"Managing Environmental Risk: A Comparative International Perspective"

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Managing Environmental Risk: A Comparative International Perspective

Abstract

This contribution purports to provide a comparative analysis of environmental risk management in a few European countries, with the United States serving as the backdrop. Starting from the demand for environmental regulation, it asks the question of how this demand is met. Public regulation and norms setting on the one hand and private law enforcement through the presentation of torts claims on the other constitute the main alternatives. Under both, Environmental Impairment Liability (EIL) insurance can make a contribution; under the first because it provides compensation to victims, under the second because it may enhance incentives for prevention.

The comparison includes four European countries, France, Germany, the United Kingdom, and Switzerland (and the United States as a backdrop). They differ with regard to not only effective demand for environmental regulation but also to the way this demand is met. Moreover, they satisfy the conditions of insurability of EIL risks to differing degrees. These demand and supply considerations go some way to explain the relative importance of EIL insurance markets in the countries considered.

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1. Introduction

Undoubtedly, people prefer to live in an unpolluted environment. This concern has spawned policy makers’ involvement commonly known as environmental policy. However, for more than two decades now, economists have been emphasizing the fact that there is a choice of instruments in environmental policy (Baumol and Oates, 1971). Apart from legal norms such as emission standards, internalizing taxes of the Pigouvian type may be levied, tradable pollution permits created, and environmental impairment liability enforced. More specifically, legal norms can be shown to impose substantial welfare losses on both consumers and producers, apart from those (few) cases where missing the appropriate level of pollution would entail truly dire consequences (Griffin and Steele, 1992, ch. 6). Thus, a move away from managing environmental risk through legal norms and government mandates holds the promise of efficiency gains. This is the basic message of the work of Freeman and Kunreuther (1997), who argue that environmental impairment liability (EIL) in combination with EIL insurance may be the instrument of choice.

This contribution seeks to determine the scope of EIL insurance in four European countries in comparison with the United States, viz. France, Germany, the United Kingdom, and Switzerland. France is a representative of the Roman legal tradition. In Germany, on the other hand, the communitarian view of the environment dominates. The United Kingdom differs from the remainder of the EU due to its insular location, serving to shelter it from some of the pollution emanating from neighboring countries. Finally, Switzerland may be of interest because it combines Roman and Germanic legal traditions while being one of the most politically decentralized countries of the world.

Thus, the plan of the paper is as follows. In section 2, the countries’ structural features determining the effective (as distinguished from the latent) demand for environmental regulation are discussed. Section 3 deals with the different ways for meeting this demand, with particular emphasis on the division of labor between administrative and judicial law. In section 4, the preceding elements are combined to gauge the degree to which insurability conditions are satisfied. Section 5 offers an outlook on the likely development of policy at the level of the European Union and the future role of EIL insurance.
2. Demand for environmental regulation

In this section, three factors shaping the “effective” demand for regulation are discussed (see Table 1). Countries differ with respect to their populations’ (often latent) concern for the environment, which however becomes effective only if the cost of forming a pressure group is not too high or if voters have direct influence on the political process. These three factors will now be described in each country.

France. Traditionally, the French population has conceived of the environment as a common pool resource to be exploited by the first comer. Also, outside the Paris region, France is still a rather thinly populated country, causing environmental pollution to be diluted in most cases (Woehrting, 1996).

Accordingly, France (as is true of the other southern European countries) has no Green movement worthy of mention. But then, it is not easy to organize a pressure group around environmental issues, which are importantly of regional and local nature, whereas policy decisions are taken in Paris. For instance, central government decides on a site (e.g. for an additional nuclear plant), little protest if any is ever voiced, although opponents would have to bear comparatively little cost of organization in this case. All of this is evidence of a low effective demand for environmental policy.

Germany. In Germany, the notion that the environment constitutes a commons that must be managed by the community (communitarism) is still very much alive. Indeed, 57 percent of (Western) Germans cited preservation of the environment a high-priority issue at the end of the 1980s, up from 9 percent in 1980 (Heyder, 1989). This has led citizens to form pressure groups that have successfully prevented the siting of e.g. nuclear reactors and decommissioning plants. These groups, while at first sight reminiscent of a “not in my backyard” attitude, reflect a keen environmental awareness.

