

INFLUENCING COMPANIES' GREEN GOVERNANCE THROUGH THE SYSTEM OF LEGAL LIABILITY FOR ENVIRONMENTAL INFRACTIONS IN CHINA AND BRAZIL: LIGHTING THE WAY TOWARD BRICS COOPERATION

DAN WEI,

University of Macau (Macau, China)

ÂNGELO PATRÍCIO RAFAEL,

University of Saint Joseph (Macau, China)

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As a platform of cooperation among its member states, questions of whether or how the BRICS alliance can influence and shape the global governance system and improve their internal governance systems have often been raised. In the process of exploring the role that the law can play in this context, comparative studies on the laws of the BRICS member states, particularly in the defined areas of cooperation, are an important perspective to be addressed in order to be able to contribute to the improvement of their internal governance systems. However, much work remains to be done on this perspective. This article partially fills this gap by conducting a comparative study related to one of the BRICS areas of cooperation – sustainable development – between two of its members: China and Brazil. Specifically, it compares how both states, as stakeholders, use the legal regime of liability for environmental infractions to influence the green governance of companies. The article, therefore, uses comparative legal methodology, using as its objects of research relevant legal provisions on legal liability for environmental infractions gathered from the legal systems of China and Brazil. The adoption of strict civil liability, liability for environmental damages per se and the extension of criminal liability to legal persons are among the similarities found. As for the differences, it finds that, as a principle, Chinese law shields directors and senior officers from liability toward third parties, while Brazilian law fully extends such liability to these entities; additionally, in the Chinese legal system, the burden of disproving causality between the harm and the activity that caused it falls upon the actor, while the Brazilian legal system adopts a double-standard approach for collective suits and individual suits; and finally, the Chinese law imposes a legal obligation to adopt what, in effect, is close to a corporate environmental management system, while the Brazilian legal system lacks a similar mandate.

Keywords: BRICS; legal liability; green governance; environmental infractions; harm; civil liability; criminal liability; climate change; China; Brazil.

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Introduction

The conception and establishment of the BRICS¹ alliance have been linked to the legitimacy crisis of the global governance system, particularly the global financial system, in the context of the 2008 international crisis, coupled with relative economic stability at that time among emerging countries.² The BRICS countries describe themselves as a “dialogue and cooperation” platform between its members aimed

¹ BRICS is an acronym derived from the initials of Brazil, Russia, India, China, and South Africa, which are its members. It was established originally as BRIC in Yekaterinburg (Russia) in 2009, with Brazil, Russia, India, and China as its members; see the relevant documents of the summit at Events, President of Russia (June 6, 2009), available at <http://en.kremlin.ru/events/president/news/4478>. South Africa later joined the platform in 2010 (BRICS (Brazil, Russia, India, China and South Africa), South African Government (June 6, 2021), available at <https://www.gov.za/about-government/brics-brazil-russia-india-china-south-africa-1>).

² Oliver Stuenkel, *The Financial Crisis, Contested Legitimacy, and the Genesis of Intra-BRICS Cooperation*, 19(4) Global Governance 611, 612 (2013).

at enabling them to not only pursue their common interests but also to influence and shape the global governance system.³ This statement of aims by the BRICS countries raises the logical questions of how and whether they can be successful in achieving these goals.⁴

Assuming an optimistic view on the potential of intra-BRICS cooperation, i.e. cooperation among its members aimed at improving their local governance systems, as well as on the role of law in such cooperation, this article compares China's and Brazil's systems of legal liability for environmental infractions and attempts to assess their potential in influencing companies' green governance.⁵ It seeks to identify differences and similarities that can help to understand both countries' approaches, guide intra-BRICS legal cooperation and hopefully, inspire a debate that may generate creative solutions in future legal reforms.

Thus, the article embraces an approach that has only recently begun to be emphasized in discussions on the BRICS countries, notably the role of the law in BRICS cooperation, specifically intra-BRICS cooperation, thereby complementing the economic and political perspectives through which the debate was initially generally conducted.⁶ By addressing an important topic related to sustainable development, the article contributes to the advancement of legal research in a relatively new area of comparative legal research among the areas of intra-BRICS cooperation.⁷ While other authors have conducted comparative legal research

³ The "dialogue and platform" nature of the BRICS, as well as its major strategic objectives, have been expressed from the beginning. For example, the Joint Statement issued at the end of the first (then) BRIC Summit in 2009, revealed that the Members had agreed on "steps to promote dialogue and cooperation" among them, which should be "conducive not only to serving the common interests of emerging market economies and developing countries but also to building a harmonious world of lasting peace and common prosperity." The document also expressed the specific position of the members on global issues, including the need to reform international financial institutions and the United Nations, the need to preserve the multilateral trading system, and the implementation of the concept of sustainable development. Their objective of enhancing intra-BRIC(S) cooperation, including "in socially vital areas" was also expressed. See Joint Statement of the BRIC Countries' Leaders, President of Russia, 16 January 2009 (June 6, 2021), available at <http://en.kremlin.ru/supplement/209>; see also Press Statement following BRIC Group Summit, President of Russia, 16 January 2009 (June 6, 2021), available at <http://en.kremlin.ru/supplement/209>.

⁴ For a more detailed overview of raising and/or discussing these questions, see, e.g., Rostam J. Neuwirth, *The Enantiosis of BRICS – BRICS La[w]yers and the Difference that They Can Make*, in Rostam J. Neuwirth et al. (eds.), *The BRICS-Lawyers' Guide to Global Cooperation* 9, 10 and 17–24 (2017); Christian Brüttsch & Mihaela Papa, *Deconstructing the BRICS: Bargaining Coalition, Imagined Community, or Geopolitical Fad?*, 6(3) *Chinese J. Int'l Pol.* 299, 300 (2013); David B. Wilkins & Mihaela Papa, *The Rise of the Corporate Legal Elite in the BRICS: Implications for Global Governance*, 54 *B.C.L. Rev.* 1149, 1152 (2013).

⁵ See Section 3 of the definition of "green governance."

⁶ See, e.g., Wilkins & Papa 2013, at 1150–1; Lucia Scaffardi, *BRICS, a Multi-Centre "Legal Network"?*, 05(02) *Beijing L. Rev.* 140, 140 (2014); Mikhail Antonov, *Systematization of Law: The BRICS Context and Beyond*, 2(1) *BRICS L.J.* 7, 7–8 and 13 (2015); and *The BRICS-Lawyers' Guide to Global Cooperation*, *supra* note 4, at 2.

⁷ For sustainable development as one of the areas of cooperation of the BRICS, see Joint Statement for the Fourth BRICS Ministers of Environment Meeting, Zimbali, Durban, South Africa, 18 May 2018,

related to the BRICS countries in other areas,⁸ the area of sustainable development, specifically the area of green governance remains largely unexplored, let alone its linkage with environmental legal liability systems.⁹ This article bridges this gap by exploring in detail how legal liability can potentially drive green governance in companies. Furthermore, it explores a very specific aspect of public policy – the specific legal regimes on liability for environmental infractions and their potential to influence green governance in companies – rather than simply comparing branches of law or entire legal systems. This allows the reader to have a closer look at the differences and similarities in the approaches of the compared jurisdictions¹⁰ and on their impact at the micro level, providing a level of specific detail to which a more general comparison cannot aspire.

The choice of a topic related to sustainable development, and more specifically, green governance, is timely. Indeed, the importance of sustainable development and cooperation on environmental matters for the BRICS countries, as well as their commitment to major global consensus such as the 2030 Agenda for Sustainable Development and Sustainable Development Goals and the Paris Agreement on Climate Change 2015, has been frequently reiterated.¹⁰ Additionally, environmental

Department of Forestry, Fisheries and the Environment (DFFE) (June 6, 2021), available at https://www.dffe.gov.za/mediarelease/jointstatement_fourthbricsministersofenvironmentmeeting. See also Neuwirth 2017, at 13–4.

⁸ The BRICS-Lawyers' Guide to Global Cooperation, *supra* note 4, contributed with several studies: Denis de Castro Halis & Guilherme Vargas Castilhos, *The BRICS Investment Framework – Catching Up with Trade* 78; Salvatore Mancuso, *Contract Law in the BRICS Countries – A Comparative Approach* 247 (suggesting a methodological approach for developing common principles of Contract Law within the BRICS); Jia Yao, *Consumer Protection Law in the BRICS Countries and their Future Cooperation* 270. Other works include, for example: Adrian Emch et al. (eds.), *Competition Law in the BRICS Countries* (2012); Rafael Pinho de Moraes, *Antitrust and Compulsory Licensing in BRICS and Developing Countries*, in Frédéric Jenny & Yannis Katsoulacos (eds.), *Competition Law Enforcement in the BRICS and in Developing Countries: Legal and Economic Aspects* 149 (2016); Adriana B. Deorsola et al., *Intellectual Property and Trademark Legal Framework in BRICS Countries: A Comparative Study*, 49 World Pat. Inf. 1 (2017); Alexander B. Zelentsov et al., *Comparative Analysis of Regulatory Instruments and the Trend Towards the Harmonization of Proprietary Regulation in the Civil Law of Member States of BRICS*, 8(5) J. Advanced Res. L. & Econ. 1641 (2017).

