A FURTHER ECONOMIC ANALYSIS OF ENVIRONMENTAL TORT LAW IN BRAZIL AND ITS INCENTIVES FOR A GREENER AND SUSTAINABLE WORLD

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INTRODUCTION

In 2015, the United Nations General Assembly launched the well-known Agenda 2030, a global action plan that aims to guide states, businesses, and society toward the sustainable development of the world. With the slogan *"Leave no one behind"*, Agenda 2030 outlined 17 Sustainable Development Goals (SDGs) for the countries involved in the initiative to work together in creating a favorable scenario for the preservation and protection of the environment.

It is indeed true that people haven't always been as concerned about the environment as they are now. There was a time, not so long ago, when it was believed that natural resources were inexhaustible, and the absence of scarcity didn't justify a greater interest in regulating their use. Why bother rationing water or controlling air quality when they were perceived as perennial and renewable? Today, fortunately, the situation is different: there is environmental awareness. But is that enough?

According to the Brazilian Constitution of 1988, the environment, considered a *"public asset of common use for the people"*[1], in a legal sense (not necessarily in an economic sense.), is a collective-diffuse right belonging to both present and future generations, and its protection is the responsibility of both the State and the community itself. Prior to that, Law n. 6.938/81, which defined the National Environmental Policy in Brazil, introduced the legal concept of the environment in its Article 3, I, which states

[1] Article 225 of the Brazilian Constitution of 1988. Everyone has the right to an ecologically balanced environment, which is a common asset of the people and essential to a healthy quality of life. It is the responsibility of the government and the community to protect and preserve it for present and future generations.

that it is *"the set of conditions, laws, influences, and interactions of physical, chemical, and biological order that allows, shelters, and governs life in all its forms"*[2].

In this regard, Italy also serves as a good example of progress in regulatory strategies for sustainable growth and environmental preservation. In fact, in 2022, the Italian Constitution was significantly updated to be in line with global environmental protection movements. Article 9 of Italian Constitution, that refers to *"principi fondamentali"*, statues that is so much relevant the *"Tutela l'ambiente, la biodiversita' e gli ecosistemi, anche nell'interesse delle future generazioni. La legge dello Stato disciplina i modi e le forme di tutela degli animali"*.

There are clear efforts in the field of Law to protect the environment and, more than that, at least in theory, to achieve sustainable development that can simultaneously accommodate economic growth and preservation. It is no coincidence that the Brazilian (at its Article 170, VI[3]) and the Italian Constitution (at its Article 41[4]) places the defense of the environment as one of the pillars of the constitucional economic order. But, again, is that enough?

Everyone desires an ecologically balanced and healthy environment, a *"greener, safer, and better"*[5] world, but does the law have any relevance in achieving these goals? Assuming the answer is affirmative, has the law effectively fulfilled its role in guiding behaviors and incentives toward sustainable economic development? The aim of this paper is to investigate how the protection of the environment and sustainable growth can be achieved through the law and, more specifically, what we refer to as *"The Regulatory Role of Tort Law"*[6] in environmental matters.

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[2] Article 3 of Law n. 6.938/1981: For the purposes provided in this Law, the following terms are defined as: I - environment, the set of conditions, laws, influences, and interactions of physical, chemical, and biological order that allows, shelters, and governs life in all its forms.

[3] Article 170 of the Brazilian Constitution of 1988. The economic order, founded on the valorization of human labor and free enterprise, aims to ensure a dignified existence for all, in accordance with the dictates of social justice, while observing the following principles: VI - defense of the environment, including through differential treatment based on the environmental impact of products and services and their production and delivery processes.

[4] Article 41 of Italian Constitution. *L'iniziativa economica privata e' libera. Non puo' svolgersi in contrasto con l'utilita' sociale o in modo da recare danno ((alla salute, all'ambiente,)) alla sicurezza, alla liberta', alla dignita' umana. La legge determina i programmi e i controlli opportuni perche' l'attivita' economica pubblica e privata possa essere indirizzata e coordinata a fini sociali ((e ambientali).*

[5] *"Sustainable Development Goals. Sustainable development is a core principle of the Treaty on European Union and a priority objective for the Eu's internal and external policies. The United Nations 2030 Agenda includes 17 Sustainable Development Goals (SDGs)"*. Available at: <https://ec.europa.eu/info/strategy/international-strategies/sustainable-development-goals_pt>. Accessed on: Sep. 28, 2023.

[6] FRANCO, Paulo Fernando de Mello. The Regulatory Role of Tort Law. Paper presented at 18th annual conference of the Italian Society of Law and Economics (SIDE), LUMSA University, Palermo, 2022.

Our hypothesis is that the legal concept of civil liability (particularly, environmental civil liability), when well-structured and integrated into the legal framework, has the potential to generate appropriate incentives. This can encourage potential environmental harm-causers to allocate their investments towards precautionary measures, thereby reducing the occurrence of environmental damage. After all, a higher level of precaution reduces the probability of environmental harm, which is socially desirable.

To do so, in order to determine whether the law is indeed necessary and desirable for the fulfillment of the Agenda 2030 and the achievement of sustainable economic development, Chapter I will address the peculiarities and different aspects of environmental civil liability in Brazil. Following that, in Chapter II, we will conduct an economic analysis of environmental tort law to assess whether the comprehensive model of environmental strict liability and integral risk is the most efficient or if there are other equally (or more) efficient models. Subsequently, in Chapter III, we will examine the disregard of legal entity in environmental liability issues. We will analyze the incentives generated by a potential trivialization of the disregard doctrine and how this may further harm (or weaken) the environment and the sustainable goals. Finally, in Chapter IV, aiming to present some possible strategies and solutions to contribute for worldwide development, we will conclude.

I – THE PECULIARITIES OF BRAZILIAN' ENVIRONMENTAL TORT LAW: FROM STRICT LIABILITY TO INTEGRAL RISK

Brazilian Environmental Law is guided by a logic of prevention. It is recognized that reparatory measures do not always succeed in returning a complex and dynamic environment to the equilibrium conditions prior to the occurrence of environmental damage. In view of this, the environmental civil liability rule is built with the purpose of creating incentives for the parties to internalize preventive measures, paying attention to the best due diligence rules that may result from the agreements executed.

In Brazil, the objective liability rule applies to cases involving environmental damage, dismissing the characterization of guilt for the liability of the polluting agent. Brazilian case law has also adopted, when judging direct liability for environmental damages, the theory of integral risk, by virtue of which typical defenses against objective liability, such as unforeseeable circumstances and force majeure also do not

apply. The Brazilian doctrine and case law base such understandings on provisions, present both at the constitutional level (article 225, § 3 of Brazilian Constitution[7]) and legal (article 14, § 1 of Law n. 6.938/81[8]), which establish specific conditions for the operation of the civil liability system for environmental damages in Brazil.

This systems is based on a pragmatic concern with the need to contain the complexities intrinsic to environmental protection, to ensure the effectiveness of the accountability system of agents causing damage to the environment. Due to the specificities of the Brazilian civil liability system for environmental damages, the most pressing issues in environmental litigation end up being those that fall on practical aspects of the application of the liability rule. Above all, three themes are the focus of attention in such controversies: (i) the identification of the polluting agent or other jointly responsible agent, (ii) the characterization and measurement of the environmental damage caused by it and (iii) the selection of appropriate measures to remedy such damage and compensate the affected subjects.