Forming a pressure group with environmental concerns is not very costly either. A good deal of environmental impairment occurs at the local and regional level, and political decentralization permits activists to bring pressure upon politicians at that level. Also, the Green Party is represented in several regional governments as a coalition partner and in the federal parliament. In all, effective demand for environmental policy is high in Germany.
Table 1: Demand for environmental regulation in five countries

<table>
<thead>
<tr>
<th>Aspect</th>
<th>France</th>
<th>Germany</th>
<th>United Kingdom</th>
<th>Switzerland</th>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Concern for environment in population</td>
<td>low (low population density)&lt;sup&gt;a&lt;/sup&gt;</td>
<td>very high (communitarian view of the environment)&lt;sup&gt;b&lt;/sup&gt;</td>
<td>medium (insular situation)</td>
<td>very high (dense population, tourism)</td>
<td>medium (low population density)</td>
</tr>
<tr>
<td>2. Cost of organization for pressure groups (environmentalists)</td>
<td>medium (local issues vs. representation at the capital)</td>
<td>low (well-established Green Party can provide support)</td>
<td>medium (pre-existing club structure not revolving around issues)</td>
<td>low (popular initiative and referendum)</td>
<td>low (freedom of association granted)</td>
</tr>
<tr>
<td>3. Degree of citizen influence on legislation</td>
<td>low (centralization of political power, no popular referendum)</td>
<td>medium (decentralization of political power, popular referendum in Bavaria)</td>
<td>low (centralization of political power, no popular referendum)</td>
<td>high (popular initiative and referendum)</td>
<td>medium (centralization of political power, but referendum in some States)</td>
</tr>
<tr>
<td>Effective demand for environmental regulation</td>
<td>low</td>
<td>high</td>
<td>medium</td>
<td>very high</td>
<td>medium</td>
</tr>
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</table>

Sources:
- a) Woebrting (1996)
- b) Heyder (1989)

United Kingdom. Pollution of the air and the seawater has traditionally been of little concern to this country. With the winds almost always blowing from West to East, airborne pollutants are exported to the Continent, while the gulfstream carries waste water to Scandinavia.

In principle, it should not be very costly for a pressure group pushing environmental issues to form, since freedom of association is fully granted in the UK. In addition, the country is known for its many clubs, which could serve as nuclei for such pressure groups. However,
these clubs mainly serve a purely social function; they do not revolve around policy issues.

When it comes to citizens’ direct influence on policy, the United Kingdom with its parliamentary democracy is not a fertile soil. Political power is very much centralized in London, and citizens cannot instigate a popular initiative or a referendum. These features cause effective demand for environmental policy to be medium (see Table 1).

**Switzerland.** Public opinion in this densely populated, tourism-oriented country is extremely sensitive to local pollution. This creates considerable potential demand for environmental regulation.

The cost of articulating this demand is low, too. Not only does this country grant full freedom of association, but 100,000 citizens may force politicians to deal with a popular initiative, and the same number of signatures suffices to call a referendum on a federal law. This has caused all parties represented in the national coalition government to adopt stances that would be typical of a Green party. In sum, effective demand for environmental regulation is very strong.

**United States.** Even in most of its metropolitan areas, the United States has a low population density. On the other hand, there is a communitarian concern about the environment as a shared inheritance. In all, there is a nonnegligible demand for environmental regulation in the population.

Since the freedom of association is explicitly granted, pressure groups can form at low cost. Indeed, environmentalists act exactly like any other lobby seeking to influence the political process.

Direct influence of citizens on environmental programs is not possible, however, at the federal level. In some states (notably California), citizens have the right of instigating popular initiatives and referenda. This results in a medium effective demand for environmental regulation (see Table 1 again).

**Conclusion 1:** The effective demand for environmental regulation varies considerably between the four European countries considered, being very high in Switzerland but low in France. The United States occupies a medium position.
3. Scope for EIL insurance

In this section, four legal features are reviewed that determine the scope of insurance in the domain of environmental risk (see Table 2). First, if environmental damage is defined as a criminal act, then insuring such damage by implication would be illegal, too. Second, the degree of reliance on “command and control” regulation is relevant because insurance can be seen as an alternative to public law enforcement, viz. private law enforcement based on economic incentives (Zweifel and Tyran, 1994). A third feature is