⁹ Nevertheless, there is an article that partially intersects with this one: Aleksey Anisimov & Julia Kayushnikova, *Trends and Prospects for Legislative Regulation of Legal Responsibility for Environmental Offenses in BRICS Countries: Comparative Law*, 6(1) BRICS L.J. 82 (2019). Notwithstanding the significant contribution of the mentioned work, the present article differs for its concentrated focus on two jurisdictions, thus providing a more specific level of detail and comparative analysis and, fundamentally, for its exploration of the potential influence of the legal regimes of liability for environmental infractions on companies' green governance.

¹⁰ See, e.g., 8th BRICS Summit: Goa Declaration, Goa, India, 16 October 2016, BRICS 2016 (June 6, 2021), available at <http://brics2016.gov.in/content/document.php>; Goa Statement on Environment, Second Meeting of BRICS Environment Ministers, Goa, India, 15–16 September 2016, BRICS 2016 (June 6, 2021), available at <http://brics2016.gov.in/content/document.php>; Joint Statement for the Fourth BRICS Ministers of Environment Meeting, *supra* note 7; Cabinet approves MoU among BRICS Nations on Environmental Cooperation, Government of India, 24 October 2018 (June 6, 2021), available at https://www.pmindia.gov.in/en/news_updates/cabinet-approves-mou-among-brics-nations-on-environmental-cooperation/.

degradation and pollution represent one of the major global and BRICS problems.¹¹ For instance, despite major reforms of its environmental laws and policies over the past years.¹² China continues to suffer from high levels of pollution.¹³ On the other

¹¹ As for the BRICS, for example, according to 2019 data, based on the concentration of PM_{2.5}, India was the fifth most polluted country in the world and China ranked 12th (World's Most Polluted Countries 2019 (PM_{2.5})), IQAir (June 6, 2021), available at <https://www.iqair.com/world-most-polluted-countries>. Brazil, a country that hosts more than half of the Amazon – the biggest rainforest in the world – has been in a constant battle against deforestation, the index of which appears to be generally increasing again since 2013, after having registered a notable downward trend in the previous decade despite fluctuations (see Coordenação Geral de Observação da Terra, “PRODES – Amazônia: Monitoramento do Desmatamento da Floresta Amazônica Brasileira por Satélite,” INPE (June 6, 2021), available at <http://www.obt.inpe.br/OBT/assuntos/programas/amazonia/prodes>). Brazil has also repeatedly recorded serious environmental incidents in its extractive sector, such as the collapse of the Brumadinho (2019) and Mariana (2015) dams, which caused at least 259 and 18 deaths, respectively, as well as severe environmental damages (see, e.g., *Brumadinho: mais duas vítimas do rompimento da barragem da Vale são identificadas*, G1, 20 December 2019 (June 6, 2021), available at <https://g1.globo.com/mg/minas-gerais/noticia/2019/12/28/brumadinho-mais-duas-vitimas-do-rompimento-da-barragem-da-vale-sao-identificadas.ghtml>; *Corpo é achado dentro de caminhão em área do desastre em Mariana*, G1, 9 March 2016 (June 6, 2021), available at <http://g1.globo.com/minas-gerais/desastre-ambiental-em-mariana/noticia/2016/03/corpo-e-achado-dentro-de-caminhao-em-area-do-desastre-em-mariana.html>). Russia shares the typical environmental challenges faced by transition economies, namely “unbalanced use and erosion of natural resources (...) and industrial pollution” (Andrey Poltarykhin et al., *Problems of the Ecological System in Russia and Directions for Their Solution Based on Economic and Social Development Programs*, 10(3) J. Envtl. Mgmt. & Tour. 508, 509 (2019)). In South Africa, urbanization and population growth, for example, are increasing stress on already thin natural resources such as water and sanitation infrastructure (Ivan Turok & Jacqueline Borel-Saladin, *Is Urbanisation in South Africa on a Sustainable Trajectory?*, 31(5) Dev. S. Afr. 675, 679 and 682 (2014)).

¹² Just over the last decade, China revised, for example, the Huanjing Baohu Fa (环境保护法) [Environmental Protection Law] (promulgated by the Standing Committee of the National People's Congress, 26 December 1989, effective 26 December 1989, revised 24 April 2014, effective 1 January 2015); the Zhonghua Renmin Gonghe Guo Daqi Wuran Fangzhi Fa (中华人民共和国大气污染防治法) [Air Pollution Control and Prevention Law] (promulgated by the Standing Committee of the National People's Congress, 9 May 1987, effective 6 January 1988, last revised 29 August 2015, effective 1 January 2016); the Zhonghua Renmin Gonghe Guo Huanjing Yingxiang Pingjia Fa (中华人民共和国环境影响评价法) [Environmental Impact Assessment Law] (promulgated by the Standing Committee of the National People's Congress, 28 October 2002, effective 1 September 2003, last revised 29 December 2018, effective 29 December 2018); the Zhonghua Renmin Gonghe Guo Shui Wuran Fangzhi Fa (中华人民共和国水污染防治法) [Water Pollution Prevention and Control Law] (promulgated by the Standing Committee of the National People's Congress, 11 May 1984, effective 1 November 1984, last revised 27 June 2017, effective 1 January 2018); and approved its first Zhonghua Renmin Gonghe Guo Turang Wuran Fangzhi Fa (中华人民共和国土壤污染防治法) [Soil Pollution Prevention and Control Law] (promulgated by the Standing Committee of the National People's Congress, 31 August 2018, effective 1 January 2019, revised 13 September 2020, effective 13 September 2020). The current wave of reform aims mainly at fixing the flaws of previous laws, which were notably ineffective (see, e.g., Alex Wang, *The Role of Law in Environmental Protection in China: Recent Developments*, 8 Vt. J. Envtl. L. 195, 202–4 (2007); Zhilin Mu et al., *Environmental Legislation in China: Achievements, Challenges and Trends*, 6(12) Sustainability 8967, 8971–3 (2014)).

¹³ See, e.g., Lauri Myllyvirta, *Air Pollution in China 2019*, Centre for Research on Energy and Clean Air (January 2020) (June 6, 2021), available at <https://energyandcleanair.org/publications/china-winter-targets-2019-2020/> (noting significant improvements in the reduction of PM_{2.5} and SO₂ from 2015–2019 but also a deterioration in the levels of ozone pollution and weak performance in the reduction of NO₂).

hand, Brazil faces a severe deforestation problem and pollution brought on by its agricultural, mining and oil industries. For example, 10,129 square kilometers were deforested in the Amazon in 2019, a 34 percent increase from the deforested area in the previous year,¹⁴ while multiple environmental incidents have tainted the reputation of its extractive industry.¹⁵ Nevertheless, Brazilian Environmental Law has been described as “stringent and advanced”¹⁶ and “one of the most modern in the world,”¹⁷ while on the other hand, Chinese Environmental Law is also relatively comprehensive in terms of coverage, containing a vast number of laws and regulations,¹⁸ but in a crucial stage of development, as the ongoing intensive reforms suggest. The research is also significant in light of China’s commitments to peak carbon dioxide emissions by 2030 and achieve carbon neutrality by 2060, in line with global efforts to fight global warming and climate change. The degree to which companies adhere to higher green governance standards will be a determining factor in whether these targets are met or not and thus, it is crucial to explore the potential of the law in driving change.¹⁹

The selection of only two BRICS jurisdictions for this article’s comparative work, although having the drawback of being incomplete in terms of scope, enabled a deeper and more manageable analysis to be conducted within the space available.

The remainder of the article is organized as follows: Section 1 discusses the importance of comparative law for intra-BRICS cooperation; Section 2 presents some preliminary notes explaining the concept of green governance as used in this article; Section 3 discusses the importance of legal liability as a tool to influence green governance; Section 4 analyzes how the Chinese and Brazilian legal systems use the legal framework of liability for environmental infractions to influence companies’ adoption of green governance, focusing on (4.1) the scope and nature of such liability and (4.2) the obligation to adopt a corporate environmental management system; and a final section presents the conclusions and recommendations.

¹⁴ INPE, *supra* note 11.

¹⁵ G1, *supra* note 11.

¹⁶ OECD, *Environmental Performance Reviews: Brazil 2015* (2015), at 6 (Sept. 6, 2022), available at <https://www.oecd.org/env/oecd-environmental-performance-reviews-brazil-2015-9789264240094-en.htm>.

¹⁷ Anisimov & Kayushnikova 2019, at 87.

¹⁸ Wang 2007, at 202–3.

¹⁹ *Chinese roadmap by 2060 for a carbon neutral future*, CGTN, 15 March 2021 (Sept. 6, 2022), available at <https://news.cgtn.com/news/2021-03-15/Chinese-roadmap-by-2060-for-a-carbon-neutral-future-YDX1ED0W8U/index.html>.

