Regulatory politics and hybrid governance: the case of Brazil's Amazon Soy Moratorium

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ABSTRACT

This paper analyses the unique hybrid governance of Brazil's Amazon Soy Moratorium (ASM) in regulating soybean production in the Amazon, where private actors have created a state-like ban on commodity production to reduce deforestation that goes beyond national law. Despite existing research regarding impact assessment, the study aims to fill knowledge gaps in explaining the ASM's alliance-building processes, its longstanding maintenance, and its potential for regulatory replicability. Informed by the application of the Baptist and Bootlegger political economic theory of regulation and empirical data from qualitative interviews and document analysis, we provide an actor-centered explanation of the design, adoption, and maintenance of the ASM over a 19-year timeframe. Our results show how NGOs and businesses had opposite motivations and negotiated their roles to form a successful strategic alliance, reinforced by the inclusion of third parties (e.g., technical and governmental actors) to assist in its monitoring and transparency. Developed as an exclusive private market regulation, the ASM agreement, however, relies on a policy mix: private and public actors play a role in implementation, which includes assisting and relying on existing public policies, instruments, and official data. This policy mix was necessary for the ASM's noteworthy hybrid and long-term governance. Its successful formation in 2006 was enabled by factors including an economic crisis, foreign pressure linked with national enforcement failure, and, most importantly, the Amazon scope. Our analysis shows who gains or loses from the regulatory design. Furthermore, we shed light on the biggest regulatory spillover, to the Cerrado, where the failed attempt at replicability emphasizes the regulatory uniqueness of the ASM. The study concludes with a discussion of what will help or hinder the ASM's longevity, providing lessons for similar regulatory mechanisms on forest-risk agricultural production, such as EU's recent Regulation on Deforestation-free Products.

1. Introduction

In 2006 the Amazon Soy Moratorium (ASM) was signed in Brazil by major soy industry players and environmental NGOs, led by Greenpeace (Piatto et al., 2016). The ASM is a unique hybrid governance case of forest-risk commodity regulation where private actors have created a state-like ban on soy production in the Amazon; based on zero-deforestation reasoning, it goes beyond national laws. Despite existing research regarding impact assessment, this study aims to fill knowledge gaps in explaining the ASM's alliance-building processes, its long-standing maintenance, and its potential for regulatory replicability.

Soy is one of Brazil's main agricultural products and contributes to more than 10 % of the country's total exports (Richards et al., 2015). Soybean production has been recognized as the second biggest driver, after cattle ranching, of deforestation and land conversion of forests and

other wooded lands, especially in the Amazon and Cerrado biomes (Azevedo et al., 2015; Rausch and Gibbs, 2016; Garcia et al., 2019). When observing trade flows, nearly 80 % of soy production worldwide is concentrated in three countries: Brazil, the United States (US), and Argentina (Fern, 2017). The global soy supply chain engages all corners of the world, revealing global market interdependence (Fern, 2017). Recent literature refers to this interdependence as "supply chain stickiness" – the stability in trading relationships between supply chain actors, defined by factors such as economic incentives, institutional enablers and constraints, social and power dimensions, and biophysical and technological conditions (Reis et al., 2023).

Since the 2000s there is a growing concern surrounding forest-risk agricultural commodities. Such goods—notably beef, cocoa, palm oil, and soybean—are directly associated with deforestation and land use conversion, leading causes of global environmental issues such as

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climate change and biodiversity loss (Henders et al., 2015; Pendrill et al., 2019). Various governance mechanisms, especially private regulation and voluntary standards, have been developed to regulate such production and trade, along with a growing number of studies analyzing these mechanisms (Garrett et al., 2019; Grabs et al., 2021).