Table 2: Scope for EIL insurance in five countries

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<tr>
<th>Aspect</th>
<th>France</th>
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<th>Switzerland</th>
<th>United States</th>
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</thead>
<tbody>
<tr>
<td>1. Degree of penalization</td>
<td>low&lt;sup&gt;a)&lt;/sup&gt;</td>
<td>low</td>
<td>low</td>
<td>medium</td>
<td>medium</td>
</tr>
<tr>
<td>2. Degree of reliance on “command and control”</td>
<td>high&lt;sup&gt;b)&lt;/sup&gt;</td>
<td>high&lt;sup&gt;c)&lt;/sup&gt;</td>
<td>low (integrated pollution control, few specific decrees)</td>
<td>high</td>
<td>medium</td>
</tr>
<tr>
<td>3. Importance of tort law and courts</td>
<td>low</td>
<td>low&lt;sup&gt;e)&lt;/sup&gt;</td>
<td>high&lt;sup&gt;d)&lt;/sup&gt;</td>
<td>low</td>
<td>very high</td>
</tr>
<tr>
<td>4. Degree of predictability of rulings</td>
<td>medium</td>
<td>high</td>
<td>medium</td>
<td>medium</td>
<td>low</td>
</tr>
<tr>
<td>Scope for EIL insurance</td>
<td>medium</td>
<td>high</td>
<td>medium</td>
<td>medium</td>
<td>low</td>
</tr>
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Sources:
a) Héraud and Llerena (1992)
b) Rose-Ackerman (1995)
c) Slater (1994)
d) McLoughlin (1982)
the importance of tort law and the role of courts, which provide the legal basis and infrastructure for private law enforcement, a complement of EIL insurance. However, for insurance to be viable, the outcome of the process (be it of the administrative or judicial type) should be predictable. This is the fourth feature to be reviewed (see Table 2).

**France.** Violation of environmental norms does not entail very stiff penal sanctions. On the other hand, France has very much relied on “command and control” policy formulated by the central government (Héraud and Llerena, 1992).

Accordingly, litigation based on tort law is rare in this country. The rulings of the administrative bodies charged with implementing environmental policy do not leave much room for private law enforcement. The fact that the law has been of a patchwork type, treating impairment of the water, soil, and air quite differently, detracts from overall predictability of rulings.

In sum, scope for EIL insurance in France is medium. On the one hand, rather unambiguous, time-invariant legal norms help to delimit the EIL risk under consideration. On the other hand, violation of these norms triggers a sanction regardless of whether some third party suffers a tort or not.

**Germany.** The degree of penalization of EIL is rather low in Germany, too. At the same time, the country relies very strongly on “command and control” procedures. Environmental policy is mainly implemented through the requirement that any installation having a certain risk of causing EIL must have an operational licence. Tort law generally plays a rather minor role in Germany. Norms as well as environmental policy guidelines formulated by the administration are not subject to judicial review (Rose-Ackerman, 1995). Thus, the role of courts is reduced to begin with. Moreover, the concepts of “deep pocket” and “punitive damage” are unfamiliar to them. Finally, the rulings promulgated by administration are quite predictable.

In all, there definitely is a role for insurance in the implementation of environmental policy in Germany. This role is enhanced by the fact that the federal government adopted the “polluter pays principle” several years ago but did not proceed to impose internalizing taxes. Thus, EIL insurance could be trusted with both providing incentives for prevention to the potential tortfeasor and providing compensation to the victim, the government lacking funds earmarked for this purpose.
United Kingdom. Impairment of the environment has been subject to the British penal code in rare circumstances only (Christy, 1994). Traditionally, there also has been little reliance on “command and control” in that legislation is of an umbrella type, with few specific decrees (Slater, 1994). As a matter of fact, its cavalier attitude with regard to environmental policy has caused that British government to be criticized several times by the European Commission. It seems typical that the United Kingdom is (apart from France) the only EU member country to operate a nuclear decommissioning plant (Wind-scale). While this low degree of government involvement leaves room for private enforcement of norms using the tort law in the courts, it also creates a good deal of uncertainty as to the standard of due care to be applied in EIL cases. Thus, the predictability of rulings is only medium. Overall, there is considerable scope for EIL insurance.

Switzerland. The federal law on the protection of the environment of 1983 (revised 1995) does stipulate fines in several instances, penalizing environmental impairment to some extent. Up to the present, implementation of policy has been definitely of the “command and control” type. This does not give much of a role to the tort law and the courts, where judges are tied to the letter of the law as in Germany. Since much of the implementation of Swiss environmental policy is delegated to the 26 cantons, which in their turn tend to shift the burden to communes, standards of due care are not uniform throughout the country, which also entails a less than perfect degree of predictability of rulings. In sum, however, there is considerable scope for EIL insurance in this country.

