A Legal and Economic Analysis of the Allocation of Liability for Unknown Risks in the Context of Business Environment

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Abstract: *The allocation of liability for unknown risks is a difficult problem, and the focus of law and economics research in tort law in a business environment perspective is to provide incentives for different actors to better determine their level of attention and activity and achieve the desired allocation of risk, with the goal of reducing institutional costs, and through what regulatory measures the liability for such unknown risks allocation acts as an incentive, and this paper will focus on these issues.*

Key words: *Business environment; Risk allocation; Tort law; Law and economics*

Introduction

The allocation of responsibility for unknown risks from a business environment perspective should aim at minimizing systemic costs, and the choice of path focuses on the choice between tort law and regulation. In the literature on best practice, the article compares and contrasts tort law and regulation as two approaches to the problem of "negative externalities" (Canterbery & Marvasti, 1992). The study finds that these costs are not borne by the person who caused them or by the tortfeasor who triggered the externality, but by others (Shavell, 2009). A typical example is environmental pollution: if a water source is contaminated during the production process, it is the user of the water source that bears these costs, not the producer or consumer of the product. With respect to the issue of unknown risks, the question of whether tort law or regulation itself can better guide the behavior of potential infringers in the desired direction is an important one under the business environment perspective. Accessible information, enforcement issues, administrative costs, and the influence of interest groups are all relevant here. In this article, we will briefly present an economic analysis of tort liability and regulation as two different approaches to dealing with negative externalities market failures in the context of Doing Business, and discuss in detail tort liability for unknown risks, analyze the impact of tort liability on incentives, and then explore how to construct an effective path to reduce institutional costs in the context of Doing Business.

Optimal Execution Theory and its Application to Unknown Risk Allocation in the Context of Business Environment

In the context of doing business, the basic economic functions of tort liability law and regulation become relevant once a market failure occurs (Williamson, 1971). Tort law includes the issue of negative externalities when it comes to market failures. The basic idea is that by making tortfeasors bear the social costs of their actions, they will gain ex ante incentives to take the best possible precautions. This view takes the perspective of the deterrence function of tort law and argues that potential tortfeasors will take the best precautions based on deterrence, which is the main function of economic analysis (Keating, 2000). And the best preventive measure is defined as the one for which the marginal cost of accident prevention equals the marginal benefit in terms of reducing expected accident losses. The second important function of tort law is the effective compensation of victims (Shavell, 1979). In the deterrence framework, prospective liability concerns the potential ex ante tortfeasor. Potential tortfeasors weigh the potential benefits they may receive against the costs of their actions. The deterrent effect of tort law translates into the potential tortfeasor taking optimal precautions. The adoption of optimal precautions can, to some extent, satisfy the goal of reducing systemic costs in the context of doing business and allocating unknown risks in an efficient manner.

Application of Tort Law in the Allocation of Unknown Risks from a Business Environment Perspective

We argue that the main objective of applying tort law in a business environment perspective is to provide behavioral incentives for the relevant actors to reduce systemic costs. Tort law achieves economic efficiency by internalizing the externalities caused by high transaction costs through the use of allocation of liability. In a unilateral situation, both strict and negligent liability lead to optimal precautions by the tortfeasor, provided that the court sets the due precautions as optimal for society (Rhee, 2012). In terms of activity level, since in the negligence case the tortfeasor can avoid liability by taking due care to prevent it, in the strict liability case the tortfeasor will generally choose the optimal level of activity, while in the bilateral liability case pure strict liability does not create an incentive for the victim to prevent accidents since the victim does not have to bear any costs. The main cost of tort law is monitoring and investigation, especially the use of investigative powers. And in order to seek relief, civil liability usually leads to compensation. The possibility of obtaining compensation is usually an important incentive for litigants. The economics of law approach assumes that the actor is able to assess the costs and benefits of the duty of care, however, in the case of unknown risks, some of the costs associated with the assessment may be unknown and therefore the process of such assessment may not lead to the best choice.

The Impact of Information Deficiency on the Allocation of Unknown Risks in the Business Environment Perspective

If a certain risk is unknown based on the level of technology at the time the potential tortfeasor acts, then the liability for that risk may influence the potential tortfeasor to take precautions. However, some scholars have objected to the above view because a person cannot make a rational decision to take reasonable precautions

in something he does not know (Schäfer, Ott & Ott, 2012). Therefore this does not reduce the systemic cost. Because according to the current state of technology, the risk is unknown and even if a higher level of prevention exists, the risk is still unknown. One does not know whether such risks exist, and therefore one does not know how much unintended damage they may cause. But it has also been argued that the liability for unknown risks can affect the level of activity (Calabresi & Klevorick, 1985). This is demonstrated by the inherent uncertainty that may lead to excessive prevention and thus to increased systemic costs. Thus, in a business environment perspective, an individual's fear of liability for unknown risks may motivate him or her to withdraw from the activity altogether. To the extent that such activity is socially desirable, it can produce inefficiencies and result in higher institutional costs.