Private regulation, also known as non-state governance, is highly debated in the environmental governance scholarship (Cashore et al., 2021; Pattberg, 2005). Usually, private regulation of transnational business operations is conceptualized to be designed, implemented, and enforced mainly by the direct participation of private actors such as business companies, industry associations, non-governmental organizations (NGOs), civil society organizations, private auditors, and other non-state actors alike, without a direct role of state actors (Abbott and Snidal, 2021; Auld et al., 2009). The literature describes different forms of private regulation that range from industry self-regulation (e.g., codes of responsible business conduct, corporate social responsibility, voluntary zero-deforestation business commitments) to non-state market-driven governance by NGOs and companies (e.g., eco-labeling, sustainability certification schemes) (Auld et al., 2009; Cashore, 2002; Eberlein et al., 2014; Schouten and Glasbergen, 2011; Sotirov et al., 2020).

Despite its innovative design compared to the traditional use of public policy, private regulation of supply chains has shown persisting issues regarding regulatory ineffectiveness, explained mainly by its voluntary nature (Lambin et al., 2018; Garrett et al., 2019; Miranda and de Oliveira, 2023). The literature recommends instead a hybrid environmental governance of supply chains based on a mixture of private and public regulation (Lambin et al., 2014; Lambin and Furumo, 2023; Sotirov et al., 2022). According to Lemos and Agrawal "hybrid forms of environmental governance is based upon the recognition that no single agent possesses the capabilities to address the multiple facets, interdependencies, and scales of environmental problems that may appear at first blush to be quite simple" (Lemos and Agrawal, 2006, p. 311).

Hybrid governance involves both state and non-state actors engaging in decision-making procedures and resource exchange (e.g., information, knowledge, finance) (Börzel and Risse, 2010). It combines elements (e.g., rules, tools, instruments, initiatives) from both private and public regulation in innovative and effective ways, creating a space for these elements to explicitly interact with and reinforce each other, fusing soft and hard law approaches (Lambin et al., 2014; Pirard et al., 2023). To date, case studies on hybrid environmental governance of forest and agricultural supply chains have primarily examined how state regulation, mainly on timber legality and in the European Union (EU), delegates certain regulatory tasks to private regulation (e.g., (un) acceptance of third-party sustainability certification schemes as legal compliance) (Berning and Sotirov, 2023; Dieguez and Sotirov, 2021; Kramarz and Park, 2019; Moser and Leipold, 2021; Stattman et al., 2018). Only a few studies investigate hybrid governance of forest-risk agricultural supply chains in developing countries, for example, Pirard et al.'s (2023) study of Gabon's mandatory Forest Stewardship Council certification.

The ASM is partly a private governance mechanism as it primarily rests on a voluntary strategic cooperation between NGOs and businesses, which is a key feature of non-state market-driven environmental governance (Cashore, 2002). Yet it also uses command-and-control-like rules such as a moratorium and market disincentives, all typically falling under the category of "tools of government" (Abbott and Snidal, 2021; Börzel and Risse, 2010; Hood, 1983). Furthermore, it is supported by state enforcement capacities (particularly data provision) (Gibbs et al., 2015; Lambin et al., 2014). While it has been nearly 20 years since the ASM was established, how and why this hybrid governance between private and public actors works and maintains itself is still poorly understood.

The main body of academic work on the ASM assesses its success and empirical effectiveness (Baletti, 2014; Branford and Torres, 2017; Brown and Koeppe, 2012; Fern, 2017; Gesisky and Maia, 2016; Gibbs

et al., 2015; Gollnow et al, 2018; Kastens et al, 2017; Lambin and Furumo, 2023; Nepstad et al., 2014; Nepstad and Shimada, 2018; Heilmayr et al., 2020; Villoria et al., 2022). This literature mostly agrees that the ASM has led to a decrease in deforestation in regions it covers in the Brazilian Amazon. Disagreement exists concerning its impact on deforestation in the Amazon as a whole due to other drivers and the possible unintended policy and market leakage on neighboring regions and biomes in Brazil and beyond (Villoria et al., 2022). Other studies on the ASM focus on describing the technological methods of satellite monitoring (Gusso et al., 2017; Rudorff et al., 2012), its importance for Brazilian international discourse (Abramovay, 2010), and comparing it to global private partnerships (Brannstrom et al., 2012; Hospes et al., 2012; Meijer, 2014) or other zero-deforestation commitments in terms of mapping and monitoring (Austin et al., 2021).