1. The Importance of Comparative Law for Intra-BRICS Cooperation

Several authors have discussed and sought to identify the “functions of comparative law,” or rather, the objectives of comparative law.²⁰ While it is possible to find differences in the lists and systematization of those functions, the majority of scholars concur that comparative law can be useful for analyzing national legislative processes, promoting the harmonization of the laws of different countries and gaining a better understanding of one’s own legal system.²¹ The present work is undoubtedly of an academic nature, yet as is often the case with comparative legal research of an academic nature, its contributions can be beneficial for more practical processes of a legislative or even judicative nature.

The BRICS legal systems are diverse in their history and nature, including legal systems with predominant features of the civil law family (China, Brazil and Russia), the common law family (India) and a mixed jurisdiction (South Africa).²² Of course, even jurisdictions classified as belonging to the same legal tradition may present significant differences, reflecting different political, economic and social contexts.²³

²⁰ See, e.g., Konrad Zweigert & Hein Kötz, *An Introduction to Comparative Law* 13–31 (Tony Weir trans., 3rd ed. 1998); Mary A. Glendon et al., *Comparative Legal Traditions: Text Materials and Cases on Western Law* 13–23 (2007); Albin Eser, *The Importance of Comparative Legal Research for the Development of Criminal Sciences*, in Roger Blanpain (ed.), *Law in Motion: Recent Developments in Civil Procedure, Constitutional, Contract, Criminal, Environmental, Family & Succession, Intellectual Property, Labour, Medical, Social Security, Transport Law* 492, 498–510 (1997).

²¹ *Supra* note 20, all cited authorities.

²² Mancuso, *supra* note 8, at 250.

²³ For example, despite being a unitary state, China’s administrative governance system is highly decentralized. On environmental governance, this approach, together with an inadequate system of incentives, has led to problems of “local protectionism” and “selective implementation” by local governments (see, e.g., Stefanie Beyer, *Environmental Law and Policy in the People’s Republic of China*, 5(1) *Chinese J. Int’l L.* 185, 209 (2006); Ran Ran, *Perverse Incentive Structure and Policy Implementation Gap in China’s Local Environmental Politics*, 15(1) *J. Env’tl. Pol’y & Plan.* 17, 24 (2013)). One solution that is being experimented with in order to fight local protectionism is an increased centralization of environmental governance (see, e.g., Genia Kostka & Jonas Nahm, *Central-Local Relations: Recentralization and Environmental Governance in China*, 231 *China Q.* 567 (2017)). A different trend is ongoing in Brazil, with significant efforts being made to increase the role of municipalities and states in environmental governance, thus moving towards a more decentralized governance system (see, e.g., Taciana N. Leme, *Governança Ambiental no Nível Municipal*, in Adriana M.M. de Moura (ed.), *Governança Ambiental no Brasil: Instituições, Atores e Políticas Públicas* (2016)). However, one cannot simply conclude, for example, that decentralization of environmental governance will also lead to local protectionism in Brazil without further consideration of the context in which the relevant rules operate. Indeed, despite its federal form, in which its states, municipalities and the Federal District enjoy considerable autonomy, there is hardly any mention of local protectionism as a problem in environmental governance in Brazil. An explanation for this may lie in the adoption of the “concurrent competence” model for the distribution of legislative powers between the Union, states, and the Federal District, under which all these subjects can legislate on environmental matters, but always respecting the “minimum standard” established by federal legislation (see *Constituição Federal [C.F.] [Constitution]*, Art. 24, VI, VIII and secs. 1–4). Additionally, the administrative enforcement power of environmental laws is equally shared between the Union, the states, the Federal District, and Municipalities,

However, despite their diversity, the BRICS countries also share important points in common. For instance, they generally belong to the same group in the classification of countries according to the stage of their economic development, namely the group of the so-called emerging economies;²⁴ although this general classification may be, to a certain degree, misleading as it may conceal important specific differences between the countries.

All of these considerations leave one thing clear: in order to find a coherent approach and strategy for their cooperation, including intra-BRICS cooperation, much must be learned from the realities of each of its members. This will make it possible to identify areas of common ground and differences, as well as potentially, inspiring models for creative solutions to address common problems, such as environmental pollution and degradation. In looking at the general functions of comparative law and cross-analyzing them with the general objectives of the BRICS platform, one can easily identify the potential of the former to serve as an important methodological tool to pursue the latter. Starting with the function of comparative law as a tool to enable a deeper understanding of one's own legal system, one commentator explained the mechanism as follows:

[C]omparative law creates the conditions for a confrontation of different discourses and for the cognitive disruption that can generate creativity. It forces us to articulate a different legal and normative framework, and thus opens a space for the recognition of ways in which our own framework is deficient or flawed. In doing so, it makes us aware of the other possible understandings that better account for who we are and who we aspire to be.²⁵

An implicit benefit of this function of comparative law is, of course, gaining an understanding of the other legal systems under study. For the BRICS countries and their objective of enhancing cooperation among its members, this function would be of significant value for at least two reasons. First, it would enable the members to gain a better understanding of each other's legal systems as well as relevant political,

under a system of "cooperative federalism" (see Constitution, Art. 23, VI and VII and Lei Complementar N.º 140/2011, de 8 Dezembro de 2011, Diário Oficial da União [D.O.U.] de 9.12.2011, rectified 12.12. 2011). Nevertheless, comparative law can help to understand what went wrong in China and identify possible positive elements, considering its specific context, as well as help to build a more effective and resilient decentralization system in Brazil, while considering its specific context.

²⁴ However, considering South Africa's significantly smaller economic standing, it is often said that the country was added to the group as a doorway to the African continent. See, e.g., Herbert Kawadza, *A Step Towards the Harmonization of the Regulation of Financial Misconduct in BRICS: A Comparison of the Chinese and South African Regimes for the Prohibition of Insider Dealing*, 62(3) J. Afr. L. 351, 354–55 (2018).

²⁵ Paolo Wright-Carozza, *Organic Goods: Legal Understandings of Work, Parenthood, and Gender Equality in Comparative Perspective*, 81(2) Cal. L. Rev. 531, 535 (1993). (Footnotes omitted.) See also Glendon et al. 2007, at 14–5.

social and economic contexts, thereby creating the conditions for an informed discussion and the development of a coherent framework for their cooperation agenda. A second benefit of comparative law for the BRICS intra-cooperation would be the exploration of different approaches and solutions for similar problems that might exist within the member states' legal systems, serving as a generator of critical thinking and creative ideas, and thus, potentially contributing to the improvement of their respective legal systems.

In this sense, the function of comparative law as a tool to enable a deeper understanding of one's own legal system is linked to the other two functions, namely aiding national legislative processes and promoting the harmonization of laws. Indeed, the first function can be exercised not only for academic-theoretical purposes but also for practical purposes such as creating new legislation or approximating the laws of different countries. In legislative processes, comparative law can serve an invaluable preparatory function, enabling legislators to have a richer pool of possible solutions from which they can draw inspiration for their future legal regulations and frameworks.²⁶ For example, China has relied strongly on comparative law to aid its legal reform efforts across different areas of law over the last seventy years.²⁷ Comparative legal research on the BRICS legal systems can enhance intra-BRICS legal cooperation by increasing dialogue and debate on their approaches to common problems and, possibly, inspiring each other to come up with creative solutions that can advance their legal systems. Moreover, in the case of China and, to some degree, Brazil, which have relied primarily on European and American legal systems for inspiration in their legal reform processes, intra-BRICS comparative law can widen their pool of possible solutions and expose their reformers to alternative models other than those they are accustomed to. This would also reinforce the idea of the BRICS alliance as a viable platform of "dialogue and cooperation" and boost the role of law and legal cooperation in the pursuit of the BRICS objectives.

Regarding comparative law's function of aiding in the harmonization of laws, thus far it has been of virtually no use for the BRICS countries, as it is not among the group's objectives. Nevertheless, in the legal literature, the potential benefits of such harmonization in specific areas have been invoked²⁸ and models of how such harmonization can be pursued have been proposed.²⁹ In any case, if harmonization

²⁶ See Eser 1997, at 503.

²⁷ On the influence of foreign legal systems (and, to some degree, international law) on the construction of modern Chinese law, see, e.g., Jianfu Chen, *Chinese Law: Context and Transformation* 23–76 (2008); Albert H.Y. Chen, *Socialist Law, Civil Law, Common Law, and the Classification of Contemporary Chinese Law*, in Michael Otto et al. (eds.), *Law-Making in the People's Republic of China* 55 (Jan. 2000).

²⁸ See, e.g., Kawadza 2018.

²⁹ See Agnessa O. Inshakova et al., *Determinants and Prospects for the Legal Harmonization of the Intra-BRICS Trade Turnover in the Digital Form*, in Elena G. Popkova & Bruno S. Sergi (eds.), *Digital Economy: Complexity and Variety vs. Rationality* 209 (2020).

of laws one day becomes a goal of the BRICS countries, comparative law can always be relied upon to pave the way for such a process to be carried out successfully.