United States. With the creation of the Environmental Protection Agency, the United States injected a strong element of “command and control” to its environmental policy. However, as noted by Freeman and Kunreuther (1997), this has not been complemented by operational definitions of the standards of due care. The tort law plays a crucial role, not least because lawyers are permitted to act as entrepreneurs, organizing individual claims to form class actions. On the other hand, the predictability of court rulings has been rather low due to great leeway given to judges and juries. At the same time, the legal instrument of punitive damages implies that the degree of penalization is medium rather than low. Overall, scope for EIL insurance is limited.
Conclusion 2: When distinguishing four dimensions determining the scope of EIL insurance, Germany ranks high, the United States low, with the remaining European countries considered occupying a medium position.

4. Insurability conditions

As noted by Freeman and Kunreuther (1997), there are four conditions for a risk to be insurable. First, the likely number of claims arising during a given period (a year, say) must be estimable. Second, the size of these claims must be predictable. In combination, these two pieces of information permit the construction of the claims distribution, which shows the probability of claims falling into a series of size classes during a year. Two additional conditions relate to the effects of asymmetric information, which may cause the insurer to err in his determination of the claims distribution. Thus, adverse selection of risks must somehow be controlled, and moral hazard effects need to be limited.

While the first two conditions are rather self-evident, the last two may be worth some explanation.

Adverse selection occurs if the insurer is unable to recognize the true risk of a potential purchaser of coverage (Rothschild and Stiglitz, 1976). He thus is constrained to offer coverage at a rate calculated for an average risk in the market. However, this rate will prove attractive only to the “bad” risks, whereas the “good” risks will prefer to go without coverage. This means that the claims distribution of the risks actually acquired will be much less favorable than the one used for premium calculation. Moreover, it is likely to deteriorate over time once the insurer has to raise the premium in order to recoup the losses. For the higher premium makes the purchase of coverage even less attractive to the “good” risks, who drop out of the insured pool.

Moral hazard effects occur if the insurer is unable to monitor the behavior of those having actually purchased coverage (Shavell, 1979). Being protected from the financial consequences of their actions, insureds tend to skimp on their preventive effort. This change of behavior again causes the actual claims distribution to differ from the one used for premium calculation. The number of claims is higher than expected, and their size may also be larger if the tortfeasor slips in his efforts to contain the damage. These factors force insurers to increase premiums, step up cost sharing by the insured, or withdraw from his line of business.
<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Predictability of number of claims</td>
<td>high</td>
<td>high (for plants having an operational licence)</td>
<td>medium</td>
<td>high</td>
<td>low (some risks excepted)</td>
</tr>
<tr>
<td>Predictability of size of claims</td>
<td>high</td>
<td>high (for plants having an operational licence)</td>
<td>medium</td>
<td>high</td>
<td>low (some risks excepted)</td>
</tr>
<tr>
<td>Control of adverse selection</td>
<td>medium&lt;sup&gt;a&lt;/sup&gt;</td>
<td>low</td>
<td>medium</td>
<td>medium</td>
<td>low</td>
</tr>
<tr>
<td>Control of moral hazard</td>
<td>medium&lt;sup&gt;a&lt;/sup&gt;</td>
<td>medium</td>
<td>medium</td>
<td>medium</td>
<td>low</td>
</tr>
<tr>
<td>Degree of satisfaction of insurability conditions</td>
<td>high</td>
<td>high</td>
<td>medium</td>
<td>high</td>
<td>low</td>
</tr>
</tbody>
</table>

<sup>a</sup> Marshall (1996)

**France.** Traditionally the French insurance industry has served as the prolonged arm of government in many aspects. This included a rather active role in the management of industrial risks, with the insurer inspecting the site and monitoring prevention efforts on the part of the insured enterprise. This means that the insurer's informational disadvantage in the domain of EIL was much less marked than e.g. in the United States to begin with. Moreover, starting in 1988, EIL reinsurance has been available through Assurpol which permits members to place up to 90 percent of their liability. A technical committee is charged with developing inspection and monitoring programs (Marshall, 1996). This serves to control both adverse risk selection and moral hazard effects. In all, the conditions for EIL insurability are satisfied to a high extent (see Table 3).