Questions remain regarding the ASM's replicability and usefulness as a governance mechanism elsewhere or for other commodities (Lambin et al., 2014). Moreover, the academic literature calls for an explanation of the emergence and development of the ASM from a regulatory governance perspective (Sotirov et al., 2020) and for a systematic understanding of the internal dynamics among private and public actors participating in these mechanisms (Dieguez and Sotirov 2021; Pattberg, 2005). In particular, Hospes et al. (2012) identify knowledge gaps regarding motives and mechanisms of and interactions between business, civil society, and government actors in these new governance systems. Most importantly, according to Lambin and Furumo (2023, p.219), "the success of the zero-deforestation policy agenda will depend on the ability to create and maintain multistakeholder coalitions."

The ASM provides a case study of a hybrid governance mechanism that has been successfully running for nearly 20 years. This paper seeks to narrow the above knowledge gaps by clarifying how this unique hybrid environmental governance mechanism was adopted and maintained, shedding light on lessons for similar initiatives. The research questions addressed are: How and why have private and public actors worked together to adopt and enforce Brazil's ASM? What are the main market and regulatory outcomes of this cooperation? What characterizes its governance longevity and replicability?

2. Theoretical framework

This paper uses the Baptist and Bootlegger political economy theory of regulation (B & B theory) to metaphorically inform and guide the regulatory governance analysis in answering the research questions. In short, the B & B theory holds that certain regulations come about through an "unholy" strategic alliance between "Baptists" and "Bootleggers". It originates from Yandle's (1983) analysis of the story of closing liquor stores on Sundays in some parts of the US with laws prohibiting liquor sales but not necessarily prohibiting consumption on that day. In this theory, Baptists support regulation that prohibits certain production practices for moral values and public beliefs in common welfare (e.g., liquor prohibition), while the Bootleggers support prohibition-centered regulation to gain competitive advantage and to have material benefits of an increasing consumer demand and rising prices triggered by the regulation itself (Yandle, 1999a; Sotirov et al., 2017).

Applied to the analysis of environmental regulations, marked by interdependencies between environmental protection and global production, trade, and consumption (Vogel and Kagan, 2004), the role of Baptists is often taken up by environmental NGOs and regulatory agencies motivated by a desire to advance public welfare through new regulation. However, "theological" differences exist among the various Baptists. While some seek to contain, or even destroy, the regulated industry or market, others may press for a (re-)distribution of commodity production and trade flow in favor of sympathetic producers; still other Baptists intend to capture industry material resources for environmental protection campaigns (Yandle et al., 2007).

The role of Bootleggers, in contrast, is usually taken up by business

groups with vested interest in market regulation that results in higher selling prices, enhanced profits, and reduced competition. These economic actors often get active when they are confronted with moral pressure. This is the case when their businesses and profits are threatened by a negative image and critical public opinion about inappropriate industrial operations. They then look for a strategic alliance with Baptists to secure moral arguments for their economic interests and license to operate. Bootleggers press for new regulation that allows them to not only absorb moral public pressure from public scrutiny and improve their business reputation but also gain a competitive advantage and increased market access (Yandle, 1999a). This is due to the idea that regulation provides a barrier to others' market access, giving certain businesses a competitive advantage.

The ideological incompatibility within this alliance, however, creates transaction costs and restricts cooperation. This is where "Televangelists" come into play. They are regulatory brokers who mediate between the dissimilar partners in a strategic alliance and help achieve a regulatory deal. Armed with public-interest rhetoric, they mobilize their "congregations" to support regulatory changes that can expand Baptists and Bootleggers' gains (Yandle et al., 2007). Televangelists are driven by a hybrid motivation – they are part Bootlegger, part Baptist. Typical examples are political decision makers, environmental lawyers, public agencies, auditors, certifiers, and consultants that combine moral beliefs with rent- or office-seeking interests (Sotirov et al., 2017).