2. The Concept of Green Governance

The term “green governance” has been used in different contexts, often with little or no explanation of its meaning.³⁰ It has been used, for example, in relation to the environmental policies and processes of governments,³¹ international and global environmental policies,³² commons-based and collective arrangements for the management of environmental goods,³³ and the environmental management and corporate governance of companies.³⁴ By looking closely at the works in which the term “green governance” is used, it can be determined that its meaning may vary depending on the context in which it is used. Notwithstanding, a common theme is that of “environmental sustainability.” Indeed, the term “green,” when used in relation to environmental matters, mostly embodies the concept of “environmental sustainability.” For example, when a product is referred to as a “green product,” it implies that its design, its production process or its effects are environmentally friendly. Another common theme is the concept of an institutional arrangement designed to achieve a goal, in this case, environmental sustainability, by reconciling conflicts of interest and objectives among various stakeholders and relying on cooperation and coordination among those stakeholders to do so. That is the concept embodied in the word “governance.”

Li et al. proposed a general definition of green governance based on the core elements of the terms “governance” and “green” as follows:

Green governance coordinates the conflict between human and nature through the design of a set of institutional arrangements or mechanisms, thereby ensuring the scientific decision-making of global green governance actions and ultimately maintaining the continuous and stable operation of the economic–social environmental system.³⁵

³⁰ See as an exception Weian Li et al., *Green Governance: New Perspective from Open Innovation*, 10(11) *Sustainability* 3845, 3848–9 (2018).

³¹ Philip Cooke, *Green Governance and Green Clusters: Regional & National Policies for the Climate Change Challenge of Central & Eastern Europe* 1(1) *J. Open Innovation: Tech., Mkt. & Complexity* 1 (2015).

³² Frank Biermann, *Strengthening Green Global Governance in a Disparate World Society – Would a World Environment Organisation Benefit the South?*, 2(4) *Int'l Env'tl. Agreements: Pol., L. & Econ.* 297 (2002); and Kate Ervine, *The Greying of Green Governance: Power Politics and the Global Environment Facility*, 18(4) *Capitalism Nature Socialism* 125 (2007).

³³ Burns H. Weston & David Bollier, *Green Governance – Ecological Survival, Human Rights, and the Law of the Commons* (2013).

³⁴ Judd F. Sneirson, *Green Is Good: Sustainability, Profitability, and a New Paradigm for Corporate Governance*, 94 *Iowa L. Rev.* 987 (2009).

³⁵ Li et al. 2018, at 3848.

Aside from the elements of coordination and interrelation among multiple stakeholders, the cited authors also indicate the “balance of interests and scientific decision making” as well as the “continuity”³⁶ of the interactions among stakeholders. The idea of a balance between economic, social and environmental aspects is often associated with the concept of “sustainable development.” However, such a balance is difficult to optimize, often giving rise to concepts with consequences at the implementation level that emphasize dualities instead of the entire trinity of the concept.³⁷ Notwithstanding, we submit that both in the concept of “sustainable development” and in its related concept of “green governance,” the balance between their economic, social and ecological aspects has a programmatic value, the pursuit of which must be constant because of their largely unstable connection.

In the context of companies, “green governance” can then be understood as an institutional arrangement by which companies internalize the environmental costs of their activities and embrace the goal of environmental sustainability. This may involve a variety of systems and processes, from product design to production processes, relationships and interactions with company stakeholders, and even the mandate of management in relation to environmental matters. Crucially, it also involves compliance with relevant state laws and regulations, such as those that set environmental standards and protect third-party property rights. While, in practice, mandatory regulation aimed at aligning the behavior of companies with environmental interests as well as third-party and public interests (command-and-control regulation) sets the floor or minimum standards for what is considered acceptable, states often complement such regulation with market-based instruments to incentivize companies to adopt green[er] governance. The potential of command-and-control regulation and market-based instruments as a tool to influence companies’ green governance deserves special attention considering the global pressures posed on states to achieve tangible results in the fight against climate change and global warming. For this reason, states make specific and, at times, ambitious commitments, such as China’s pledge to peak its carbon dioxide emissions by 2030 and achieve carbon neutrality by the year 2060, the achievement of which will significantly depend on the success of the adoption of higher green governance standards by companies.

For the adoption and development of its green governance strategy, a company’s approach to corporate governance is an important factor. Indeed, a company that embraces environmental sustainability can express its commitment by incorporating this concept into its corporate governance systems. For example, its shareholders may incorporate in their articles of association a mandate or guideline stating that

³⁶ Li et al. 2018, at 3848.

³⁷ Joyeeta Gupta & Courtney Vegelin, *Sustainable Development Goals and Inclusive Development*, 16(3) *Int’l Envtl. Agreements: Pol. L. & Econ.* 433, 435 (2016).

environmental sustainability should be considered or pursued as a goal when managing the company.³⁸

3. The Importance of Legal Liability as a Tool to Influence Green Governance

A state's intervention to guarantee the sustainable use of environmental goods has been justified for reasons of market failure to balance the desire of economic agents to maximize their (short-term) gains with the collective interest of environmental sustainability.³⁹ This is because, in an unregulated scenario, most environmental goods would fit in the category of free-access public goods, i.e. they would be available for everyone to use, free of cost.⁴⁰ Thus, in such a scenario, there would be no incentive for private agents to use environmental goods sustainably as they would bear no cost for their (mis)use.⁴¹ The result would be a race among the different economic agents to maximize their use of the environmental resources, aiming for short-term gains to the detriment of the collective long-term interest, as society in general and future generations would ultimately bear the costs of the use of environmental resources in such a fashion.⁴² This resulting state of affairs was famously described by Hardin as "the tragedy of the commons."⁴³

A state's intervention is thus deemed necessary to guarantee that economic agents, companies in particular, use environmental resources sustainably and internalize the environmental costs associated with their economic activity. States have many ways to influence companies in this regard. The range of options available and that are typically used by states includes prescriptive regulation, the allocation of property rights, financial penalties, the elimination of payments and subsidies and persuasion.⁴⁴ Additionally, the following broader categories have also been employed to classify states' environmental regulations and policies: command-and-control regulation and market-based instruments.⁴⁵

Command-and-control regulations establish mandatory standards on performance and technology, frequently specifying the processes, methods, equipment,

³⁸ Sneirson 2009, at 1019.

³⁹ David Hunter et al., *International Environmental Law and Policy* 104–7 (2011).

⁴⁰ *Id.* at 104.

⁴¹ *Id.* at 105–7.

⁴² *Id.* at 104–5.

⁴³ Garrett Hardin, *The Tragedy of the Commons*, 162(3859) *Science* 1243, 1244 (1968).

⁴⁴ Hunter et al. 2011, at 107–14.

⁴⁵ See, e.g., Robert W. Hahn & Robert N. Stavins, *Economic Incentives for Environmental Protection: Integrating Theory and Practice*, 82(2) *Am. Econ. Rev.* 464, 464 (1992); and Juan-Pablo Montero et al., *A Market-Based Environmental Policy Experiment in Chile*, 45(1) *J.L. & Econ.* 267, 268 (2002).

etc., to be used by economic agents during their activities and they rely on their enforcement authorities to ensure compliance.⁴⁶ Differently, market-based instruments “encourage behavior through market signals rather than through explicit directives regarding pollution control levels or methods.”⁴⁷ They are also referred to as “economic incentive policies”⁴⁸ or “incentive-based strategies”⁴⁹ due to the fact that they create financial incentives for economic agents that reduce pollution.⁵⁰ Those incentives consist of financial costs incurred by polluting behavior and, in reverse, financial benefits for those economic agents that reduce their pollution levels in a more cost-efficient manner. In practice, the majority of states have relied heavily on command-and-control regulation; however, having realized its shortcomings (including economic inefficiency) and seeking a more effective governance system, they tend to combine command-and-control regulation with market-based instruments.⁵¹

Legal liability for environmental infractions is, by definition, linked to command-and-control regulation and can be of an administrative, civil or criminal nature. It constitutes an important part of mandatory legal rules, ensuring their enforceability.⁵² Without a sanction, a mandatory legal rule is simply not enforceable and is likely ineffective. A second function of environmental legal liability rules is to ensure that those that have suffered harm (including the collectivity⁵³ and the ecology itself) can

⁴⁶ Robert N. Stavins, *Experience with Market-Based Environmental Policy Instruments*, in Karl-Göran Mäler & Jeffrey R. Vincent (eds.), 1 *Handbook of Environmental Economics* 355 (2003); Alan Moran, *Tools of Environmental Policy: Market Instruments versus Command-and-Control*, in Robyn Eckersley (ed.), *Markets, the State and the Environment* 73 (1995); Barry C. Field, *Environmental Economics: An Introduction* (1994).

⁴⁷ Stavins 2003, at 358.

⁴⁸ Jolene Lin Shuwen, *Assessing the Dragon's Choice: The Use of Market-Based Instruments in Chinese Environmental*, 16(4) *Geo. Int'l Envtl. L. Rev.* 617, 624 (2004).

⁴⁹ Field 1994.

⁵⁰ Shuwen 2004.