**Germany.** Under the impression of the communitarian view of the environment, German industrial firms have developed corporate strategies for managing environmental risk. In
some cases they even created units that successfully sell their know-how in the prevention and abatement of environmental damages (Héraud and Llerena, 1992). Moreover, the German Federation of Industry has a division “Industry and Ecology” advising member firms on environmental risk management.

This situation presents a two-edged sword to the EIL insuror. On the one hand, he may save on inspection costs by studying the environmental risk management strategy of a potential purchaser of coverage. Still, the actual implementation of the strategy would need to be monitored. On the other hand, however, increased risk management efforts on the part of industrial companies imply that the risks that are still offered to the insurer are particularly difficult to handle. Therefore, the EIL insurer has to be on guard lest he retain only ill-defined risks or risks resulting in very high payments. On balance, problems of adverse selection may be somewhat aggravated.

In return, while insurance coverage may induce negligent behavior on the part of insureds as in any other country, German courts are too much tied to the letter of the law to indulge in “deep pocket” verdicts (see section 3 above).

**United Kingdom.** Determining the number and size of claims has become a somewhat difficult task with the Environment Act of 1995, which however has not become effective at the time of writing (end of 1997). If the polluter cannot be determined or is unable to pay, the obligation to clean up passes on to the current owner (Swiss Re, 1996, ch. 3.2.9). By the early nineties British insurers (like their German counterparts) had created a stand-alone environmental policy. Moreover, while there is no EIL pool, the actuaries of British insurers almost without exception are members of the Royal Institute of Actuaries, which issues guidelines for the underwriting of risks. This feature serves to alleviate the problem of adverse selection. Finally, experience rating of premiums is common, serving to control moral hazard. All of this goes some way to make EIL risks insurable in the United Kingdom.

**Switzerland.** Since the implementation of legislation bearing of environmental protection is delegated to the Cantons and even communes, Swiss insurers have never acted on behalf of national government in EIL matters in the way of their French counterparts. They relied on their several associations for the promulgation of underwriting standards and scales for experience rating in order to mitigate the effects of asymmetric information. Nevertheless, accumulation of “bad” risks became a problem for some insurers.
As to moral hazard, popular opinion can be counted upon to control tendencies toward skimping on preventive effort in favor of the environment, helping to neutralize any inducement to negligence due to insurance. On balance, the conditions of insurability may be said to be satisfied to a high degree in the domain of EIL.

**United States.** In the context of EIL, it should be noted that the existence of insurance coverage may also induce moral hazard in third parties. In particular, there is some evidence suggesting that victims of environmental damage obtain higher compensation if the defendant has insurance (Viscusi, 1986; Wittman, 1986). Apparently, jurors decide differently when insurance coverage is available (the “deep pocket” effect noted by Kunreuther, 1987). This has caused both the number and size of EIL claims to be predictable with great difficulty only. However, there are exceptions, such as the case of asbestos. Here, EPA and OSDA have promulgated standards of due care in asbestos clean-up operations that do not leave much room for interpretation by juries. Moreover, U.S. insurers have been able to alleviate adverse selection of risk because on-site inspection permits them to classify potential purchasers at little cost in this case (Kunreuther and Freeman, 1997, ch. 6). As to moral hazard, the asbestos content of building materials in place does not change due to insurance coverage, while the standards of due care abate moral hazard effects. Most importantly, U.S. courts up to present have not handed down “deep pocket” verdicts in asbestos cases, keeping damages paid within limits.

Conclusion 3: Insurability conditions for EIL risks are satisfied to a medium to high degree in the European countries studied but to a low degree (with exceptions) in the United States.

**5. Predicted and actual availability of EIL insurance coverage**

The objective of this section is to pull together the information about demand and supply conditions with regard to EIL insurance gathered in the preceding sections. Only if demand for environmental regulation is strong (Table 1), with the legal understanding of environmental damage providing scope for EIL insurance (Table 2), can there be a strong effective demand for EIL insurance coverage. On the supply side, the insurability conditions stated in Table 3 need to be satisfied to a high degree. In the following, a prediction with regard to the availability of EIL insurance coverage will be made for the five countries considered, based on the evidence assembled in these tables. This prediction will then be juxtaposed to information on the actual availability of EIL insurance (see Table 4).
France. With the demand for environmental regulation low to begin with, there cannot be a very marked demand for EIL insurance coverage either.

On the other hand, the supply of EIL insurance is fostered by at least a medium degree of satisfaction of insurability conditions. Thus, some degree of EIL insurance coverage should be observed in France.