In this paper we will analyze, based on the literature of economic analysis of Law, the doctrinal and case law constructions that concern the first of these issues: the identification of the polluting agent or another jointly responsible agent. More specifically, we will analyze the implications of expanding the use of the concept of "indirect polluter" to encompass corporate relationships, allowing shareholders to be held accountable before the direct polluter legal entity.

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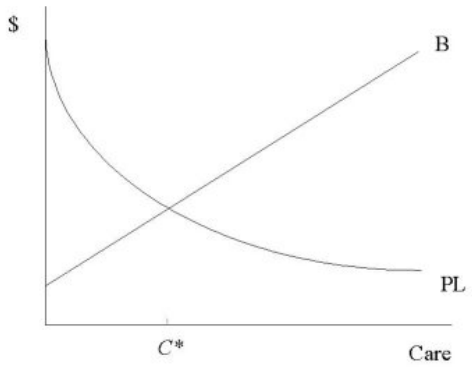
[7]225 Art. Everyone has the right to an ecologically balanced environment, an asset for common use by the people and essential to a healthy quality of life, imposing on the Government and the community the duty to defend and preserve it for present and future generations. (...) 3rd § - The conducts and activities deemed harmful to environment should subject the violators whether individuals or legal entities, to the criminal and administrative penalty irrespective the obligation to redress the damages caused. Acc. 1988 Federal Constitution available at: <https://www.planalto.gov.br/ccivil_03/constituicao/constituicao.htm>. Accessed on: Jun. 25, 2023.

[8]Art. 14 - Notwithstanding the penalties defined by federal, state and municipal legislation, failure to comply with the necessary measures for the preservation or correction of inconveniences and damage caused by the degradation of environmental quality will subject offenders to; I - a simple or daily fine, in the amounts corresponding to at least 10 (ten) and at most 1,000 (one thousand) Adjustable National Treasury Obligations - ORTNs, aggravated in cases of specific recidivism, as provided for in the regulation, its collection by the Federal Government is prohibited if it has already been applied by the State, Federal District, Territories or Municipalities. II - the loss or restriction of tax incentives and benefits granted by the Government;
III - the loss or suspension of participation in financing lines in official credit institutions;
IV - the suspension of its activity.
1st § - without preventing the enforcement of the penalties under this article, the pollutant is obliged to indemnify and repair the damages caused to the environment, third parties affected by its activity irrespective the existing guilty. Federal and States Prosecution Service will have legitimacy to file a civil and criminal liability acting for damages caused to the environment. (...) Acc. Law no. 6,938, of August 31, 1981. Available in: <https://www.planalto.gov.br/ccivil_03/leis/l6938.htm>. Accessed on: Jun. 25, 2023.

From the Economic Analysis of Law perspective, civil liability is understood as a system of legal rules designed to create incentives for the parties involved in relation to which accidents or damages may result to adopt the optimum level of prevention[9] [10].

It is worth noting, however, the economic theory seeks to establish an accountability system that results in a balance between the costs and benefits involved in the prevention of damage and accidents. Prevention involves costs and thus the delimitation of the optimal level of prevention entails an *optimization* task, a balancing of the expected social costs and benefits resulting from the adoption of preventive measures. Classical economic theory of civil liability holds that actors involved in potentially harmful activities should adopt the most effective means of prevention, to the extent the marginal costs of prevention exceed the expected[11] marginal benefits, that is, to the extent that prevention becomes more costly than the potential harm to be avoided[12].



[9]Acc. POSNER, Richard A. **Economic analysis of law**. Ninth edition. New York: Wolters Kluwer Law & Business, 2014, p. 147-151.

[10]The specialized environmental literature distinguishes the terms "precaution" and "prevention" as follows: the term "prevention" is used to designate measures taken to prevent risks, when they can be measured or calculated, that is, when it is possible to estimate the damage and its probability of occurrence, while the term "precaution" is used in cases of extreme uncertainty, when the factors that influence the risk would not be possibly calculated. In this text we always prefer to use the word "prevention". It is worth noting, however, the economic theory, based on the concept of expected utility, assumes the possibility of estimating the expected cost of risk and the expected benefit of measures aimed at reducing risks, for this reason the authors of the AED often do not differentiate between "precaution" and "prevention". For more information on rational decision models involving risk and uncertainty and the concept of expected utility, see: RESNIK, Michael D. **Choices: an introduction to decision theory**. Minneapolis: University of Minnesota Press, 1987.

[11] This is a formula drafted by Judge Learned Hand in the famous case **United States v. Carroll Towing** *Co.*, in order to establishing a parameter for the characterization of guilty conduct. (**United States v. Carroll Towing Co**., 159 F.2d 169, 173 (2d Cir. 1947)).

[12]Acc. PORTO, Antônio José Maristrello; GAROUPA, Nuno. **Curso de Análise Econômica do Direito**. 1st edition. São Paulo: Atlas, 2020, pages 238-244.

The application of this optimization rule to certain contexts, such as the Environmental Law, may face practical obstacles. Accurate measurement of environmental damage tends to be difficult, especially because certain economic practices can generate irreversible damage to the sustainable environment, affecting the rights of future generations. For this reason, it is considered that the duty of prevention in environmental matters should be particularly high. But, even so, the adoption of preventive measures cannot be unlimited and will involve an optimization task, prioritizing the most effective prevention measures and entrusting responsibility to agents who face lower costs to perform the prevention[13].

The economic role of the civil liability system, therefore, will always[14] be to provide adequate incentives for optimal levels of prevention to be adopted by agents involved in an economic activity. As different civil liability rules allocate burden of proof and reimbursement obligations differently between potential causes of damage and affected individuals, the economic analysis of civil liability seeks to understand the extent of which different liability systems can be efficient, and their main challenges.

The analytical models proposed by the academic literature of civil liability indicate that, once certain basic conditions are met[15], both the rule of subjective civil liability and the rule of objective civil liability can generate adequate incentives for the adoption of an optimal level of prevention. However, characteristics related to the type of damage and the type of accident may favor the adoption of one or another rule.

Steven Shavell, one of the authors who contributed most to the development of economic models comparing the two liability systems, identified that the objective liability rule is particularly efficient in cases where (i) the damage is unilateral and (ii) the agent that may cause damage must also choose the appropriate level of exercise of the activity[16]. The damage is unilateral when the actions of one agent alone are

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[13]This is the concept of *the least-cost avoider*. The theory recommends, whenever possible, the duty of care should be allocated to the agent who faces lower costs to exercise precaution. Acc. COOTER, Robert; ULEN, Thomas. **Law & economics**. 6th ed. Boston: Pearson/Addison Wesley, 2012, p. 354-371.

[14] PARISI, Francesco. GUERRA, Alice. LUPPI, Barbara. Do presumptions of negligence incentivize optimal precautions?. European Journal of Law and Economics, 54, 2022. Available at: <https://link.springer.com/article/10.1007/s10657-022-09737-6#citeas>. Acessed by: Sep. 28, 2023.