⁵¹ Different from what is sometimes implied, command-and-control regulation and market-based instruments are not necessarily mutually exclusive, and often a combination of both may prove to be a more adequate approach. See Darren Sinclair, *Self-Regulation Versus Command and Control? Beyond False Dichotomies*, 19(4) *Law & Pol'y* 529 (1997).

⁵² See, e.g., Viktor Ladychenko et al., *Environmental Liability in Ukraine and the EU*, 8(2) *Eur. J. Sustainable Dev.* 261, 262 (2019) (indicating as functions of legal liability the following: promotion of compliance with the law, full compensation for environmental damage, prevention of new violations and punishment of guilty persons).

⁵³ One legal institution through which the environmental rights and interests of the collectivity can be redressed is that of environmental public interest litigation. Nevertheless, environmental public interest litigation can also serve an important preventive function as it can generally be activated even before the environmental damage has occurred. See, e.g., on the Chinese context, Juan Chu, *Vindicating Public Environmental Interest: Defining the Role of Environmental Public Interest Litigation in China*, 45(3) *Ecology L.Q.* 485 (2018); Daniel Carpenter-Gold, *Castles Made of Sand: Public-Interest*

be compensated. Thus, in general, the legal regime on liability for environmental infractions is a powerful tool to implement one of the most important principles of environmental law, the “polluter pays” principle, which embodies the basic idea that those who pollute should bear responsibility for their actions and should not be allowed to shift liability to others.⁵⁴

Additionally, this regime frequently incorporates punitive measures against infringers. If those penalties are severe enough, they may serve a general prevention function, deterring the various actors, including companies, from violating environmental protection rules. If a violation occurs, the quantity and quality of enforcement executed by the relevant entities may also play a major role in reinforcing such general prevention measures, in addition to deterring the infringer from committing the infraction again (special prevention).

Whether or not command-and-control regulation is beneficial in driving green governance on its different aspects, including green innovation in product design and production processes, especially in comparison to market-based instruments, is subject to debate. However, as already discussed above, the green governance of companies involves several aspects, and different regulatory tools and approaches may be more suitable for achieving different goals.⁵⁵ For example, one study focused on the Chinese context found that market-based instruments have a positive impact on driving companies’ “environmental innovation” on eco-organization innovation, eco-process innovation and eco-product innovation, while command-and-control regulation was found to only be a driver of eco-organization innovation. The study concluded that the best policy approach is a combination of both command-and-control regulation and market-based instruments.⁵⁶ At the very least, legal liability regimes ensure that a certain minimum of protection set by the state as non-negotiable is complied with by all market actors. That is why, despite the virtues of market-based instruments, essential command-and-control regulations, including legal liability rules, have not been eliminated from legal systems.

However, the potential of the systems legal liability for environmental infractions and, for that matter, command-and-control regulation and market-based instruments in

Litigation and China's New Environmental Law, 39(1) Harv. Envtl. L. Rev. 241 (2015); Richard Z. Qing & Benoit Mayer, *Public Interest Environmental Litigation in China*, 1 Chinese J. Envtl. L. 202 (2017). On the Brazilian context, see, e.g., Lesley K. McAllister, *Public Prosecutors and Environmental Protection in Brazil*, in Aldemaro Romero & Sarah E. West (eds.), *Environmental Issues in Latin America and the Caribbean* 207 (2005).

⁵⁴ David M. Driesen et al., *Environmental Law: A Conceptual and Pragmatic Approach* 445 (2011).

⁵⁵ See, e.g., Allen Blackman et al., *Efficacy of Command-and-Control and Market-Based Environmental Regulation in Developing Countries*, 10(1) Ann. Rev. Resource Econ. 381, 399 (2018) (finding that different studies have found benefits for both command-and-control regulation and market-based instruments in developing countries).

⁵⁶ Zhongju Liao, *Environmental Policy Instruments, Environmental Innovation and the Reputation of Enterprises*, 171 J. Cleaner Prod. 1111, 1115–6 (2018).

general, should not be overstated without further investigation into the specific details of each legal system. Indeed, in their traditional form, legal liability systems and other environmental rules are external controls on the behavior of market actors. Whether such rules can trigger changes in the internal organization of companies, so that they adopt their own internal controls and thus genuinely internalize environmental interests, deserves special consideration. Ong identified two major trends among several legal systems across the world that “generate pressure for the *internal* reform of traditional corporate governance law”⁵⁷ but also create “a discernible impact on corporate governance”⁵⁸ itself. These trends are as follows: first, the expansion of the scope and nature of the companies’ environmental legal liability beyond the traditional fault-based approach to include strict liability, as well as beyond the company itself to include directors, company officers and even shareholders; and second, the introduction of a legal obligation to adopt a corporate environmental management system.⁵⁹ It is based on these aspects that the legal liability systems for environmental infractions in China and Brazil are analyzed and their potential to influence companies’ green governance is assessed. So far, in China and Brazil, as in the vast majority of other legal systems, the incorporation of environmental interests directly into corporate law, including through the explicit inclusion of the need to protect such interests within the scope of directors’ duties, has not taken place yet.

4. The Scope and Nature of Legal Liability for Environmental Infractions and the Obligation to Adopt a Corporate Environmental Management System

4.1. The Scope and Nature of Legal Liability for Environmental Infractions

4.1.1. Administrative Liability

In general, Chinese environmental law does not extend administrative liability for environmental infractions to directors or other members of the company. However, in some instances, directors and arguably even supervisors, as well as employees directly responsible for an infraction, may be punished with administrative detention that may last up to fifteen days. This is in accordance with the Environmental Protection Law, Article 63, which determines liability for “the person directly in charge and other personnel directly responsible” in instances where the company refuses to make corrections on specified violations even after receiving an order to do so. Moreover, the same legal provision specifies an instance (item (3)) where this kind of liability is imposed even before a directive to make corrections is issued.

⁵⁷ David M. Ong, *The Impact of Environmental Law on Corporate Governance: International and Comparative Perspectives*, 12(4) Eur. J. Int’l L. 685, 692 (2001).

⁵⁸ *Id.* at 707.

⁵⁹ *Id.* at 691–716.

This occurs when an entity attempts to evade regulation by discharging pollutants through concealed drains, seepage wells or pits, perfusion, tampering with or forging monitoring data, abnormally operating facilities that are used for prevention and control of pollution, etc.

In Brazil, administrative liability extends to both the company and the physical persons directly or indirectly responsible for the infraction. The foundation of this norm is Article 225, section 3 of the Brazilian Constitution; however, it was more specifically materialized by Law No. 9.605 of 12 February 1998⁶⁰ Article 3, which specifies that the administrative, civil or criminal liability of the juridical person does not exclude that of the physical person. This means that directors and other senior officers who, by action or omission of their company duties, directly or indirectly commit an environmental offense, may be subject to administrative liability. This is further supported by the definition of “polluter” in Law No. 6.938 of 8 August 1981⁶¹ Article 3(IV), which covers both physical and legal persons who “directly or indirectly” are responsible for an activity that causes environmental degradation.

4.1.2. Civil Liability

With regard to civil liability, Article 64 of the Environmental Protection Law (China) refers to the Tort Liability Law (China)⁶² for rules on civil liability. However, as the Tort Liability Law (China) has been repealed by the newly approved Article 1260 of the Civil Code of the People’s Republic of China (C.C.), it is within the latter that the inquiry should take place. The C.C. establishes that an employer who is a legal entity shall assume tort liability for harms caused by an employee in the execution of his work duty, although retaining the right to seek reimbursement in situations where the employee caused the harm intentionally or by gross negligence (Art. 1191). Thus, only the company is liable to third parties for environmental damages. According to Article 149 of the Company Law of the People’s Republic of China,⁶³ directors, supervisors and senior officers who violate laws, administrative regulations or company statutes are liable for compensation to the company for damages caused to it. This provision appears to be in line with the provisions of the C.C.; thus, in

⁶⁰ Lei No. 9.605, de 12 de Fevereiro de 1998, Diário Oficial da União [D.O.U.] de 13.2.1998, rectified 17.2.1998 (hereinafter, Law on Environmental Crimes).

⁶¹ Lei No. 6.938, de 31 de Agosto de 1981, Diário Oficial da União [D.O.U.] de 2.9.1981 (hereinafter, Environmental Policy Law).

⁶² Zhonghua Renmin Gongheguo Qinquan Zeren Fa (中華人民共和國侵權責任法) [Tort Liability Law] (promulgated by the Standing Committee of the National People’s Congress, 26 December 2009, effective 1 July 2010). This law was repealed by the Zhonghua Renmin Gongheguo Minfa Dian (中華人民共和國民法典) [Civil Code] (promulgated by the Standing Committee of the National People’s Congress, 28 May 2020, effective 1 January 2021), (hereinafter, C.C.).