This prediction turns out to be roughly true because EIL coverage provided under general liability policies is limited to sudden and accidental events. Moreover, these policies typically are part of general liability coverage, although Assurpol has developed a widely-accepted stand-alone EIL policy with full EIL cover (Swiss Re, 1997, Ch. 3.2.1, Table 4).

Germany. Germany is characterized by a high effective demand for environmental regulation, and the legal system leaves quite a bit of scope for EIL insurance. These favorable conditions on the demand side are matched to good measure on the supply side in that insurability conditions are satisfied to a high degree. These factors certainly encourage the development of EIL insurance.

In actual fact, German insurers have developed a separate EIL policy that also covers the risks associated with normal operation EIL risk (Swiss Re, 1996, Ch. 3.2.1).

United Kingdom. With the demand for environmental regulation not so strong, an important precondition for a sizable EIL insurance market is lacking in this country. At the same time, there is medium scope for the supply of EIL insurance, paving the ground for EIL coverage. Approximate congruence between predicted and actual can be observed in that there is a considerable volume of EIL coverage supplied in this country. Moreover, competition has resulted in a wide choice of types of policy, among them also stand-alone policies that provide full EIL coverage.

Switzerland. While effective demand for environmental regulation is very high in this country, this cannot be said for the scope for EIL insurance. Therefore, demand conditions are not entirely favorable to EIL insurance. On the other hand, insurability conditions tend to be satisfied to an extent as to not hamper the development of EIL policies. This results in the prediction that the volume of EIL insurance written should be about average in view of the size of the whole market.
Table 4: Predicted and actual volume of EIL insurance coverage

<table>
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<tr>
<th></th>
<th>France</th>
<th>Germany</th>
<th>United Kingdom</th>
<th>Switzerland</th>
<th>United States</th>
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<tbody>
<tr>
<td><strong>Predicted volume</strong></td>
<td>Medium</td>
<td>High</td>
<td>Medium</td>
<td>Medium</td>
<td>Low</td>
</tr>
<tr>
<td><strong>Actual volume</strong></td>
<td>Available, full cover by Assurpol, sudden/accidental cover under general liability policies&lt;sup&gt;a&lt;/sup&gt;)</td>
<td>Available, full cover under EIL model policy (also for normal operations&lt;sup&gt;a&lt;/sup&gt;)</td>
<td>Available, full cover under stand-alone policies, sudden/accidental cover under general liability policies&lt;sup&gt;a&lt;/sup&gt;)</td>
<td>Available, full cover under stand-alone policies, sudden/accidental cover under general liability policies</td>
<td>For certain risks only&lt;sup&gt;b&lt;/sup&gt;)</td>
</tr>
</tbody>
</table>

<sup>a</sup>) *Swiss Re* (1996), Ch. 3.2.1
<sup>b</sup>) *Freeman and Kunreuther* (1996)

The actual development of the EIL insurance market seems to roughly correspond to the level predicted. For, few stand-alone EIL policies are on the market. Coverage against sudden/accidental events is provided as part of general liability policies (*Swiss Re*, 1996, Ch. 3.2.1).

**United States.** Things do not look too unfavorable on the demand side in this country, because there is some effective demand for environmental regulation. However, the scope for EIL insurance turns out to be limited. Moreover, on the supply side the degree of satisfaction of insurability conditions must be rated low in general. The volume of EIL insurance available thus is predicted to be rather low.

Actual facts seems to match this prediction in that EIL insurance is not available generally, with the exception of certain risks (*Freeman and Kunreuther*, 1996). Specifically, insurability was enhanced considerably in the case of asbestos because EPA and OSHA imposed norms of due care in cleanup operations that went a long way in relieving both adverse selection moral hazard problems to potential insurers.

Conclusion 4: From the analysis of the factors determining the demand for EIL insurance coverage and the insurability conditions determining the supply of coverage, it is possible to qualitatively the volume of EIL insurance written in the five countries considered. These predictions are largely in line with the
actual availability of EIL insurance in these countries.