[15]These conditions concern the delimitation of fault, for the application of the subjective civil liability rule, and the exclusions of liability, within the scope of objective liability. Acc.
SHAVELL, Steven. **Foundations of economic analysis of law**. Cambridge, Mass: Belknap Press of Harvard University Press, 2004, p. 177-207.

[16]This conclusion was proposed by Shavell in 1980, in an important paper published in the *Journal of Legal Studies*, which would later give rise to the development of other analytical models confirming this result. See in this regard: SHAVELL, Steven. Strict liability versus negligence. **Journal of Legal Studies**

determinant for harm to occur, that is, when the actions of the victim who suffered the damage cannot significantly increase or reduce the probability of harm. Thus, car accidents typically involve bilateral damage (both drivers and pedestrians can contribute to the probability of harm in a significant way), while an airplane accident will usually involve a unilateral damage (most commonly the actions of the airplane company alone are the decisive factor).

Firstly, the efficiency of objective liability in such cases stems from the fact that, in the event of damage, the State will not be obliged to determine the appropriate level of prevention, in each specific case, to establish whether the agent who caused the damage acted with guilt. Shavell also points out that prevention can involve several dimensions of care that are hard to measure and about which a judge may not have adequate information when ruling on a liability case. If the agent that may cause the damage is a company that regularly performs an economic activity, it is assumed it has better information and the ability to adapt its conduct to adopt the most effective preventive measures, which offer the best cost-benefit.

The advantage of the objective liability rule, in this case, is also the simplification of the incentive structure. If the damage is one-sided, the chances of the damage occurring are determined solely by the actions of an agent. Consequently, if he is entrusted, as a rule, with repairing any damage caused, regardless of fault, there is a situation in which all incentives are gathered in the same agent. The agent who performs the economic activity – receiving its benefits – is the same to bear all the costs arising from the risk of the activity.

The agent who may cause the damage will include in its analysis all dimensions of care it considers relevant for the efficient reduction of costs arising from the damage. In cases where it has more information about the activity carried out, it will have incentives to adopt efficient prevention measures that a judge could not consider when analyzing his liability. Likewise, it will not adopt inefficient measures that could be considered relevant by a judge in a specific case, due to lack of knowledge of practical aspects of the activity.

Finally, in its analysis, the agent who may cause damage will also consider whether it is performing the activity at an optimal level: it will tend not to develop the activity when the expected costs arising from accidents and expected damage to third

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9:1-25, 1980; SHAVELL, Steven. **Foundations of economic analysis of law**. Cambridge, Mass: Belknap Press of Harvard University Press, 2004, p. 177-207.

parties are higher than the benefit to be generated by the economic activity. Shavell identified that this fact – which can be extremely relevant, especially in high-risk activities – is not usually considered in court when discussing the liability of private agents for damages[17].

As one can see, the application of the objective civil liability rule to environmental damages can be substantiated by a logic of economic efficiency. It is efficient for the regime applicable to environmental damages to be that of objective liability, as in fact this is an activity in which damages are usually generated unilaterally, without the participation of all those affected. This is a necessary result of the characterization of the ecologically balanced environment as a good of all, which rests on a diffuse interest, including the rights of future generations (article 225 of the 1988 Brazilian Constitution).

Thus, the current liability doctrine applicable to environmental cases in Brazil is predicated on solid economic grounds: it is a system of objective liability that is focused on ensuring that economic agents who perform activities that may cause environmental harm have appropriate incentives to adopt preventive measures reducing the risk of degradation.

However, there is an additional factor that increases complexity to the incentive structure produced by the contemporary Brazilian environmental liability system: the possibility of objective liability of third parties, instead of the agent that directly caused the damage. This possibility stems from the concept of "indirect polluter", present in Brazilian environmental legislation, which seeks to expand the accountability system by creating private mechanisms for monitoring the use of preventive measures to reduce environmental risk. But, because this rule may have substantial repercussions for the efficiency of the environmental liability system, it must be interpreted in accordance with the economic rationale of this system. As we shall see, this means applying the concept with clear requirements, such as the ones that were applied by Brazilian courts in the Maceio Case and the Mariana Case.

2.1. Brazilian Environmental Tort Law Cases: The Maceio Case and the Mariana Case

[17]Thus, under the subjective civil liability system, a company could be performing an adequate level of precaution – and therefore it is not held liable in court – even if this led to that activity being performed at an excessive level. Acc. SHAVELL, Steven. **Foundations of economic analysis of law**. Cambridge, Mass: Belknap Press of Harvard University Press, 2004, p. 198-199.

Law n. 6.938/81 (National Environmental Policy Act, NEPA) introduced into Brazilian environmental law the figure of the " indirect polluter ". The concept is presented in its Art. 3, IV, which provides that polluter is responsible, directly or indirectly, for activity causing environmental degradation. The open definition was the subject of the *obiter dictum* of the Second Panel of the Superior Court of Justice (STJ) in 2009 (Special Appeal 650.728-SC)[18]. This judgment ruled that all those who contributed to environmental degradation would be jointly liable for the damage, albeit indirectly.

In Special Appeal 650.728-SC, it was established broad parameters for the characterization of the concept of " indirect polluter " provided for in environmental legislation. If the understanding adopted in the *obiter dictum* were to be consolidated, it would be equivalent to the one that caused the damage: (i) who failed to take action that should have been taken to prevent the harmful result; (ii) who financed the activity causing the damage and (iii) who benefited from the same activity. As one can see, the criteria proposed in this judgment would considerably expand the list of economic agents that can be considered indirectly polluting.

The concept of indirect polluter seeks to strengthen the environmental protection system. It seeks to ensure the resources so that measures to repair and remediate environmental damage are in fact adopted. Indeed, given the magnitude and potential harmful effects of environmental accidents, ensuring the means to repair the damage becomes an important issue to be considered. Therefore, in cases determining the direct causative agent of the damage does not have the means to deal with the damage, it may be considered to seek compensation from other economic agents that contributed to the harmful economic activity.

Article 3, item IV of Law n. 6.938/81 foresees that a polluter is the individual or the legal entity directly or indirectly responsible for the environmental degradation-causing activity. Although the concept of indirect polluter is provided for in this article, there is no legal objective definition of what it means to be indirectly responsible for an environmentally harmful activity.

Due to the absence of legally stipulated constraints on the application of the indirect polluter concept, Brazilian courts are allowed to define, on a case-by-case basis, whether an individual or legal entity should be held indirectly liable for environmental

[18]STJ - Special Appeal: 650728 SC 2003/0221786-0, Reporter: Minister HERMAN BENJAMIN, Date of Judgment: 23/10/2007, T2 - SECOND PANEL, Date of Publication: DJe 02/12/2009.

degradation.

Former decisions are an important tool for Brazilian courts' decision-making process; however, Brazilian court precedents are not yet decisively settled on what the objective criteria are for holding individuals or legal entities indirectly liable for activities that cause harm to the environment. Nonetheless, we have selected leading recent Brazilian court precedents in which the concept of indirect polluter has been used in a way that best reflects the current legal framework and is convergent with the economic foundations of the liability system.