To date, the B & B theory has been applied to a variety of cases, including the adoption of the 1977 US Clean Air Act (Ackerman and Hassler, 1981); the development of EU eco-labels (Yandle, 1999b); the Basel Convention on metal trade ban (Kellow, 1999); protecting the northern spotted owl by banning timber use in US public forests (Yandle, 1999a); the development of global climate policy under the Kyoto Protocol (Buck and Yandle, 2001); the rise and fall of the EU's radioactive waste policy (Darst and Dawson, 2008); and the adoption of timber legality regulations in the EU (Sotirov et al., 2017), US, and Southeast Asia (Cashore and Stone 2012). Still, there is sparse application to South American or tropical country cases and none to the ASM case.

Due to the B&B's theoretical limitations regarding a "change over time" analysis, our framework includes the borrowed concept of "policy-oriented learning" to answer our third research question on governance longevity and replicability. Stemming from another public policy theory, the Advocacy Coalition Framework (Sabatier and Jenkins-Smith, 1999), this concept is defined as changes of thought and behavior resulting from experience and/or new information that come from the attainment or revision of policies (Sabatier and Jenkins-Smith, 1999).

The B&B theory is used in this paper as metaphorical categories to describe a relational logic, in no way directly calling or perceiving the actors in the analysis as such. As a contribution to regulation theory, by applying the B&B theory to the ASM case, this paper sheds light on limitations to some of its theoretical assumptions.

3. Methods

A qualitative empirical social science research design was selected as the methodological framework for data collection and analysis. A qualitative content analysis of key informant interviews and policy documents was carried out with both deductive and inductive reasoning (Bryman, 2012). Deductively, concepts and assumptions deriving from the B&B theory helped to direct how and through which views to study the phenomenon (e.g., actor categorization). Inductively, empirical findings from data collection and analysis were integrated into the main results, also testing the theory's assumptions. Appendix A includes the qualitative coding system used. Data collection and analysis took into consideration decisions and developments of more than 19 years, from 2004 to early 2024.

Primary data was collected through 35 semi-structured interviews. Initially, 21 interviews were conducted in 2019, and an additional 14

interviews were conducted in early 2024 to ensure contemporary relevance, of which 8 were the same interviewees. Six interviews were conducted in person and the other 29 using Voice Over Internet Protocol (Snee et al., 2016). These were recorded, transcribed, and then subjected to qualitative content analysis. Secondary data was collected through the analysis of over 50 documents on the subject including relevant media publications, policy documents, official organization documents and scientific publications. The semi-structured interview guide was applied in English and Portuguese. The interviewees were selected based on their organization's involvement as a stakeholder in the ASM process, in combination with a snowball sampling of indicated interviewees. These stakeholders are organizations who are (or were) part of the Soy Working Group (the GTS) or the Brazil-EU soy supply chain, who participate in the ASM monitoring process, or who research the ASM. All relevant stakeholders in the GTS were contacted; all those who responded and agreed were interviewed.

Interviewees represented a total of 26 organizations (2 interviewees were from the same organization), representing civil society (5), technical organizations (6), business associations (6), businesses (5), and governmental organizations (4). An anonymized list of the organizations can be viewed in Appendix B. Names of the organizations and representatives interviewed are not stated in this study. Instead, each interviewee is given a code (e.g., I3), which is referenced to when mentioned in the study. The code order does not directly match the order in Appendix B, ensuring anonymity and keeping in line with the ethical code of confidentiality rules in social science research.

