction with zero cost may never exist in the real world, transaction costs would be minimal and the parties could allocate their resources optimally where the parties can easily bargain and "are of approximately equal size, number, expertise, and wealth."[149] In the context of oil pollution liability, such transactions do exist between ship-owners and oil companies due to their equal bargaining power and mutual dependence on each other. As a result, even though the initial burden of additional oil pollution compensation through the IOPC Fund and the Supplementary Fund falls on oil companies, the negotiation between the organizations representing ship-owners and oil companies ultimately leads to the optimal allocation of resources to reduce oil pollution incidents.

IV. CONCLUSION

The international oil pollution liability law regime is one of the best examples of how proper insurance arrangements can guarantee the success of liability law in providing adequate *compensation* and *deterring* liable parties from negligent behavior. However, its excessive focus on *compensation* sometimes ignores the most important goal of liability law: *deterrence*. Providing compensation from various funds not contributed to by liable ship-owners does not promote the goal of deterrence. Luckily, this has not led to an increase in oil pollution incidents because the oil industry puts indirect pressure on ship-owners to provide well-maintained ships. Accidental oil pollution incidents from ships are on the decline. This is brought

148. The theorem is usually discussed in the context of two parties without any prior contractual relationship, where the action of one side causes harm to the other (e.g., the action of a rancher raising cattle causes harm to the crops of a neighboring farmer). Although there are contractual relationships between individual ship-owners and individual oil companies to transport oil, no such contract exists between these two groups. The action of the former as a group (i.e., negligent navigation) causes harm to the latter group (i.e., increased contribution to the IOPC and Supplement Funds to pay for pollution damage). *See id.* at 2-5.

149. CALABRESI, *supra* note 41, at 172.

about by a multitude of factors; among these factors, innovative insurance arrangements are very important.[150]

Despite the positive observations above, some aspects of the international oil pollution liability regime need improvement. The scope of its application is very narrow compared to the OPA. Since the international regime covers only pollution damage from oil tankers or ships which are adapted to carry oil as cargo and are actually carrying oil at the time of an oil spill, it would not cover the recent *Deepwater Horizon* oil spill—the world's largest oil spill incident—even if the U.S. were a party to it. This is regrettable because oil companies will always be the source of these types of oil spills, and they finance both the IOPC and Supplementary Funds in the international regime. Furthermore, the definitions of "oil" and "ship" are broader in U.S. law than in the international regime. Lastly, the mandatory minimum contribution to the Supplementary Fund stands in the way of the ratification of the Supplementary Fund Protocol by many developing states. Where devastating oil pollution incidents occur in non-state parties to the Supplementary Fund Protocol, this affects both the international oil pollution regime's primary goal of adequate compensation as well as clean-up measures in affected marine environments.

150. Among the other factors are strict liability for oil pollution, higher liability limit, improved tanker designs (e.g., double-hull) and strong enforcement of oil pollution regulations by port states. *See* Billah, *supra* note 136, at 222-38.