Public Civil Action No. 0806577-74.2019.4.05.8000 ("Maceio Case")[19] was ruled by the Federal Court of Alagoas in 2020, after being initiated by the Public Prosecutor's Office against multiple entities including Braskem S.A., Odebrecht S.A., Petrobras S.A., the National Mining Agency, Alagoas Environment Institute, Federal Government, State of Alagoas, and the Brazilian National Development Bank (BNDES).

The Public Prosecutor's Office aimed to secure convictions against the defendants, urging them to implement compensatory measures and provide restitution for collective moral damages allegedly incurred in Maceio city (State of Alagoas, Brazil). These damages were purportedly linked to the activities undertaken by Braskem S.A., particularly in rock salt extraction.

The lawsuit aimed to extend environmental accountability to shareholders based on the concept of indirect polluters. The court, however, ruled in favor of the shareholders, recognizing the absence of a valid legal basis to hold them liable. The court's decided that the fact that shareholders benefitted from Braskem's activities would not substantiate civil liability for environmental harm on the shareholders. Imposing such a liability would necessitate a fundamental alteration of the entire framework of the Brazilian legal system, not just in environmental law, but also in terms of general liability and corporate regulations, as it would mean a disregard of Braskem's corporate veil.

In addition to that, the insolvency of Braskem was not established, and it was deemed inappropriate to deviate from the core purposes of equity and corporate separateness that are essential to justify the piercing of its corporate veil.

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[19] Public Prosecutors' Office v. Braskem S.A., Odebrecht S.A., Petrobras S.A., National Mining Agency, Alagoas Environment Institute, Brazilian National Development Bank, State of Alagoas and the Federal Government, Case No. 0806577-74.2019.4.05.8000, Regional Federal Court of the 5th Region (2020).

Hence, the court determined that merely establishing the shareholders' economic gains from the company's activities that led to environmental damage was insufficient. In essence, for shareholders to be categorized as indirect polluters, there needed to be concrete evidence demonstrating a causal link between their actions and the environmental harm. The court's perspective indicated that extending liability to shareholders would be legally problematic as it would blur the distinction between shareholders' financial interests and the operational decisions intrinsic to the operating company.

This precedent combines the disregard doctrine intrinsic to corporate law with the notion of indirect polluters as defined in environmental law. The disregard of corporate entity is only allowed when it can be shown that the direct polluter lacks the financial capacity to bear the burden of environmental restoration costs. In this context, insolvency is a prerequisite for invoking the disregard principle, and thus, proof of inadequate financial resources must precede the consideration of disregarding corporate separation. This condition is also directly substantiated by article 4 of Law 9,605/98, which provides for the disregard of the legal identity for award of environmental damages only when it becomes an impediment to the reimbursement of the damages caused.

Another relevant precedent we analyzed was Appeal No. 0018132-11.2016.8.08.0014 (“Mariana Case”)[20], ruled by the Court of Appeals of the State of Espírito Santo, in 2018. This case revolves around the catastrophic rupture of a mining dam in the municipality of Mariana, situated in the state of Minas Gerais, Brazil.

In this precedent, the appellant sought compensation for moral damages allegedly stemming from profound emotional distress. The court found Samarco Mineração S.A., the entity accountable for the dam's collapse (the direct polluter), culpable for the incident. Conversely, the court's decision did not hold Vale S.A., one of the main shareholders alongside BHP Billington, accountable. The rationale behind this was that Vale, as a shareholder, lacked direct decision-making authority over the operational choices within Samarco.

The court acknowledged a growing trend in Brazilian environmental jurisprudence that permits collective liability for those who possess the financial means to address environmental remediation costs (referred to as the "deep pocket doctrine")

[20]Jefferson Lacerda Santana v. Samarco Mineração S/A, Vale S/A, Appeal No. 0018132-11.2016.8.08.0014, Third Civil Chamber of the Court of Justice of the State of Espírito Santo (2018).

under the framework of indirect polluters. However, the court concluded that the presented evidence failed to substantiate Vale S.A.'s contribution to the risk that ultimately led to the dam's breach. Thus, in the court's view, extending liability to Vale would entail an unwarranted expansion of the indirect polluter concept, assigning joint responsibility to any physical or legal entity—whether a partner or shareholder of the direct polluter—for matters beyond their realm of knowledge and control.

The Court also emphasized that the tendency of holding indirect polluters accountable gains more significance in scenarios where the direct polluter lacks the financial resources to undertake environmental restoration expenses. However, this circumstance did not apply in this instance, as Samarco possessed the financial capability to manage its liabilities. It's important to note that this ruling is not yet final, as it remains open to potential appeals.

II – ECONOMIC ANALYSIS OF TORT LAW: THE REGULATORY ROLE OF ENVIRONMENTAL TORTS

Article 3, item IV of Law n. 6.938/81 foresees that a polluter is the individual or the legal entity directly or indirectly responsible for the environmental degradation-causing activity. Although the concept of indirect polluter is provided for in this article, there is no legal objective definition of what it means to be indirectly responsible for an environmentally harmful activity.

However, this system of accountability can generate distortive effects, especially when the concept of indirect polluter is applied inefficiently, without being guided by clear criteria that limit the scope of potentially responsible agents. The main challenge arises from the fact that third-party's liability mischaracterizes one of the main benefits of the objective liability rule: the fact that the economic agent causing the damage is the same one who earns the direct benefits of economic activity and accounts for the damages generated by it. As seen, the use of the objective liability rule in high-risk activities seeks to allocate to the economic agent which has more information about the economic activity to be performed all relevant incentives: it will choose his level of activity and the preventive measures to be adopted, earning the benefits and bearing all the social costs of its activity. Thus, it internalizes all the incentives necessary to adopt an optimal level of prevention, also the agent with more information and control over the harmful result that is sought to avoid.

Brazilian Law does not support an open rule of third-party's accountability,

which would inefficiently expand the list of jointly liable agents only to meet specific judicial demands, generating substantial adverse effects for the economy as a whole[21]. This would violate basic economic tenets of Brazilian Private Law, increasing the uncertainty and legal risks of a wide spectrum of agreements, discouraging investments and reallocating costs to activities that do not generate environmental damage. Establishing such a burden on contractual relations would encourage verticalization of economic activities, reducing competition and economic specialization[22].

Still, there are factors limiting how much potential indirect polluters can promote the adoption of good corporate practices or establish a private monitoring system for environmental risks of other agents. In fact, in various contexts the monitoring cost incurred by potential indirect polluters will be high. Therefore, it becomes much more important to align the incentives of the potential damage-causing, which can directly take the main preventive measures to prevent the damage.

When considering the effects of a certain application of the concept of indirect polluter, however, one cannot disregard the incentives generated for the behavior of the agent that may cause the damage. By establishing a third party's liability rule, relationships of the principal-agent type are created between the potential direct cause of the damage and the potential indirect polluters, which may be held liable in the event of the damage event. With this, there is room for opportunistic behaviors of the potential direct cause of the damage, which may fail to adopt the appropriate preventive measures as they know that indirect polluters will be held responsible in their place.