⁶³ Zhonghua Renmin Gongheguo Gongsì Fa (中華人民共和國公司法) [Company Law] (promulgated by the Standing Committee of the National People’s Congress, 29 December 1993, effective 1 July 1994, last revised 26 October 2018, effective 26 October 2018).

a specific case, it is likely that compensation to the company will only be granted where there was intent or gross negligence proven. The Company Law also appears to establish direct liability of directors and senior officers of the company (but not of supervisors) to the shareholders for acts that infringe the interests of the latter (Art. 152). The law does not provide a clear rule as to whether the civil liability of directors and senior officers toward the company is cumulative with their civil liability toward shareholders. Notwithstanding, it is submitted that there should only be direct responsibility for directors and senior officers toward shareholders in cases where the damages suffered by the latter cannot be covered by the responsibility assumed by the former toward the company or where the damages were suffered “directly” by the shareholders concerned. Otherwise, there would be a situation in which shareholders or the company would be unjustly enriched in any event, despite not being directly liable toward third parties, company directors, supervisors or senior officers.

The approach adopted by the Brazilian legal system is different, as both the company and physical persons who are “authors, co-authors or accomplices” can be found liable toward third parties.⁶⁴ As the legal provisions providing for this solution are the same as those for administrative liability, reference is made, with the necessary adaptations, to the considerations made above regarding administrative liability. It is important to note, however, a fundamental difference between the approaches taken by the Chinese and Brazilian legal systems regarding the civil liability of directors and senior officers. While in China, directors and senior officers only bear civil liability toward the company or shareholders for acts that cause damages to them, in Brazil, besides such liability toward the company or shareholders,⁶⁵ directors and senior officers may also be liable toward third parties for acts that produce environmental damages.⁶⁶

In both China and Brazil, civil liability for environmental pollution covers situations of actual harm as well as situations in which there is a danger of harm. In the Chinese legal system, this can be deduced from the forms of assumption of legal liability established in Article 179(3) of the C.C., which include the “elimination of danger” (also Art. 1167). In the Brazilian legal system, this can be extracted, *inter alia*, from the broad definition of pollution, which includes, *inter alia*, “degradation of the environmental quality resulting from activities that directly or indirectly undermine the health, security and the well-being of the population.”⁶⁷ Cementing this position is the fact that all kinds of pollution are subject to civil liability, as the law does not contain exceptions.⁶⁸

⁶⁴ Law on Environmental Crimes, Art. 2.

⁶⁵ See Lei No. 6.404, de 15 de Dezembro de 1976, Diário Oficial da União [D.O.U.] de 17.12.1976 (Supl.), Arts. 158 and 159.

⁶⁶ Law on Environmental Crimes, Art. 3.

⁶⁷ Environmental Policy Law, Art. 3, III, a).

⁶⁸ Constitution, Art. 225, sec. 3; Environmental Policy Law, Art. 14, sec. 1.

Regarding the so-called “environmental damage *per se*,” that is, damages to the environment that do not violate directly individual or collective rights and interests that are protected by law, the C.C. 2020 introduced an express provision (previously lacking in the legal system) protecting “the ecology and the environment” against damage, as well as rules on specific aspects that compensation and remediation shall cover (Arts. 1234 and 1235). In the Brazilian legal system, environmental damage *per se* is also addressed, as any kind of pollution is subject to civil liability, including activities that “adversely affect biota; affect the aesthetic or sanitary conditions of the environment; or emit matter or energy in violation of established environmental standards.”⁶⁹

In general, the civil liability systems in both China and Brazil are, as a rule, based on fault. However, for cases involving environmental pollution, a system of strict liability applies in both jurisdictions.⁷⁰ It is important to mention that in Brazil, this rule enjoys constitutional status,⁷¹ and thus, no infra-constitutional law, be it federal, state or municipal, can overturn it. This clearly shows that the rule enjoys an especially high status in the legal system. In the Chinese legal system, the burden of proof of not being civilly liable, of mitigated liability or of the absence of causation between the action and the harm lies with the actor.⁷² The Brazilian legal system adopts a double-standard approach containing different rules for collective suits and for individual suits. For collective lawsuits, the burden of proof of causality between the action and the damage can be more readily switched in favor of the claimant, as long as the requirements of verisimilitude of the claim or hypo-sufficiency of the claimant are met.⁷³ For individual suits, the general rules of the Brazilian Civil Procedural Code (C.P.C.)⁷⁴ Article 373 apply. Under these rules, the claimant would be required to prove the causal link between the damage and the activity of the defendant.⁷⁵ Nevertheless, the 2015 C.P.C., unlike its 1973 predecessor⁷⁶ contains a rule on a “dynamic allocation” of the burden of proof

⁶⁹ Environmental Policy Law, Art. 3, III, c), d) and e).

⁷⁰ C.C., Art. 1229 (see also Art. 1233) (China); Constitution, Art. 225, sec. 3 (Braz.); and Environmental Policy Law, Art. 14, sec. 1 (Braz.).

⁷¹ Constitution, Art. 225, sec. 3.

⁷² C.C., Art. 1230.

⁷³ Lei No. 7.347, de 24 Julho de 1985, Diário Oficial da União [D.O.U.] de 25.7.1985 (on public civil suits), Art. 21, which extends the rules contained in Title III of the Código de Defesa do Consumidor (C.D.C.) [Consumer Protection Code] to the “defense of collective and individual diffuse rights and interests, as appropriate.”

⁷⁴ Lei No. 13.105, de 16 de Março de 2015, Diário Oficial da União [D.O.U.] de 17.3.2015 [Civil Procedural Code].

⁷⁵ The first part of Article 373 reads: “The burden of proof lies with: I – the claimant, for facts constitutive of their right; II – the defendant, in relation to the existence of a fact that is impeditive, modifying, or extinctive of the rights of the claimant.”

⁷⁶ See Lei No. 5.869, de 11 de Janeiro de 1973, Diário Oficial da União [D.O.U.] de 17.1.1973, republished 27 July 2006.

(Art. 373, sec. 1), enabling the judge, in certain circumstances, to allocate the burden of proof differently from what the general rule states. Aside from the cases where the law so determines, the circumstances in which the judge can allocate the burden of proof differently are those where the party with the burden of proof faces an impossibility or great difficulty in producing such proof and those where the other party can more easily prove the opposite. Therefore, this rule would enable a case-by-case assessment and possibly shift the burden of proof of causality in individual environmental suits to the defendant. Nevertheless, some courts have accepted applications for shifting the burden of proof in certain cases if the requirements contained in Article 6 of the Consumer Protection Code (namely, verisimilitude of the claims or hypo-sufficiency of the claimant) are met and based on the Environmental Law principles of precaution, prevention and “polluter-pays,” thus analogically applying the same rules that govern the burden of proof in collective suits.⁷⁷ This interpretative approach is far from consensual, however, and other courts and authors have argued against it, claiming that unless there is a consumer relationship, the rules of the Consumer Protection Code cannot be extended to individual environmental suits and that shifting the burden of proof to the defendant would amount to assuming a rule of presumption of guilt on the part of the defendant as well as imposing unjust costs on the defendant where no causality is found.⁷⁸

4.1.3. Criminal Liability

In both the Chinese and Brazilian legal systems, in cases where a crime has been committed, liability can be borne by both the company and physical persons.⁷⁹ In China, the physical persons who can be subject to criminal liability in cases of environmental crimes involving a company are the people in charge of the company as well as the people directly responsible for committing the crime. In Brazil, besides the people directly responsible (which could include authors, co-authors and accomplices), directors and other senior officers listed, as well as legal representatives and auditors can be criminally liable if they failed to act when they could have to avert the crime from being committed.⁸⁰ Interestingly, the Supremo Tribunal Federal (S.T.F.), which is Brazil's top court on constitutional issues, as well as the Superior Tribunal de Justiça (S.T.J.), regarded as Brazil's top court on non-constitutional issues, have changed the previously prevailing interpretation on criminal liability of physical and

⁷⁷ Larissa Schmidt et al., *Inversão do ônus da prova no direito ambiental brasileiro*, 20 Revista Justiça do Direito 70, especially at 75–81 (2006).

⁷⁸ *Id.* at 74.

⁷⁹ Zhonghua Renmin Gongheguo Xingfa (中华人民共和国刑法) [Criminal Law] (promulgated by the Standing Committee of the National People's Congress, 1 July 1979, effective 1 January 1980, last revised 26 December 2020, effective 1 March 2021), Arts. 30 and 31 (China); Constitution, Art. 225, sec. 3 (Braz.); Law on Environmental Crimes, Arts. 2 and 3 (Braz.).

⁸⁰ Law on Environmental Crimes, Art. 2.

juridical persons by Brazilian courts.⁸¹ Previously, the interpretation was that it was necessary that a physical person be found responsible for an environmental crime in order for a juridical person to face criminal liability, based on the so-called “double imputation theory.”⁸² Under this approach, it would be impossible to charge a criminal offense exclusively against a juridical person without also charging a physical person responsible for the relevant facts. For instance, the S.T.F. was presented with a case in which the physical persons responsible for a four million-liter oil spill could not be identified (the accused were acquitted). Despite this, the S.T.F. determined that this was not an obstacle to holding the juridical person (Petrobras) criminally liable for the events.⁸³ This viewpoint was subsequently followed by the Brazilian Superior Court of Justice.⁸⁴ As per the information available to the authors, this legal issue has not yet been raised in Chinese courts. For Brazil, this new interpretation reduces the risk of impunity where, despite it being clear that a company is responsible for an environmental crime, it is not possible to identify for the purposes of criminal liability the physical persons responsible.