The Role of Regulation in the Allocation of Unknown Risks from a Business Environment Perspective

With the goal of reducing systemic costs, regulation may have a more comparative advantage than tort law. In particular applying information theory to the case of unknown risks, regulation may be preferred based on the asymmetry of information. However the above scenario is actually based on the fact that the risk is not absolutely unknown, at least the regulator has knowledge of the possible risks. However, this may not always be true, as there are also cases where the regulator is not aware of the unknown risks, which is obviously not an absolute reason to rely exclusively on regulation. The principle of responsibility should exist in such cases to complement the regulatory rules. In general, public regulators have an advantage of scale over private institutions when it comes to information gathering. When information becomes highly technical, private institutions may have an advantage.

Advantages of Regulation in the Allocation of Unknown Risks from a Business Environment Perspective

The advantage of the regulator is that it can take advantage of economies of scale. This means that research into new activities, i.e. administrative regulators, are in a better position to obtain information about the state of the art. And the economies of scale themselves save institutional costs to a large extent. However, when conducting research aimed at obtaining information, production operators and judges may be in a more disadvantaged position than regulators. Under a fault system, the question becomes whether, by considering all available risk information, the judge has accurately set the standard of fault, and by involving experts in the argumentative process this may be effective. In the public sphere, on the other hand, the relevant authorities regularly check whether the production operator's facilities meet safety standards. As under the liability regime, production operators may be given some incentives to gather information on emerging risks and thus regulate the level of duty of care. Thus, through some design of the tort liability law, the potential risks that constitute the current level of technology can be reached, however, may result from their own insufficient prevention of risks, by turning to administrative regulation. To a large extent, the same can be done for the above-mentioned situations by setting incentives for production operators to be informed. In general, with economies of scale, regulators can collect information in a cost-effective manner. Then, depending on the current state of technology, this risk may be unknown. Similarly, production operators need

to be incentivized to conduct research to identify new risks.

The Difference in Institutional Costs between Administrative Agencies and Individuals for Regulation in the Perspective of Business Environment

Compliance with safety standards can exempt production operators from liability, for example, as in the case of the duty of best care resulting from the standard of negligence. In contrast, as already mentioned, the situation is quite different under strict liability. Therefore, administrative authorities need the production operator as a source of information. Otherwise, there may be a certain lag in the development of safety rules. And in terms of the cost of information collection, one may have to look for alternative solutions when high information costs exist. The regulatory system undoubtedly has its own weaknesses, which are expressed to some extent in the relatively high cost of collecting information and setting standards through regulation. Moreover, regulation is only effective in the context of administrative enforcement, which itself is equally costly. Specifically, administrative supervision and law enforcement officers' supervision and correction of infringement is generally enforced ex ante, while the court's decision to compensate the infringement victim is enforced ex post. Both have their advantages and disadvantages. Administrative enforcement personnel have more comprehensive expertise than the courts, and therefore often have a relative advantage in setting industry standards. If the industry standards and safety standards are consistent, then compliance with the standards can give positive incentives to tortfeasors, and compliance with the uniform standards themselves can achieve both the prevention of ex ante regulation and enforcement, and to a certain extent, to avoid ex post facto liability. However, courts may not directly adopt industry standards as safety standards because of the fear that regulators will be captured by companies within the industry when setting standards, and therefore safety standards may be higher than industry standards. In that case the tortfeasor will generally create an incentive to prevent above the industry standard. Similarly, there may be cases where an industry sets an overly high industry standard in order to protect the vested interests of those already in the industry, and thus the courts may follow a less stringent safety standard than the industry standard.

An Effective Path to Reduce Institutional Costs under Unknown Risk Allocation

In a business environment perspective, administrative regulators usually profit from an information advantage, but their profit does not, to some extent, reduce systemic costs, e.g., experts from the authorities can also intervene in court proceedings to provide professional advice. However, for provable offenders, the sanctions available to administrative regulators, such as license revocation, may be more effective in controlling systemic costs (Faure & Weber, 2015). Likewise, in assuming broad liability for unknown risks, the danger of over-deterrence and the risk of the production operator withdrawing completely from the market for a given product must also be considered. Thus, although public enforcement is better positioned than private enforcement in judging proof of violators, in practice administrative regulation is not able to act as a deterrent in all cases, i.e., to contribute to reducing systemic costs.

But the following question is worth exploring, namely, whether regulation can reduce the institutional costs of free-riding in the matter of allocating unknown risks. We can imagine a situation where many victims suffer tort damages, but if only one of them sues for tort damages, all parties who have suffered tort damages

will benefit if the court's final judgment is in their favor. It is the least expensive for each party to wait for someone else to file a claim and then profit from the outcome. Our subjective impression may be that free-riding controls individual litigation costs in civil and commercial activities, but the objective situation is this: the hidden systemic costs cannot be ignored. Since the likelihood of success in hitchhiking is not 100%, the outcome is based on a certain probability, which itself represents uncertainty and thus affects the controllability of institutional costs. Similarly, the protection of information products in the business environment perspective will also involve the above-mentioned issues. Information products have two characteristics in transactions, the first one is trustworthiness and the second one is non-possessory. We should note that the cost of information in dissemination is lower compared to the production of information, for example, the cost of producing music compared to the cost of dissemination, (especially in the context of information networking, where the former is significantly more expensive than the latter. This has given rise to the phenomenon of consumers attempting to obtain works with high production costs by paying less for their distribution, a phenomenon we call free-riding. In order to curb the free-rider phenomenon and provide positive incentives for innovation, intellectual property protection becomes particularly important (Robert, Thomas, & et al., 2012). In order to reduce the number of free-riders, and to make the systemic costs of doing business in an environment where the allocation of unknown risks is manageable and low, the design of the litigation system should be improved and modified to some extent, specifically by structuring the system so that only those who participate in the litigation can benefit from a successful decision. Perhaps when the above system is adopted, regulation may be the preferred path to saving institutional costs.