In theory, this opportunistic behavior would be discouraged by the legal relationship established between the co-liable parties. Once the liability of the indirect polluter is determined and the damage is repaired, the indirect polluter could then file a recourse action to recover from the direct polluter the amounts paid as compensation.

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[21]The literature of the Economic Analysis of Law emphasizes the risks generated by case law solutions designed, in a particularistic way, to solve problems of specific cases, but end up generating inconsistencies in the application of Law thus undesirably affecting several legal relationships, which may not even reach judgment. On the role of the stability of institutions for broad economic development, see: PORTO, Antônio José Maristrello; GAROUPA, Nuno. **Curso de Análise Econômica do Direito**. 1st edition. São Paulo: Atlas, 2020, pages 29-54.

[22]In fact, as Coase realized, there is a direct relationship between the size of the firm (company) and the efficiency of the contractual mechanism. Where there are significant costs to contract (high transaction costs), it can become more efficient to adopt the hierarchical structure of the firm, with direct command over the exercise of a certain economic function, to perform the activity. Thus, transaction costs determine how the dynamics of the permanent *tradeoff* between hierarchy and economic specialization occur in an economy. See in this regard: COASE, Ronald Harry. **The firm, the market and the law**. London Chicago: University of Chicago press, 1990; WILLIAMSON, Oliver E.; WINTER, Sidney G. (Orgs.). **The nature of the firm: origins, evolution, and development**. 1. paperback ed. New York, NY: Oxford Univ. Press, 1993.

However, in practice this mechanism is not very effective in Brazil. Not only has the indirect polluter already had to bear the cost of the damage, but they will also have to incur new costs (both in resources and in time) to file a lawsuit against the direct polluter. This lawsuit will be slower and more challenging than the one that assigned liability to the indirect polluter in the first place, because the liability in the recourse action will be the common one, i.e., it will be subjective. Therefore, the indirect polluter will have to prove the fault or negligence of the direct polluter to recover all that he paid as compensation. Even if the indirect polluter manages to do so, this will take time. By then, other obstacles may further hinder the recovery of resources, such as the insolvency of the direct polluter.

This is a particularly relevant point – and often omitted by case law– for considering which actors should be included in the list of indirect polluters. Hereunder, we analyze in more detail how the concept of indirect polluter generates a principal-agent relationship between private actors that can lead, in certain cases, to a *moral hazard* issue. This is a particularly distortive effect because, as said, it goes in the opposite direction to the purposes intended by the liability system for environmental damages, which seeks to generate incentives for the prevention of a type of damage with particularly serious effects and harmful to the common good[23].

The principal-agent theory or agency dilemma can be understood as the conflict of priorities arising from the delegation of powers from the "principal" to the "agent", who becomes responsible for performing a certain activity. The issue arises due to discrepancies of interests and information between the parties. The principal would like to check the agent's activities to ensure they are performed according to its interests, but monitoring costs can be high, perpetuating an informational asymmetry that favors the agent. The situation is enhanced when important care for the principal is costly for the agent, so as it has incentives not to observe them[24].

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[23]For an analysis of the adverse effects of moral hazard on environmental protection, see: LAFFONT, Jean-Jacques. Regulation, moral hazard and insurance of environmental risks. **Journal of Public Economics**, v. 58, n. 3, p. 319–336, 1995.

[24]A simple example of principal-agent theory in practice is the interaction between a client (the principal) and its lawyer (the agent) in a negotiation. The lawyer works representing the interests of his client in the case, and must act diligently to achieve the goals that caused him to be hired. However, as an agent, it also has its own interests. It is possible that the longer the negotiation, for example, the more contractual fees must be paid to the lawyer. In this situation, the agent would have incentives to postpone the agreement, acting against the interests of his client. The principal-agent problem can be mitigated through monitoring systems and reputation between the parties. In this case, a possible solution would be to propose *ad exitum* fees to the lawyer in the agreement, agreed for receiving in case of success in the

The delegation of power arising from the principal-agent theory brings two important disadvantages, which can be named as losses and agency costs. Agency losses would be the principal's welfare losses when, in its view, the agent's choices are suboptimal (worse than they would be if it had performed the activity by itself). Agency costs, on the other hand, would be the costs the principal would have to manage and supervise the agent's actions[25].

The theory of the main agent is closely connected to the concept of *moral hazard*, a situation in which an economic agent has incentives to expose itself to risk, as it does not bear all the costs arising from the possible damage. A typical example of arising the moral hazard, if determined when the behavior of one person changes after buying an insurance. The agent has incentives not to act with due diligence knowing the loss shall be borne by a third party, in this case the insurer. [26]

A wide explanation of the indirect polluter liability would generate an agency relationship between private players with different interests and high level of informational asymmetry, which should result in a moral hazard. As aforementioned, the objective liability approach could be the most efficient in cases of unilateral damage, as it releases the costs and possible errors from the legal discussion of the existing fault. However, when it is used to held the agent liable, which has not caused the damage, the objective liability rule produces distorted incentives for the economic agents involved. The agent that causes the damage directly could no longer have the proper incentives to invest in prevention, knowing the principal shall be jointly liable in any supervenience of a damage.

In these cases, the risk would be to move the liability from the one actually controlling the damage (the agent) to the party holding much less influence over the outcome (the principal). In this case, expanding the concept should end up distorting the primary purpose of Brazilian environmental constitutional law, which consists in creating incentives for the parties to internalize preventive measures.

Moreover, we shall herein analyze how, according to the most economically sound interpretation of Brazilian Law, the concept of indirect polluter should be used in corporate relationships, discussing under what conditions it can and cannot legitimize

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negotiation. For more information on agency theory, see: PORTO, Antônio José Maristrello; GAROUPA, Nuno. **Curso de Análise Econômica do Direito**. 1st edition. São Paulo: Atlas, 2021, pages 75-77.

[25]Acc. POLINSKY, A. Mitchell; SHAVELL, Steven (Orgs.). **Handbook of law and economics**. 1st ed. Amsterdam ; Boston: North-Holland, 2007, pp. 1703-1704.

[26]Acc. COOTER, Robert; ULEN, Thomas. **Law & economics**. 6th ed. Boston: Pearson/Addison Wesley, 2012, p. 48.

the disregard of the legal identity of the direct polluter company, for the purposes of accountability of the controlling company or shareholder member.

III – THE INCENTIVES AND THE IMPLICATIONS FOR PIERCING THE CORPORATE VEIL IN ENVIRONMENTAL TORTS

So far, our analysis aimed at identifying the incentives generated by applying the concept of indirect polluter for the third parties' liability on the environmental damages. Starting on the economic bases of the civil liability, in particular, the efficiency conditions of the objective liability rule, we identified potential distortive effects of an unreasonable interpretation of the indirect polluter concept which is not based on clear and objective criteria. Particularly, we show how the third parties' accountability could mischaracterize the assumptions of the efficiency of the objective liability rule and generate a moral hazard, reducing the effectiveness of the civil liability system to prevent the environmental damages.