4.2. The Obligation to Adopt a Corporate Environmental Management System

The Environmental Protection Law of China expressly mandates that companies put in place an “environmental protection accountability system so as to identify the responsibilities of their persons-in-charge and relevant staff.”⁸⁵ Nothing more is established in this respect, thus leaving ample room for discretion to the companies to make their own decisions regarding issues such as the procedure of establishment, its operation and the composition of such a system. However, the implication of the legal mandate is that each company must define and allocate environmental protection responsibilities among its personnel, such as directors, supervisors and other employees. Besides ensuring that compliance with environmental regulations runs smoothly, this system enables the state to impose liability on the responsible parties

⁸¹ Although there is no rule of precedent and, as a general rule, the decisions of upper courts are not binding on lower courts in the Brazilian legal system, decisions made by the S.T.F. and the S.T.J. have a persuasive effect on other courts.

⁸² Reis Friede, *The Protection of the Environment in the Brazilian Supreme Federal Court: Analysis of Real Cases*, 10(3) *Semioses* 78, 85 (2016) (mentioning the position adopted, e.g., by S.T.J. in the case S.T.J., Recurso Especial No. 610.114/RN (2005), rel. Min. Gilson Dipp (17.11.2005), Superior Tribunal de Justiça Jurisprudência [S.T.J.J.] (June 6, 2021), available at <https://stj.jusbrasil.com.br/jurisprudencia/7179272/recurso-especial-resp-610114-rn-2003-0210087-0/inteiro-teor-12919587>).

⁸³ S.T.F., 1ª Turma (2013), Recurso Especial 548181/PR, rel. Min. Rosa Weber (6.8.2013), Supremo Tribunal Federal Jurisprudência [S.T.F.J.] (June 6, 2021), available at <https://stf.jusbrasil.com.br/jurisprudencia/25342675/recurso-extraordinario-re-548181-pr-stf>.

⁸⁴ S.T.J. (2016), Recurso Especial 1497787/SP 2014/0299600-2, rel. Min. Nefi Cordeiro (14.9. 2016), Superior Tribunal de Justiça Jurisprudência [S.T.J.J.] (June 6, 2021), available at <https://stj.jusbrasil.com.br/jurisprudencia/468080522/recurso-especial-resp-1497787-sp-2014-0299600-2>.

⁸⁵ Environmental Protection Law, Art. 42.

in cases of environmental infractions. Despite using different terminology, which appears to be narrower in its meaning than that of a typical mandate for a corporate environmental management system, in practice, the implication of adopting an environmental protection accountability system will be almost the same.

On the other hand, in Brazil, there is no legal obligation for companies to establish their own corporate environmental management systems. Nevertheless, in practice, many companies establish some sort of environmental management system that enables them to at least comply with the state's environmental regulations. Moreover, a significant number of companies (not only in Brazil but also in China and around the world) adhere to voluntary international standards such as those in the ISO 14001 series.⁸⁶

4.3. Discussion

The findings brought to light by the analysis of the Chinese and Brazilian systems of administrative, civil and criminal liability for environmental infractions reveal a persuasive side of those systems toward companies, and particularly toward directors and managers, as well as other senior officers, to incorporate environmental concerns into the governance of companies. Indeed, if a company wants to avoid liability for environmental infractions, it will put in place a governance and management system that will allow it to fulfill its environmental obligations. In fact, Chinese law already mandates that companies put in place an environmental protection accountability system, which, in practice, entails the adoption of a corporate environmental management system. Notwithstanding, when legal consequences affect not only the company as a legal person but also its directors and other senior officers, the impact of environmental regulations on companies' green governance is likely to be greater, at least up to the level required by such regulations. As one study has found and as logic suggests, command-and-control regulation, including legal liability systems, can drive eco-organization innovation,⁸⁷ which is the internalization of environmental concerns in a company's corporate governance. While Brazil lacks a legal mandate for companies to establish environmental management systems, the pressure from existing environmental legislation⁸⁸ and other relevant stakeholders, as well as an increased general environmental awareness, has resulted in the majority of companies adopting, nonetheless, some form of environmental management system.

As for the systems of legal liability for environmental infractions, it became clear that while the Chinese system favors, as a rule, exempting directors and senior

⁸⁶ See, e.g., Iuri Gavronski et al., *ISO 14001 Certified Plants in Brazil – Taxonomy and Practices*, 39 J. Cleaner Prod. 32 (2013); Guoyou Qi et al., *Diffusion of ISO 14001 Environmental Management Systems in China: Rethinking on Stakeholders' Roles*, 19(11) J. Cleaner Prod. 1250 (2011).

⁸⁷ Liao 2018, at 1115.

⁸⁸ For example, the scope of acts subject to criminal liability is particularly broad compared to most jurisdictions, including China (see Law on Environmental Crimes, Arts. 29–61).

officers from administrative liability and civil liability toward the state and third parties, respectively, the Brazilian system favors a different approach, i.e. extending administrative and civil liability to directors and senior officers. In both legal systems, criminal liability can be borne by both physical and juridical persons. As a side note, it is worth mentioning that, differently from what happens in corporate law, where the discussion revolves around extending or not extending civil liability to physical persons (*maxime*, directors) who work for the company, in criminal law, the discussion revolves around extending or not extending criminal liability to juridical persons, as the traditional belief that juridical persons were not capable of criminal behavior (and thus were not subject to criminal liability) and that only physical persons could bear such liability is increasingly being questioned.

The different approaches adopted by China and Brazil appear to reflect two different philosophies on the liability of directors and corporate governance. On one hand, there is the approach which contends that liability should not be extended to directors since doing so may cause them to act in a defensive manner and prevent them from taking risks, which could be detrimental for the survival and development of the company. Moreover, it may “unduly shift the risk of doing business to directors and officers.”⁸⁹ On the other hand, there is the approach which considers that establishing a system of liability for directors is beneficial because it constrains their behavior, inducing them to be diligent and avoid making decisions that may put at risk the survival and development of the company.⁹⁰ Although at first glance it may appear that the Chinese legal system embraces the first approach, a more comprehensive view reveals that, in fact, it adopts a mixed approach. It generally exempts company directors from administrative liability (with exceptions) and civil liability toward third parties, while subjecting them to liability toward the company and its shareholders. On the other hand, the Brazilian legal system clearly favors the approach of imposing liability on directors (both toward third parties and toward the company and its shareholders).

Despite being uncommon, the nature of administrative liability imposed on directors and those directly responsible for committing the relevant infractions is particularly severe, namely administrative detention, which consists of a deprivation of liberty. In the majority of jurisdictions, including Brazil, this type of sanction is only applicable in criminal proceedings. In China, however, it has been an important governance tool outside of criminal law since the foundation of the People’s Republic of China in 1949, although it has evolved in its functions, range of applicability and procedure to adapt to different historical contexts.⁹¹ It serves several functions,

⁸⁹ Martin Petrin, *The Curious Case of Directors’ and Officers’ Liability for Supervision and Management: Exploring the Intersection of Corporate and Tort Law*, 59(6) Am. U. L. Rev. 1661, 1663 (2010).

⁹⁰ On the American context, see David Rosenberg, *Supplying the Adverb: The Future of Corporate Risk-Taking and the Business Judgment Rule*, 6(2) Berkeley Bus. L.J. 216 (2009).

⁹¹ On the use and reform of administrative detention over time in China, see, e.g., Sarah Biddulph et al., *Detention and its Reforms in the PRC*, 2(1) China L. & Soc’y Rev. 1 (2017).

including “to effect social transformation”⁹² and to “signal social, economic, and political values.”⁹³ As environmental protection and the construction of an “ecological civilization” are now top priorities of the State, on the same level as social stability and economic growth,⁹⁴ administrative detention is used as a tool to assist in the pursuit of those objectives. Notwithstanding, the use of administrative detention has long been controversial, and as China progressively adapts its legal system to the principles of the rule of law, it has increasingly been subject to debate and legal controls to avoid abuse of power by public security bodies.⁹⁵ It is curious to note that some of the offenses subject to administrative detention in China, such as those related to evading regulation by discharging pollutants through concealed mechanisms, and even some that are punishable with lower sanctions only applicable to the company, such as construction without an environmental impact assessment, would be prosecuted criminally in Brazil. Thus, one cannot simply conclude that one system is harsher than the other with regard to punishing environmental infractions without looking into the details, case by case. Moreover, both systems (of administrative detention and of criminal prosecution) have their advantages and disadvantages. While the use of administrative detention has the advantage of being swift and easier to administer, it has the disadvantage of only imposing minor sanctions compared to criminal law sanctions, as well as the criticism of not guaranteeing due process and being difficult to reconcile with the principles of the rule of law.