4. Results

4.1. Formation of the strategic alliance: The short story

In April 2006 Greenpeace International published a report called "Eating up the Amazon" which shed light on soybean crops as major drivers of deforestation and social injustice in the Amazon biome. The report drew attention to a large increase in deforestation in the early 2000 s, and blamed (trans-)national agricultural commodity traders, namely ADM, Bunge, Cargill, and Grupo André Maggi, and transnational food companies and retailers, including McDonald's, Burger King, and KFC, as co-responsible for the expansion of soy crop production in the Amazon (Greenpeace, 2006). Indeed, still today around 70–80 % of soy production in Brazil goes to animal feed, mainly through international exports (I1).

Cargill, one of the main transnational traders of soy, acknowledged the issue at the time and investigated how to deal with this reputational problem, mobilizing the Brazilian Association of Vegetable Oil Industries (ABIOVE) and the National Association of Grain Exporters (ANEC), representing the oil and grains commodities associations for trader companies. In turn, Greenpeace strategically looked for support from other NGOs such as the World Wildlife Fund for Nature (WWF), The Nature Conservancy (TNC), and Conservation International to counteract the industry associations' response. As a first successful step, these NGOs were able to form the Soy Working Group–*Grupo de Trabalho da Soja* (the GTS)–with the participation of some of the accused industries (I6; I18; Piatto et al., 2016). After several meetings, a two-year Amazon Soy Moratorium was signed on July 24th, 2006.

The strategic alliance was formed by NGOs, headed by Greenpeace, and all companies under ANEC and ABIOVE, who took on the voluntary commitment not to buy or finance soybeans grown on land cleared from forests in the Amazon from that date onwards (Piatto et al., 2016). At the time and to this day, ABIOVE and ANEC represent 80–90 % of the soybean market in Brazil (ABIOVE, 2023; I5; I6). Underlying reasons why the ASM was signed, especially in relation to its scope, are described under Section 4.3.

The GTS governs the agreement and acts as a multi-stakeholder dialogue forum where mechanisms for monitoring and assessments are negotiated, determined, and reviewed (Piatto et al., 2016). At its

foundation the GTS had three sub-groups: "Mapping and Monitoring," "Education, Information and Forest Code," and "Relationship with the Government and Legislation" (GTS, 2007). The first is the only one of the three that remains: the third ended in 2008 when governmental actors entered the agreement, the second in 2012 when the Forest Code was amended. In 2019 two new sub-groups were set up, the "Indirect Supply" and the "Resettlements" groups dealing with the agreement's challenges of monitoring and inclusion (I5).

The ASM today has a total of 38 members, 2 business associations, 27 businesses, 5 civil society actors, and 4 governmental actors (ABIOVE, 2023). Throughout the years some actors have left the agreement (e.g., Conservation International and Santarém Union of Rural Workers), but with no common acknowledged reason, while others have entered (e.g., the Brazilian Ministry of Environment and Climate Change (MMA), and the Brazilian Central Bank (*Banco do Brasil*)), adding to the multi-stakeholder dialogue. From 2008, which is when the government actors joined the GTS, to 2016, the ASM was annually renewed, until it was decided that it should stay in force indefinitely (Piatto et al., 2016). The interviewees stated that this decision created larger stability for the members of the strategic alliance (I1; I13; I20).

4.2. Baptists, bootleggers, and televangelists: Actor motivations

4.2.1. Baptists

To test one of the assumptions of the B&B theory of regulation, we asked the environmental NGOs what their motivations were to participate in the ASM and work with the other actors within the strategic alliance. Stated motivations include: ending deforestation, achieving zero-deforestation, tackling climate change, saving the human species, conserving the Amazon, showing that soy production is possible without deforestation; and because they see the ASM as possibly replicable, and an innovative and multi-stakeholder solution (I1; I2; I4; I5).

These results reveal that, metaphorically, the NGOs have Baptist motivations, such as public welfare and moral values of environmental protection, social rights, and ecological modernization of supply chains and trade. Nonetheless, certain stated motivations are less value-driven; some are more pragmatic and strategic so as to encourage the Bootleggers and Televangelists to join the alliance, such as noting the initiative's possible replicability and wanting to prove production and conservation are compatible.