In view of those preliminary considerations, we shall herein analyze whether the indirect polluter concept to be extended to cover the horizontal relations arising from the agreements between agents performing the activities jointly as well the vertical corporate relations allowing the accountability of the shareholder before the direct polluter. Is this a hypothesis of excessive and inefficient expansion of the concept of indirect polluter? More specifically, would it be desirable to use this concept to reach the equity of the parent company before seeking redress from the subsidiary directly causing the damage? To suggest answers to these questions, we need to consider: the direct economic effects of such an application for the corporate relationship and the incentives generated for the economic agents involved, especially in view of the moral hazard problem already identified.

Law 9,605/98 opted for the import, in its article 4, of the minor theory of disregard of legal identity. This provision provides: *"Art. 4 The legal entity may be disregarded whenever* ***its personality is an obstacle to the reimbursement of damages*** *caused to the quality of the environment"*.

As noted, the literality of the law creates the possibility of disregarding the legal identity only when it *is an obstacle to reimbursement for* the damages caused. It is observed, therefore, the lawmaker does not establish the disregard of legal identity as the first remedy, but rather as a complementary mechanism, to be used in cases where reimbursement is not possible otherwise, that is, when reimbursement cannot be

obtained directly from the company that caused the damages, thus making its legal identity an obstacle to the reimbursement of the loss.

The lawmaker was concerned both with guaranteeing the conditions of redress, as well as primarily directing the redress, within the scope of vertical relations, to the company directly causing the damage, thus preserving the typically subsidiary character of the disregard of legal identity. In fact, disregard of legal identity should never be the rule, the first measure used to seek redress. As professors Lamy Filho and Bulhões Pedreira teach:

> The disregard of the legal identity of commercial companies must necessarily be an exceptional measure, under penalty of making the organization of contemporary economies unfeasible, in which personification - and the consequent specialization of assets - is an essential regulation[27].

As we seek to demonstrate, the application of the concept of indirect polluter to corporate relations is incompatible with the discipline of Environmental Law itself on the subject, in addition to diverging from the classic corporate doctrine of disregard of legal identity arising from the minor theory. It is, therefore, an undue extension or enlargement of the concept of indirect polluter – the application of which presupposes horizontal private relations – to encompass vertical relations for which the concept is not suitable.

3.1. Principal-agent issue in corporate relations

Regarding this use, it is necessary at first to verify the extent to which corporate relations incur the principal-agent issue previously identified. Would there be significant monitoring costs between the shareholder and the company, or between the parent company and its subsidiary? The various works of economic theory that investigated the functioning of corporate structures identify that yes, losses and agency costs severely affect corporate relations, both in cases where the shareholder is an individual, and in the relations between the parent company and subsidiary[28].

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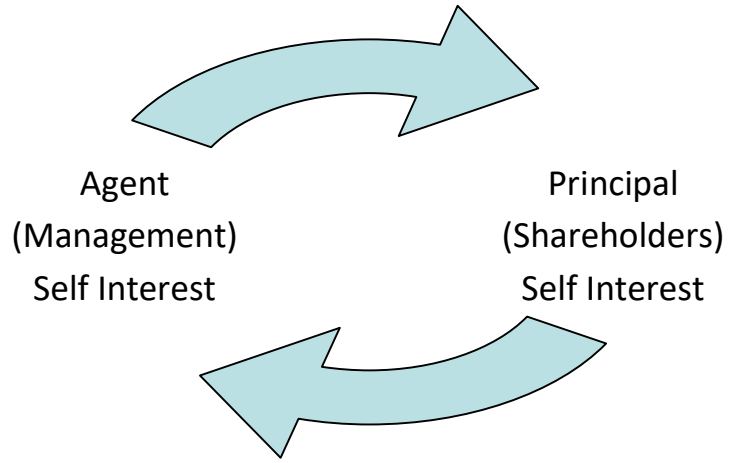
[27]Acc. LAMY FILHO, Alfredo; PEDREIRA, José Luiz Bulhões (Orgs.). **Direito das companhias**. 1st edition. Rio de Janeiro: GEN, Editora Forense, 2009, p. 44. The importance of limiting the liability for the functioning of corporate relations in modern capitalist economies will be analyzed in more detail below.

[28]On the impact of agency issues on the ownership and control structure of corporate structures, see, among others: FAMA, Eugene F.; JENSEN, Michael C. Separation of Ownership and Control. **The Journal of Law & Economics**, v. 26, n. 2, p. 301–325, 1983, JENSEN, Michael C.; MECKLING, William H. Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure. **Journal of Financial Economics**, v. 3, n. 4, 1976; WILLIAMSON, Oliver E.; WINTER, Sidney G. (Orgs.). **The**



Agency issues are at the core of contemporary Corporate Law, since business companies are characterized by the separation between ownership of equity interest and the functions of actual control and management of productive activities. The managers of a company (agents) act on behalf of the (main) shareholders, representing their interest in efficiently developing the company's core activity, in order to generate economic wealth that will be transferred to shareholders in the form of dividends or appreciation of their shares or stocks in the company.

For the company to be managed efficiently, however, managers must be empowered to autonomously perform a broad set of acts necessary for the day-to-day management of the company. In addition, they must perform their functions in a specialized way [22], following good management practices, and acquiring specific knowledge as well about the activities carry out by the company and the corporate structure created for the performance of these activities, which tends to be complex in large contemporary corporations.

Such factors, however, create significant informational asymmetries between managers and shareholders. While managers usually concentrate their management activities in only one company, shareholders can simultaneously hold interests in several companies. For this reason, shareholders would incur high information costs if they needed to know deeply and monitor the activities of all the companies in which they invest. Such a requirement, in fact, would make equity diversification unfeasible, reducing capital mobility and restricting the practical conditions of access to the capital market only to specialized shareholders.

Also in the event the shareholder is a parent company, the monitoring costs of

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nature of the firm: origins, evolution, and development. 1. paperback ed. New York, NY: Oxford Univ. Press, 1993.

the subsidiary company tend to be high. In large contemporary corporate structures, often the same company appears in the position of parent company to several other companies. Sometimes, the parent company acts as a mechanism for diversifying investments and centralizing management skills[29].

Another common case is the parent company with headquarters in a jurisdiction distinct from its subsidiaries (*offshore* parent company). In this case, monitoring costs may be particularly relevant as the parent company has equity interests in several companies, and these companies are located in other countries, were incorporated under legal systems different from those of the parent company and their operations will meet, to a greater or lesser extent, the dynamics of local markets.

The *offshore* parent company's monitoring costs were the subject of a major quantitative study that examined data from 235 Malaysian multinational companies (MNCs). The study demonstrated the monitoring costs of *offshore* parent companies were significantly higher (more than 300% higher) than those of domestic parent companies. In addition, it was found there are no significant differences between control mechanisms by executive board and audits. In both cases, foreign companies incurred substantially higher monitoring costs than domestic parent companies.

Thus, even if the shareholder is a controlling company, significant monitoring costs and agency issues in corporate relations remain. As a consequence, corporate structures are established so as to mitigate incentives to purpose deviations, allocating obligations and rights in order to ensure the management of the company is aimed at the efficient achievement of its target activity.