Beyond that, it is clear that adjustments to the level of prevention will not be effective in reducing systemic costs if the tortfeasor cannot be expected to take responsibility. The issue of incentives for potential litigants is a problem in any enforcement environment, including a business environment. As for damages due to unknown risks, one can imagine these two scenarios. First, when the harm is minor yet extensive, the deterrent effect of litigation may rely solely on the liability regime, and civil litigation has the advantage that costs are incurred only when litigation is brought against the actual case. On the other hand, regulation itself can lead to ongoing systemic costs, including administrative costs. And liability for unknown risks may lead to more litigation involving tort damages because there is the possibility of holding potential infringers liable for damages caused by risks unknown at the time of the act, which will lead to increased administrative costs, i.e., institutional costs. Administrative regulation is enacted by government officials in the public interest. However, public choice theory strongly suggests that the successful lobbying by interest groups that give rise to rent-seeking by regulators may prevent regulators from conducting the necessary research on risk allocation (Xia, 2009). There may be a serious risk that administrative regulators may be influenced by personal interests and not take sufficient efforts to disclose unknown risks. Based on these risks, the question of what remedies should be taken to ensure that the regulator's interests are better aligned with the public interest, and thus effectively reduce systemic costs, is an urgent one. A prerequisite assumption of self-regulation is that the producer-operator has access to effective information at a lower cost compared to the regulator. In terms of the size of the producer operator, it is generally accepted that large firms are more knowledgeable and financially capable of self-regulating risks than small and micro firms. Small and micro enterprises typically have a lower level of knowledge of regulatory laws and the national regulatory system and may not have their own incentives to reduce institutional costs, relying more on the administrative regulatory system at the national level. In fact, in many ways, MSMEs are dependent on the national-level

administrative regulatory system because many MSMEs are not members of trade or industry associations that may provide industry-related updates, and they make little use of advisory services. This is, of course, in contrast to large enterprises, which have greater self-regulatory capabilities of their own and are more likely to join trade associations, hire professional consulting and compliance teams, and purchase insurance (Hutter, 2011). Thus, due to the information advantage, are able to resolve cases of non-compliance at a lower cost compared to the court system or administrative regulatory system. In addition, this self-regulatory system is often internally funded by the firm, which may have a significant advantage in providing incentives to reduce regulatory costs. The ability to resolve the allocation of potential unknown risks at a lower cost also alleviates the burden of external regulation to some extent, which in turn helps to reduce the problem of the institutional cost of allocating unknown risks in building a business environment. But we should also recognize that self-regulation has the potential to be captured by regulation because it is clearly closely linked to the industry, which means that the industry's self-regulation is more likely to be captured compared to external regulation.

Conclusion

In the context of the business environment, with the reduction of institutional costs as a starting point, the unknown risks are analyzed from the point of view of law and economics, and production operators are exposed to liability risks, which will therefore motivate them to take the best possible precautionary measures. If these risks are assumed to be unknown to production operators, then it is clear that there can be no incentive effect associated with preventive measures and there will be no impact on institutional costs. The key question, however, is whether liability for unknown risks can incentivize potential tortfeasors to take the relevant precautions against the risks. In this regard, we believe that the advantage of strict liability is that the potential tortfeasor will internalize the externalities that arise, which will help control the institutional costs in civil and commercial activities. In contrast, under negligence liability, the allocation of unknown risks and the control of institutional costs depend on the definition of the scope of the duty of care of a reasonable person under the applicable negligence regulation. However, the problem is that the specific standard and scope of the duty of care for negligence liability is set by the court, which may have less information about the risk than the production operator. In addition, the advantage of regulation for reducing institutional costs in the allocation of unknown risks is that it can take advantage of economies of scale and transmit information about new risks through safety regulation. However, administrative regulation also has important limitations. An important limitation is that regulation is not only enacted for the public good but, in some cases, for personal gain. The involvement of personal interests may reduce the incentive for regulators to conduct research on information about unknown risks. The regulation of the industry may face the problem of regulatory capture. We have introduced the framework of industry self-regulation, but the problem of assigning responsibility for unknown risks by self-regulation may not fully guarantee the control of institutional costs, because the possibility of capture still exists. Therefore, this means that in the business environment perspective, in order to achieve the goal of reducing institutional costs based on the allocation of responsibility for unknown risks, regulation should be combined with liability rules and industry self-regulation.

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