Furthermore, the Baptist organizations presented "theological" differences in their motivations, some being stricter with their negotiation requirements (I1), others having more flexibility with and interest in interacting with economic stakeholders (I2). This was further apparent in the split of the NGOs when the Cerrado Working Group (GTC) was created in 2017 (more in Section 4.6). These motives, which fueled the negotiation period, serve as background to the two agreement responsibilities NGOs signed to in 2016: 1) providing information and expert technical advice regarding the agreement's correct and effective implementation, and 2) advocating internally and externally for the creation of incentive mechanisms for remuneration of environmental services and forest conservation in rural properties covered by the agreement (GTS, 2016).

4.2.2. Bootleggers

Equally applying the B&B theory of regulation, we asked the businesses and associated industry associations what their motivations were to participate in the ASM and work with the other actors within the strategic alliance. Stated motivations include: managing reputational risk, managing the image of the agribusiness internationally, meeting demands of clients (especially the EU), keeping access to the international market, limiting pressure on the big traders; and because they claim to believe in dialogue and transparency and to understand the issue of deforestation caused by soy (I6; I7; I8; I9).

These results indeed reveal metaphorical Bootlegger motivations of the food industries to meet their specific economic interests, such as

avoiding reputational risks, improving company image, meeting market demands, and avoiding loss of market access. Nevertheless, beyond the theory's assumptions, they also show strategic business adaptation reasoning, and state certain motivations closer to the Baptist ones, such as the understanding of deforestation as an issue, and valuing dialogue and transparency.

Following their motivations, the businesses signed their own regulation by agreeing to a range of responsibilities that relate to their role in the market: what they can or cannot buy, how they can financially support the agreement, and how they can assist the monitoring system (Table 1).

Their official responsibilities shed light on the weaving of public and private responsibilities, since industries agree to assist state environmental programs, fulfilling certain state gaps, and highlighting the hybrid governance.

4.2.3. Televangelists

In this case study the metaphorical Televangelists were identified as the governmental and technical organizations who are part of the GTS but are categorized neither as metaphorical Baptists nor Bootleggers. Stated motivations to be part of the agreement include: bringing technical expertise in promoting sustainable supply chains, giving access to official data, assisting in monitoring while bringing experience of deforestation analysis from PPCDAm (Action Plan for Prevention and Control of Deforestation in the Legal Amazon to halt Amazon deforestation), advertising the initiative, assisting in disclosure reports, and giving credibility and legitimacy to the Moratorium (I3; I10; I11; I12; I13).

In particular, state actors said that they participate in the ASM because they believe a public institution should provide available information and should help control the environmental issues of deforestation (I10). Furthermore, the Brazilian Ministry of Environment and Climate Change (MMA) understood in 2008 that the ASM was a strategic initiative that should be implemented jointly with public forest policy (I12); state actors knew that governmental support would give legitimacy to the private initiative, especially in terms of monitoring (I13). One state actor said that a strategic public–private collaboration would yield mutual economic benefits: "*The government can align their forestry and environmental projects with the Moratorium and receive funds from international organizations or other member states, which may likewise assist initiatives, such as the Moratorium*" (I12).

These results show a Televangelist–like characteristic, where the state actors have mixed motivations of public welfare (environmental protection, state legitimacy, better forest law enforcement) and economic gains (additional funds, as per quote above). While they do not use their sovereign authority to directly require adherence to state-sanctioned rules, they do use their state legitimacy and enforcement

Table 1
Responsibilities of industry actors in the signed agreement.

Responsibilities
1)   To not commercialize, acquire, or finance soybeans from deforested areas within the Amazon Biome after July 2008, as well as from properties listed in IBAMA's deforestation embargoed list and /or employers in the Ministry of Labor and Employment's list of "slave-like working conditions";
2)   To financially support events agreed upon by the GTS;
3)   To perform external audits of soybean purchases by member companies during the crop year period and make the results available to the GTS;
4)   To seek viable solutions to increase monitoring of soy sourcing from indirect suppliers;
5)   To inform all suppliers about the benefits of performing CAR (National System of Rural Environmental Registry) within the legal deadline and about future restrictions on credit granting and environmental licensing;
6)   To request the CAR registration protocol for purchase and financing operations;
7)   To offer informational material on the PRA (National Environmental Recovery Program).