The application of the concept of indirect polluter to corporate relations, by creating a channel of direct accountability for shareholders or the parent company, creates distortive economic incentives. It aggravates the agency costs that already characterize corporate relations, and creates a problem of moral hazard, thus allowing the company directly causing the damage to adopt opportunistic behaviors, avoiding

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[29]Fama and Jensen argue the specialization of business management activities stems precisely from the separation between ownership and control/performance of productive activities, made possible by contemporary Corporate Law. Acc. FAMA, Eugene F.; JENSEN, Michael C. Separation of Ownership and Control. **The Journal of Law & Economics**, v. 26, n. 2, p. 301–325, 1983. 23 The classic paper by Allen Michel and Israel Shaked on the performance of international corporations shows how entering international markets can operate as a strategy for diversifying the risks of the business activity that arise from the jurisdiction in which it is located. In these cases, the corporate structure operates as an investment operationalization mechanism for risk diversification purposes. Acc. MICHEL, A.; SHAKED, I. Multinational corporations vs domestic corporations: Financial performance and characteristics. **Journal of International Business Studies**, 17(3), 89-100, 1986.

prevention costs by anticipating that, in the event of damage, claims for redress will be sent directly to third parties.

This mechanism will make international investments unfeasible, often destined for developing countries such as Brazil. Brazilian courts are aware of this issue when judging cases involving the indirect polluter concept. Recent Case Law on this issue (such as the Maceio and Mariana Cases cited above) has explicitly emphasized the need to preserve the distinction between shareholders' financial interests and the operational decisions intrinsic to the operating company.

The parent company, in view of the high information costs and practical obstacles that prevent the perfect monitoring and control of the activities of the subsidiary, at risk of having its assets directly affected by environmental recovery that it had not foreseen, without seeking remedy first from its subsidiary, in the jurisdiction in which the damage occurred, will often choose to limit its exposure to risk by ceasing to invest. The limitation of liability rule, which is limited in this case to establishing a necessary order of priority among the possible agents to be held accountable, plays a crucial role in the viability of numerous investments.

3.2. Economic foundations of limited liability of members and potential adverse effects of shareholder's liability before direct polluter

The high costs incurred by shareholders to monitor the activities of the direct polluter company, particularly significant, as seen in the case of large corporate structures in which the controlling shareholder has its headquarters in another country, indicate the concept of indirect polluter should only be applied to corporate relations as a last resort, under the conditions stablished in the Maceio and Mariana cases, mentioned above. By the very literality of the law, the minor theory of disregard of legal identity applies to corporate relations under current Brazilian Law. This understanding preserves the coherence of the legal system by respecting the corporate discipline underlying the environmental protection legal framework, also establishes a more efficient remedy guarantee system, which preserves adequate incentives for the economic agents involved, without reducing the effectiveness of the system (as reaching the member or the controlling company is still possible, by only at first seeking the remedy by the direct polluting company).

On the other hand, the application of the concept of indirect polluter to the corporate relationship, in this case, entails a legal inaccuracy and losses for the

coherence of the current liability system, bringing adverse economic effects as well.

As Lamy Filho and Bulhões Pedreira well identified, *"the personification of business companies is a basic principle in the modern economy, because it enables the formation of companies with a large number of members and facilitates the transfer of equity interests"*[30]. According to economic theory, the legal doctrines of the limits of shareholder liability and the conception of the enterprise as an autonomous legal entity were essential conditions for the development of modern capital markets[31].

The economic benefits of limiting the liability of a company's members include: (i) promotion of investments; (ii) efficient allocation of capital, especially in cases where it is dispersed in society; (iii) business diversification; (iv) promotion of innovation and entrepreneurship; and (v) wider participation of society in business activities. The limitation of members' liability increases the liquidity of capital, making markets more dynamic and allowing the development of productive activities which would not be possible otherwise[32]. The limitation of the liability of the members is also due to the specialization of business enterprise management activities and the formation of specific assets (specialized knowledge or *know how*) within companies[33]. Hence the importance of contemporary corporate structures for economic development[34].

The disregard of the legal identity of business companies is recognized by economic theory as one of the elements necessary to balance the benefits and costs of the shareholder's liability limitation rule[35]. However, this tool cannot be the first alternative of accountability, *prima ratio* for the redress of any damages caused by the company. The economic grounds of the liability limitation rule indicate that disregard of legal identity should be, as seen, a last measure in the redress system, used in cases where the corporate structure is fraudulently used, or to prevent undercapitalization practices – which may or may not be intentional – of the company from generating

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[30]LAMY FILHO, Alfredo; PEDREIRA, José Luiz Bulhões (Orgs.). **Direito das companhias**. 1st edition. Rio de Janeiro: GEN, Editora Forense, 2009, p. 43.

[31]Acc. HALPERN, Paul; TREBILCOCK, Michael; TURNBULL, Stuart. An Economic Analysis of Limited Liability in Corporation Law. **The University of Toronto Law Journal**, v. 30, n. 2, p. 117, 1980.

[32]On this regard: MANNE, Henry G. Our Two Corporation Systems: Law and Economics. **Virginia Law Review**, v. 53, n. 2, p. 259, 1967.

[33]Acc. FAMA, Eugene F.; JENSEN, Michael C. Separation of Ownership and Control. **The Journal of Law & Economics**, v. 26, n. 2, p. 301–325, 1983.

[34]See: WILLIAMSON, Oliver E.; WINTER, Sidney G. (Orgs.). **The nature of the firm: origins, evolution, and development**. 1. paperback ed. New York, NY: Oxford Univ. Press, 1993.

[35]EASTERBROOK, Frank; FISCHEL, Daniel. Limited Liability and the Corporation. **University of Chicago Law Review**, v. 52, n. 1, 1985, p. 109.

damage that cannot be remedied, or creating excessive risks to society[36].

This also applies to the liability of the parent company for damages caused by the subsidiary. In these cases, there are as seen substantial monitoring costs and principal-agent issues between the two companies that need to be mentioned. To hold the parent company directly liable in these cases would generate a moral hazard issue. This system compromises the incentives of the potential direct cause of the damage to carry out the prevention and creates distortions to the underlying corporate relationship as well. Frank Easterbrook and Daniel Fischel, when analyzing this issue, identified both the critical problem of undercapitalization – which reinforces the need to disregard legal identity – and the risk of a broad and open system of direct accountability of the member:

> If limited liability is absolute, a parent company may incorporate a subsidiary with minimal capital for the purpose of engaging in risky activities. If things go well, the parent company reaps the benefits. If things go wrong, the subsidiary declares bankruptcy, and the parent company creates another one with the same managers to engage in the same activities. This asymmetry between benefits and costs, if limited liability were absolute, would create incentives for companies to engage in a socially excessive amount of risky activities. This does not mean, however, that parent companies should always be liable for the debts of those in which they hold shares. On the contrary, such a general responsibility would give a competitive advantage to companies that do not have affiliates.[37]

On the analysis of Easterbrook and Fischel, even among companies forming the same corporate group, the disregard of the legal identity should be used as last measure, only in cases the fraud is determined or at least the subsidiary's incapacity to face its obligations. In the case of the Brazilian environmental damage liability system, this understanding still has the advantage of meeting the literality of the law, which adopted the minor theory, establishing, as seen, that the disregard of legal identity should occur only when it is an obstacle to remedying the damages caused.