6. The influence of EU environmental policy

In matters of environmental policy, the European Union (EU) became active with regard to environmental policy as early as 1973. Since unanimity is required in the Council of Ministers in this domain, developments in policy have been rather slow [Brusasco Mackenzie (1994)]. Nevertheless, 200 orders were issued by 1993 (in the main directives which leave the choice of means open to member countries). There has been a lack of enforcement of these directives at the national level, which may now prove advantageous because (at least on paper) member states are encouraged to find their own solutions pursuant the Fifth Action Program of December 1992, based on the EU Treaty of 1992, Articles 130 and 30r-t. Planned as a complement to the RIO 1992 conference, this Program abandons the traditional “command and control” approach in favor of a more mixed strategy. While the objective for the EU remains to promulgate uniform environmental standards, member countries now may also use market-oriented instruments for satisfying them. Among these instruments, EIL insurance is mentioned; the main emphasis lies on a restructuring of the entire tax system, however, entailing a major shift from labor income to the use of resources as the base of taxation.

The Fifth Action Program rests on three concepts, viz. shared responsibility, integration, and subsidiarity.

- **Shared responsibility**: This means that governments at the national, regional, and local level as well as industry are to be involved.

- **Integration**: This means that environmental policy is to be regarded as part of the whole bundle of EU policies, in particular the completion of the Internal Market.

- **Subsidiarity**: The EU Commission expresses its will to delegate the actual implementation of environmental policy to member states as far as possible.

However, subsidiarity easily clashes with the Internal Market, in particular as long as the emphasis of environmental policy continues to be on national norms, which may transpire into nontariff trade barriers designed to provide domestic suppliers with an advantage over their international competitors. Moreover, subsidiarity does not go together too
well with the establishment of specific targets by the EU Commission. The instance of municipal waste (Greenwood, 1994) may prove instructive.

- The objective is the prevention of waste (rather than end-of-pipe measures);
- The EU target up to the year 2000 is the establishment of waste management plans in member states;
- The action to be completed is that the Landfill Directive is to be operational by that time;
- The start of the action is to take place before 1995;
- Actors concerned are the European Community, member states, local authorities, and industry.

Needless to say, declarations of this type are of ambiguous value from the point of view of EIL insurability. Specifically, the EU Landfill Directive is not even mentioned in a recent EU Working Paper (European Commission, 1997) on environmental liability. Such variations certainly hamper the development of an EU-wide insurance product in this domain.

Until recently, developments seemed to enhance insurability. The Green Paper of May 1993 firmly states the “The polluter pays” principle (Spühler, 1996). It not only tends towards strict liability in environmental policy, but realizes that strict liability makes the polluter pay in quite a few instances. Therefore, the paper addresses the question, What if the polluter cannot pay?

This question of course very much sets the stage for EIL insurance at the EU level. However, as indicated in Table 1 above, the volume of the EIL insurance market is still very small in several EU countries. This fact points to very high transaction costs in the conclusion of EIL insurance. Rather than suggesting ways to reduce these costs, the Green Paper considers the solution of mandatory EIL insurance. Once more, however, the more recent working paper does not pursue this alternative.

Conclusion 5: Homogenization of environmental norms, combined with increased reliance on market oriented instruments as well as the “polluter pays” principle, should increase insurability of EIL risks in EU member countries.
7. Summary and Conclusion

This contribution is devoted to an international comparison of environmental risk management, with special emphasis on the role of Environmental Impairment Liability (EIL) insurance. Between the four European countries studied (France, Germany, United Kingdom, and Switzerland) and the United States, effective demand for environmental regulation was found to differ greatly, being maximum in Switzerland (Conclusion 1). This demand may be met in different ways, some of which increase the scope of EIL insurance. On this score, Germany seems to rank particularly high, in contrast to the United States (Conclusion 2). While these considerations serve to determine the demand for EIL insurance, the supply of coverage depends on the degree to which certain insurability conditions are satisfied. Here, the European countries were found to rank higher than the United States (Conclusion 3). The juxtaposition of demand and supply factors results in the prediction that Germany should have a high (and the United States a limited) volume of EIL insurance, with France, the United Kingdom, and Switzerland occupying a medium position. This prediction is borne out by and large (Conclusion 4).

Future developments in European countries importantly depend on the environmental policy adopted by the European Union (EU). Increasing reliance on market-oriented rather than “command and control” instruments and adoption of the “polluter pays” principle should enhance insurability of EIL risks in EU member countries (Conclusion 5).

In sum, EIL insurance holds the promise of not only providing compensation to victims but also incentives for potential tortfeasors if and when management of environmental risk abandons the conventional “command and control” approach. For this promise to be realized, however, certain insurability conditions must be satisfied -- conditions that seem to be fulfilled to a somewhat greater degree in the European countries studied than in the United States.

References


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