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Research article

The use of administrative sanctions to prevent environmental damage in impact assessment follow-ups



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ABSTRACT

Scholars have long been highlighting the value of administrative sanctions in improving environmental policy enforcement. However, few studies have evaluated how such sanctions are implemented, particularly in the context of environmental impact assessments (EIA) and their respective follow-up programs. The main objective of this article was to evaluate how administrative sanctions have been used in EIA follow-ups, using the Brazilian state of Minas Gerais as the empirical context. More specifically it tried to understand what have been the main triggers, frequency, nature and financial values of the sanctions issued to noncompliant mining projects operating under the conditions of environmental licenses. First, through literature reviews, the study characterized the institutional and regulatory framework in which administrative sanctions are applied. Content analyzes of 29 infraction processes further revealed that lump sum fines are the preferred option of administrative sanction in EIA follow-ups. The analysis also revealed that the fines could be perceived as disproportionally small if one considers the size and financial power of non-compliant companies. The great majority of the fines were paid by developers: a fact that contradicts previous empirical findings and anecdotal evidence in Brazil. Overall, the study suggests that the impact of administrative sanctions in corporate behavior, while unclear, is likely small. The study concludes by discussing practical and academic implications.

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1. Introduction: Brazil's worst environmental disaster as a reminder of the importance of administrative sanctions in EIA follow-ups

On November 5th' 2015, Brazil witnessed the collapse of the Fundão Tailings Dam, an event that has been reasonably described as the country's worst environmental disaster (Escobar, 2015). About 32 million cubic meters (Morgenstern et al., 2016) of iron ore slurry flooded down the Doce River basin, killing 19 people and severely impacting almost 2000 ha of environmentally protected areas and numerous sensitive marine habitats (IBAMA, 2016; Miranda and Marques, 2016; SEDRU, 2016). The dam was part of Samarco S.A.'s iron mining complex, which is located in Mariana, one of the most traditional mining towns of the state of Minas Gerais. While the causes of the collapse are still being debated, they are likely a result "of a chain of events and conditions" (Morgenstern et al., 2016, p. ii) that involved both private

companies (Garcia et al., 2017) and government regulators.

The iron mining complex and its tailings dams operated under a web of mandatory, command-and-control environmental regulations. Among the most relevant regulations in Minas Gerais state are the ones related to its environmental impact assessment system (EIA). As Dias et al. (2017, p. 1) noted, "one could argue that the dam's geotechnical flaws would not have occurred if the EIA had worked in the first place. (...) If it had been properly implemented in the Samarco mining site, the likely risks and consequences of a dam failure would have been properly identified, managed, and prevented". A recent police investigation corroborates this argument, as it identified several flaws in the implementation of the dam's previously planned EIA follow-up activities and programs (Polícia Civil, 2016).

The term EIA follow-up, as Morrison-Saunders and Arts (2004, p. 3) point out, is "an umbrella term for various EIA activities, including: monitoring, auditing, ex-post evaluation, post-decision analysis and post-decision management". Responsibilities over these activities are shared by three key stakeholder groups: proponent/developer, impacted communities, and regulators

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(Morrison-Saunders et al., 2001). Among the most relevant responsibilities of government regulators are inspections, surveillance, enforcement and prosecution of offences for noncompliance.

The Fundão Dam collapse revealed that the state government, along with other actors, failed to ensure regulatory compliance with the EIA follow-up activities of the mining site. Earlier inspections and the use of administrative sanctions for noncompliance with the environmental licenses' conditions, for example, could have helped to prevent the tragedy. It is, nonetheless, hard to tell if that government surveillance failure was the result of a localized or of a systemic problem. For years, scholars have claimed that Brazilian environmental agencies have had weak capacity to enforce environmental policies (Hochstetler, 2002; Kirchhoff, 2006; McAllister, 2008; Rooij and McAllister, 2014). Empirical evidence to such claims are, however, scarce and often focused on specific sectors of the economy, such as hydroelectricity generation. Administrative sanctions, as opposed to criminal enforcement sanctions, are not frequently publicized, and thus rarely evaluated. While there have been many studies about the effectiveness of EIA follow-ups, very few have addressed the use of administrative sanctions in improving corporate behavior. This study aimed at contributing to filling this knowledge gap.