Finally, it should also be noted this understanding has the benefit of meeting a rule of procedural economy, as it discourages predatory litigation, the attempt to

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[36] *Ibidem*, p. 109-113.

[37] Ibidem, p. 111. Our own translation of the excerpt: "If limited liability is absolute, a parent can form a subsidiary with minimal capitalization for the purpose of engaging in risky activities. If things go well, the parent captures the benefits. If things go poorly, the subsidiary declares bankruptcy, and the parent creates another with the same managers to engage in the same activities. This asymmetry between benefits and costs, if limited liability were absolute, would create incentives to engage in a socially excessive amount of risky activities. It does not follow that parent and affiliate corporations always should be liable for the debts of those in which they hold stock. Far from it. Such general liability would give unaffiliated firms a competitive advantage."

simultaneously hold different agents accountable for the same damage, focusing on actions aimed at remedying environmental damages – which can be sparse, starting from multiple different affected actors – in order to mainly reach the direct cause of the damage, which must effectively be, as a general rule, who bears the costs of the damage caused by it.

IV – CONCLUSION

In this paper, we analyzed the legal and economic foundations of the current discipline of civil liability for environmental damages in Brazil, as a basis for piercing the corporate veil of the direct polluter company, for the purposes of accountability of the controlling company or shareholder member for environmental harm.

The concept of indirect polluter, although provided for in Article 3, item IV of Law n. 6.938/81, is not defined by Brazilian legislation. The absence of a such definition and the lack of legal limitations for applying the indirect polluter concept has led to a reliance on judicial precedents to ascertain if and when a third party may be held indirectly liable for degradation caused to the environment.

Brazilian courts still have not decisively settled what the objective criteria are for holding individuals or legal entities liable for environmentally harmful activities. However, in two important leading cases (the Maceio and Mariana cases) Brazilian courts held that: (i) for shareholders to be categorized as indirect polluters, there needed to be concrete evidence demonstrating a causal link between their actions and the environmental harm and that (ii) disregarding the corporate veil is only allowed when it can be shown that the direct polluter lacks the financial capacity to bear the burden of environmental restoration costs.

Then, to show that these criteria are economically sound, offering the best interpretation of current Brazilian Law on the subject, we consider, first, the economics of civil liability and the objective liability rule to then assess some challenges created by the application of the indirect polluter rule, provided for in art. 3, IV of Law n. 6.938/81.

We conclude, in our analysis, the application of the concept of indirect polluter should be guided by clear and objective criteria, such as the ones provided by the Maceio and Mariana cases. If greatly expanded, the concept of indirect polluter can generate distortive economic effects, compromising the very effectiveness of the liability system for environmental damages. This is because, by assigning

responsibilities to third parties, the concept of indirect polluter can compromise the efficiency conditions of the objective liability system. This is precisely due to the fact the same agent, a potential cause of unilateral damage, gathers all the necessary incentives to perform the optimal level of prevention, internalizing efficient preventive measures, in addition to having better information about which duties of care are relevant and what is the appropriate level of performance of the potentially harmful activity.

We also highlight the importance of considering the indirect polluter rule establishes an agency relationship between the direct causative potential of the damage (agent) and the agents that may be characterized. As jointly liable for damage (principals). As a result of this relationship, a moral hazard issue arises, as the agent directly causing the damage may adopt risky conduct, failing to take efficient preventive measures, by expecting that the indirect polluter will be held accountable in its place. Thus, there is a perverse incentive mechanism, which stimulates opportunistic behaviors of potential direct causes of damage, in a sense diametrically opposed to that intended by environmental legislation.

Based on this analytical framework, we analyze the issue of applying the concept of indirect polluter to corporate relations. Our analysis started on checking the literality of the law (art. 4 of Law n. 9.605/98) provides for the disregard of the legal identity for award of environmental damages only when it becomes an impediment to the reimbursement of the damages caused. In its wording, therefore, the law is in line with the so-called minor theory of disregard of legal identity, admitting the disregard of legal identity even in cases where the fraudulent conduct of shareholders is not proven. However, one should always seek, at first the remedy by the company directly causing the damage, which is the one that had the most effective means to prevent the damage and should be deemed as the main responsible for the damages caused.

The direct accountability of the shareholder member, or the parent company, based on the concept of indirect polluter, violates existing law, as it violates the literal text of article 4 of Law n. 9.605/98 and contradicts the positions held by Brazilian courts in the Maceio and Mariana cases. Furthermore, it creates inappropriate economic incentives, contradictory to the basic incentive structure of current environmental law. This is due to the fact that: (i) there is a principal-agent relationship between the member and the company that would be aggravated by this use of the concept of indirect polluter; and (ii) the economic basics of the members' liability limitation rule

indicate the need for the disregard rule to never be used as a *prima ratio*.

The principal-agent relationship between the member and the company is relevant because, as seen, the costs of monitoring business activity by the members are the essential condition for the moral hazard issue already typically identified in corporate relations, which will be aggravated by the application of the concept of indirect polluter. In this case, the direct accountability of the members or the parent company creates incentives for opportunistic behaviors of the potential direct causative agent of the damage. It is also worth noting that, in the case of large corporate structures in which the parent company has its headquarters outside the country in which its subsidiary operates, empirical work has already shown the presence of particularly high monitoring costs, which further aggravate the moral hazard issue.

Economic works point out important benefits of the rule limiting the members' liability and the personification of business companies. These regulations ensure greater liquidity of capital, ensuring its efficient allocation, allow business diversification and the dispersion of the risks of economic activities, promote better conditions for the emergence of new businesses and for entrepreneurship, among other benefits. Without these regulations, there would be no capital markets and certain highly beneficial economic activities could not be carried out. It is no coincidence, therefore, the flexibility of the limitation rule, although necessary to avoid abusive business practices, should meet the condition of last measure and should not be used as a first alternative to obtain award of damage.

Thus, we conclude this paper indicating the application of the indirect polluter concept to corporate relations to hold the member or the controlling company liable before seeking award of the direct cause of the damage: (i) violates the letter of the law, (ii) creates incongruities between Environmental Law and the corporate disciplines underling it, (iii) greatly expands the concept of indirect polluter producing perverse incentives for contractual practices and for the prevention of environmental damage, (iv) through these incentives stimulates, also opportunistic behaviors by those directly responsible for the damage and, more broadly, (v) discourages international investments, generating substantial losses for emerging economies such as the Brazilian one, and (vi) generates general economic losses for society, creating economic distortions that negatively affect agreements, competition and the business environment.

For all these reasons, one must follow, as the lawmaker wished, given the literality of article 4 of Law n. 9.605/98, the understanding that the disregard of the

legal identity will only be possible in the cases in which it first sought to hold the direct causative agent of the damage accountable, but redress could not be obtained by direct means. This is the understanding meets both the rules of current Environmental Law and the economic logic that underlies them.

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