Source: GTS, 2016.

capacity to facilitate or hinder the ASM (depending on which government is in place). Some believe that the MMA should have a larger role in decision making in the ASM. Related to this is the fear that the ASM will get credit for all the positive results when certain public policies have also been effective and should equally receive credit (I13; Heilmayr et al., 2020; Nunes et al., 2024). Indeed, 37 % of avoided deforestation in Brazil between 2004 and 2006 can be attributed to the creation of Forest Reserves by the government (Abramovay, 2010). Furthermore, in 2004, the Brazilian federal government launched the PPCDAm, a multi-phased program aiming to reduce deforestation rates continuously and to bring about the conditions for a transition towards a sustainable development model in the region (MMA, 2018). This program, after being deactivated between 2019 and 2022, has just entered its fifth phase (2023–2027) (Governo Federal do Brasil, 2023; ABIOVE, 2023).

Other non-Televangelist interviewees confirmed the state's essential role in providing official data (I10; I12; I13; I18) and in assisting with enforcing ASM implementation (I4; I16). One actor asserted that it is not an issue if the government does not want to sign the agreement but it may become an issue if they are actively against it (I6). This became a growing concern in 2019 when Jair Bolsonaro began his environmentally hostile presidency. This political change led to the deactivation of certain government activities (notably, the PPCDAm). Interviews from this time period stated that the ASM had to be protected, out of fears associated with these changes (I6; I18; I19). While the ASM was not directly affected, as non-state actors continued its work, its zero-deforestation impact may have been smaller without the related policies in place and strong state enforcement (I6). This emphasizes the importance of a policy mix element for regulatory success (Heilmayr et al., 2020). Recent interviewees stated that this threat still exists, but at a federal state-level (i.e., the state of Mato Grosso) (I24; Batista, 2023).

Regardless of uneasy remarks, the Statement of Commitment signed in 2016 (Table 2) shows that the MMA is committed to work together in implementing not only the ASM but also existing governmental policies (GTS, 2016).

Besides the government, other national and international actors can be categorized as Televangelists as they also indirectly gain from the agreement, including the European food industry associations who can make use of the same economic benefits while preaching the same public welfare moral values. Certain EU food industry associations are not part of the GTS, nor are direct signatories of the agreement; nonetheless, they have supported the ASM since the beginning and some of their member companies have signed it. These actors represent the international influence in this agreement, showing that the ASM intends to work across transnational commodity supply chains. The EU food industry associations interviewed are aware of the degree of influence European markets and consumers have as part of the global supply chain. Although they are not direct partners, they are heavily engaged in communication with the GTS, sharing the agreement's information with their members to facilitate engagement with their customers downstream (I16; I17). One interviewee said that although their association is not a signatory itself, they "rely on the moratorium to show that the industry is committed to

tackling deforestation" (I16). However, both EU food industry associations said that there is no standardized European consumer but rather 27 Member States, each with their own perspective, which creates market disadvantages. EU consumers do not always look for the same thing; some focus on non-genetically modified soy, others zero-deforestation soy, or simply sustainable soy (I16; I17).

4.3. The success of the alliance formation: The devil is in the details

Interviewed actors explained that the strategic alliance was successfully formed due to certain enabling factors: a sectoral crisis, foreign pressure linked with national enforcement failure, a flexible agreement in the hands of the regulated, use of a hybrid governance with public instruments, and last but not least, the Amazon scope which boosted reputational image and facilitated monitoring, while benefiting producers as there was little impact on their national production (I5; I7; I8; I12).