Regarding the burden of proof of the existence or non-existence of causality, the issue appears to have been settled in China with the adoption of a general rule of shifting the burden of proof to the defendant, irrespective of the type of claims involved. The Chinese legislator opted for a straightforward rule, under which the burden of proof is automatically shifted where environmental claims are involved. This, *inter alia*, ensures a higher level of certainty and uniformity in the application of the law. Differently, the Brazilian system is more complex in this aspect, as it adopts different rules for collective suits involving ecological damage and for individual suits involving primarily private interests. While the shift of the burden of proof can be more easily materialized in collective suits, it is not an automatic shift, as the judge must verify the verisimilitude of the claim or the hypo-sufficiency of the claimant to

⁹² Biddulph et al. 2017, at 2.

⁹³ *Id.*

⁹⁴ See, e.g., Alex L. Wang, *The Search for Sustainable Legitimacy: Environmental Law and Bureaucracy in China*, 37(2) Harv. Envtl. L. Rev. 365, 399 (2013); Hu Jintao, *Hold High the Great Banner of Socialism with Chinese Characteristics and Strive for New Victories in Building a Moderately Prosperous Society in All Respects*, Report to the Seventeenth National Congress of the Communist Party of China, 15 October 2007, China.org.cn (June 6, 2021), available at <http://www.china.org.cn/english/congress/229611.htm>; Decision on Some Major Issues Concerning Comprehensively Deepening the Reform (adopted at the Third Plenary Session of the 18th Central Committee of the Communist Party of China, 12 November 2013); Constitution of the People's Republic of China, Preamble; Chinese Environmental Protection Law, Art. 1.

⁹⁵ See, e.g., Sarah Biddulph, *Legal Reform and Administrative Detention Powers in China* 331–50 (2007).

authorize such a shift. On the other hand, it is relatively more difficult to materialize the shift in individual suits, as there is no special rule allowing for such a shift and only in exceptional circumstances is such a shift allowed. In any event, the complexity of the Brazilian approach, while arguably, enabling the judge to make a more equitable decision when considering the circumstances of each individual case, leaves room for disparities and a lack of uniformity in the application of the law.

As a final point, it is worth noting that as with any legal rules, enforcement mechanisms for legal liability rules are indispensable in ensuring their effectiveness. This is a particularly serious challenge affecting many emerging countries, including China and Brazil. This article does not explore enforcement-related aspects of legal liability in either of the two countries. This is an area that deserves a special, separate study due to its many complexities, which cannot be fully addressed here.

It can be noted, however, that some of the commonly mentioned enforcement challenges of environmental regulation in China include local protectionism and selective implementation of laws and regulations, underfunded and understaffed institutions, the insufficiency or inadequacy of procedural tools to enforce substantive norms and the lack of independence of courts.⁹⁶ In recent years, a massive effort has been undertaken to address these issues, including through institutional reforms that include the centralization of some aspects of environmental governance to curb the problem of local protectionism,⁹⁷ the introduction of environmental courts, the establishment of environmental public interest litigation (both civil and administrative) and the expansion of the list of subjects who have the standing to file public interest litigation suits (now including non-governmental organizations).⁹⁸

While it is common to hear about lax enforcement of environmental laws in Brazil, in most instances such comments typically mention corruption, institutional weakness and a lack of political will as the main issues.⁹⁹ Other major issues that negatively impact enforcement in China, such as local protectionism, are hardly heard of in Brazil, possibly because of the adoption of the “concurrent competence” model for the distribution of legislative powers between the Union, states and the Federal District.¹⁰⁰ Procedural

⁹⁶ See *supra* note 23 and the bibliography therein.

⁹⁷ See, e.g., Kostka & Nahm 2017; Benjamin van Rooij et al., *Centralizing Trends and Pollution Law Enforcement in China*, 231 China Q. 583 (2017); Ma Yun, *Vertical Environmental Management: A Panacea to the Environmental Enforcement Gap in China?*, 1(1) Chinese J. Envtl. L. 37 (2017).

⁹⁸ See, e.g., Alex L. Wang & Jie Gao, *Environmental Courts and the Development of Public Interest Litigation in China*, 3(37) J. Ct. Innovation 37 (2010); Carpenter-Gold 2015; Qing & Mayer 2017; Chu 2018; Zhang Minchun & Zhang Bao, *Specialized Environmental Courts in China: Status Quo, Challenges and Responses*, 30(4) J. Energy & Nat. Resources L. 361 (2012); Rachel E. Stern, *The Political Logic of China's New Environmental Courts*, 72 China J. 53 (2014).

⁹⁹ See, e.g., Luca Tacconi et al., *Law Enforcement and Deforestation: Lessons for Indonesia from Brazil*, 108 Forest Pol'y & Econ. 1, 3–5 (2019).

¹⁰⁰ See *supra* note 23.

tools for the enforcement of substantive norms are also fairly advanced and have been in place for a long time, while the courts have also been known to produce innovative, pro-environment decisions, particularly the S.T.J.¹⁰¹

Clearly, both countries face significant challenges, although distinct, at the enforcement level, and this may severely constrain the ability of their legal liability regimes for environmental infractions to achieve their maximum potential in influencing companies' green governance.

Conclusion

This article conducted a comparative study of the systems of legal liability for environmental infractions in China and Brazil with the aim of identifying common aspects and differences, which may light the way to a more effective and well-informed intra-BRICS legal cooperation on environmental matters and enrich their sustainable development cooperation agenda. As some of the functions of comparative law suggest, it is hoped that this study contributes to a better understanding of both countries' approaches, triggers a critical reflection on both countries' legal solutions in light of their own circumstances and inspires a debate for creative solutions in future legal reforms. Such reflection, debate, cooperation and potential legal reforms should be aligned with global objectives and country commitments in the fight against climate change and global warming, including the goal of achieving carbon neutrality.

The study found several similarities between the studied legal systems, including the adoption of strict civil liability, the establishment of liability for environmental damages *per se* (which arguably makes the environment a standalone stakeholder in companies' operations), the extension of legal liability to directors and senior officers, although in slightly different terms and the extension of criminal liability beyond physical persons to also cover legal persons.

Nevertheless, differences were also found. The first relates to how liability is extended beyond the company to affect directors and other senior officers. China adopts an approach that shields directors and senior officers from administrative (with exceptions) and civil liability toward the state and third parties, respectively, while Brazil fully extends such liability to directors and senior officers. The second relates to the rules on the burden of proof of causality between a market actor's activity and the damage caused. In China, the burden to prove the absence of such causality (or the existence of mitigating circumstances) lies with the actor. Differently, in Brazil, there is a double-standard rule: in collective suits, the burden of proof can be shifted if the requirements of verisimilitude of the claim or hypo-sufficiency

¹⁰¹ See, e.g., Nicholas S. Bryner, *Brazil's Green Court: Environmental Law in the Superior Tribunal de Justica (High Court of Brazil)*, 29(2) Pace Env'tl. L. Rev. 470 (2012).

of the claimant are met; in individual suits, the burden of proof in principle lies with the claimant, although under the “dynamic allocation” rule, the judge may exceptionally shift such a burden. The third difference relates to an aspect that is not strictly concerned with legal liability regimes yet has been identified as another major trend across the world in legal tools that are used to pressure companies to internalize environmental concerns into their governance, namely the legal obligation of adopting a corporate environmental management system. On this issue, while the Chinese legal system has a mandate that is, in effect, close to a mandate to implement a corporate environmental management system, the Brazilian legal system has no such mandate. Nevertheless, in practice, many companies voluntarily adopt such a system as they become more environmentally conscious and because it enables them to comply with other environmental regulations as well as address the demands of other stakeholders.

Despite the fact that the systems of legal liability for environmental infractions have the potential to be effective, their full potential can only be materialized with effective enforcement rules and institutions. In this area, it was noted that both China and Brazil still face significant challenges; however, a more comprehensive assessment of how their current enforcement systems may impact companies’ green governance deserves a special, separate study.

Finally, the different legal solutions adopted by China and Brazil are, in part, a reflection of their rich histories and were shaped by their respective economic, social, political and institutional contexts. An example is the use of administrative detention in China, which may be an indication of a continued preference for administrative enforcement due to its flexibility and swiftness, while, for example, the extended list of environmental crimes and the long-standing, relatively strong system of collective suits in Brazil may be an indication of reliance or confidence in its judicial system. Consequently, while this diversity of contexts and backgrounds (not only between the two countries studied but among all the BRICS members) may enrich the pool of potential solutions and approaches in future legal reforms and the academic debates on intra-BRICS legal cooperation, it will always be important to take into consideration the relevant contexts of the legal solutions.

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Information about the authors

Dan Wei (Macau, China) – Full Professor and Associate Dean, Faculty of Law, University of Macau (E32 Da Universidade Ave., Taipa, Macau, China; e-mail: danwei@um.edu.mo).

Ângelo Patrício Rafael (Macau, China) – Assistant Professor, Faculty of Business and Law, University of Saint Joseph (14-17 Marginal da Ilha Verde St., Macau, China; e-mail: angelo.rafael@usj.edu.mo).