The main objective of this article was to evaluate how administrative sanctions have been used in EIA follow-ups of large mining projects in Brazil. More specifically it tried to understand what have been the main triggers, frequency and financial values of the fines environmental infraction notices issued to noncompliant Brazilian mining projects operating under the conditions of environmental licenses. Findings from this study, although based on Brazilian empirical evidence, are likely to be relevant to international scholars and policy-makers interested in the general topic of environmental policy enforcement, particularly when related to the impact assessment of large mining operations. As discussed further on in this article, administrative sanctions have long been studied in the field of environmental law, economics, and political science; but they are rarely addressed in the context of EIA follow-up.

The article proceeds in five sections, including this introduction. The next section provides a background on administrative sanctions, emphasizing its use in EIA follow-up. Section three presents the methodology used to collect longitudinal empirical evidence in a sample of large mining projects in Minas Gerais state. The fourth section presents the main findings and discusses their implications. Section five finally draws concluding remarks and points out future avenues of research.

2. Environmental administrative sanctions: a fundamental tool to enforce compliance with environmental policies

The world's growing environmental problems are driving the emergence of numerous mandatory environmental policies. Organizations worldwide are subject to an ever-increasing number of environmental regulations that affect not only their internal activities but also their products, services, procurements and strategies. However, as Heyes (2000, p. 7) pointed out, "as the stringency of those regulations has increased so too has the incentive for noncompliance and the need to enforce". Enforcement plays a key role in the success of environmental regulations. Yet, for decades, scholars have been debating the various barriers to an "effective" enforcement. Economists, for example, have been studying the economic factors that may drive noncompliance (e.g. Heyes, 2000; Jonathan M. Karpoff et al., 2005; Nyborg and Telle, 2006; Seroa da Motta, 2006; Shimshack, 2014; Shimshack and Ward, 2008). Political scientists and law scholars have also been studying the many issues that affect environmental policy enforcement, such as regulatory design, competition with voluntary policies, political will, budget limits, among many others (e.g. Ackerman, 1985; de Oliveira, 2003; Faure and Svatikova, 2012; Wessels et al., 2015). In this vast literature, penalties or sanctions for noncompliance are often highlighted as an essential element of effective policy enforcement. As shown in Table 1, a variety of administrative, civil and/or criminal sanctions can be applied to noncompliant organizations or individuals.

Many countries, like Brazil, adopt a combination of administrative, civil, and criminal sanctions. The pros and cons of each type of sanction have long been debated. Faure and Svatikova (2012, p. 253) point out that the fact that "(...) administrative proceedings are less strict and more informal than criminal proceedings suggests that the imposition of administrative sanctions is a relatively cheaper alternative", thus "(...) in case of environmental violations, it is cost-effective to complement criminal law enforcement by administrative law rather than to allow for a single (criminal) sanctioning instrument". In a recent paper, Blondiau et al. (2015, p. 12) corroborated this argument, arguing that "the overall picture emerging from these developments is a move towards combined criminal-administrative enforcement systems". According to Ogus and Abbot (2002), administrative sanctions are often framed as a base layer in the "sanctions pyramid", that is, they are often considered a first option that could escalate to the legal prosecution of criminal offenses.

Administrative sanctions, simply put, "are penalties imposed by

Table 1Types of administrative, civil and criminal sanctions for non-compliance with environmental regulations.

Types of sanction	Administrative	Civil	Criminal
Warning letter and/or verbal caution	х	х	
Name and Shame		x	
Mandatory environmental audit	X	x	
Compensation orders		x	X
Fines (lump sum)	X	x	X
Fines (daily)	X	x	X
Repair or clean-up of damage in situ	X	x	
Repair or clean-up elsewhere	X	x	
Performance of environmental services	X	x	x
License amendment, suspension or revocation	X	x	
Dismissal or Temporary suspension of rights			X
Imprisonment			X
Partial or total suspension of activities			X
Absorption of illegal gain			X

Source: Based on examples of sanctions previously identified in Brazil, North America and the European Union (A&L Goodbody Ltd. and ERM Environmental Consulting, 2009; Brito et al., 2005; Faure and Heine, 2000).

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