In the early-2000s the Brazilian soy sector was going through an economic crisis. As a result, companies were vulnerable to public pressure and reputational concerns. Furthermore, they risked the economic disadvantages of losing the EU market (I20). Along with this foreign pressure and internal crisis, the failure of state enforcement to address Amazon deforestation gave way to the emergence of private regulation by non-state actors (the ASM) (I7). The ASM was annually renewed after 2008, giving flexibility to the actors to annually rethink their participation and modus operandi (I5). Notably, implementation could only happen if the sector that is to be regulated agrees to the regulation (I3). Industry players being the ones to decide on their regulation gave them the liberty to stop it any moment. Including government actors from the beginning could have implied in increased bureaucracy and delay. By becoming the leaders of the new regulation, not simply compliers to public law, industry could reap the benefits of the ASM's positive reputational image. Nonetheless, the success of the alliance building relied on a hybrid governance through the use of state-like tools (e.g., moratorium) for enforcement and available public instruments (e.g., Forest Code, CAR) for data monitoring (I3; I4; I7; I9; I12; I16). Furthermore, the final signed agreement affirms joint responsibilities to all parties related to governmental programs, highlighting a policy mix. These include supporting federal and state governmental programs' implementation, such as the CAR and PRA, offering technical support to producers and monitoring assistance (GTS., 2016).

4.3.1. Saved by the scope: Keeping it in the Amazon

The agreement regulates only 116 municipalities in the Amazon biome. The municipal scope is justified by these 116 covering around 98 % of the area cultivated with soybeans in the Amazon (ABIOVE, 2023). The Amazon scope lies at the core of the alliance's success, for two reasons. The NGOs used the Amazon in their accusations, aware of its romanticized and international appeal (I2; I4; I7; I8; I19; I11). The other reason is that for the industry signatories, the Amazon focus meant they did not have much to lose: soy production in the Amazon only applies to around 9 % of total production in Brazil. "In 2006 there was only one million hectares of soy in the Amazon, so, it was an intelligent move from Greenpeace, but it was a bluff, because soy never ate the Amazon" (I6). In effect, the Moratorium restricted very few producers, since the bulk of production lies in other regions, such as the Cerrado (I4; I6; I9; I10; I13; I14; I18).

The Amazon scope also helped in the labeling of "zero-deforestation," since "almost all deforestation in the Amazon is illegal anyway, so saying zero-deforestation is not a giant leap to saying illegal deforestation" (I20). With regards to monitoring, the Amazon had state monitoring technology (PRODES-Amazon Deforestation Calculation Program), which did not exist as such for other biomes, including satellite images that could effectively be applied to monitor closed forests (I4; I6; I8; I9). This facilitated governance process, eased the implementation, and enhanced the sustainable image of the participating

Table 2
Responsibilities of Brazilian government agencies in the signed agreement.

Responsibilities
1) To support the implementation of CAR and PRA, giving priority to soybean-producing municipalities in the Amazon biome;
2) In cooperation with other government agencies, to advocate the programs for sustainable soy production in Brazil in national and international forums;
3) To articulate incentives for producers to adopt programs for forest protection on their properties, as well as reforesting initiatives, in accordance with the current legislation;
4) To supervise, through IBAMA, the polygons of soybean planted in deforestation areas after July 2008 and present the results obtained to the other GTS members.

Source: GTS, 2016.

industries (I7; I12; I20).

4.4. Governance instruments: Enforcing state-like private regulation

The declared common goal of the ASM alliance is to end deforestation-related soy production in the Amazon through market regulation. To achieve this a comprehensive process of communication and monitoring was developed. The decision-making process of the alliance was described as democratic by most interviewed actors, with decisions made upon consensus (I2; I3; I4; I6; I8; I9; I12; I13). However, one interviewee affirmed: "such agreements are not a decision of the NGOs, or of the government, but of the companies. It only happens if they are on board" (I3). The formalized document that establishes the ASM's governance process is the "*Termo de Compromisso*" (Statement of Commitment) signed by ABIOVE, ANEC, Greenpeace, and MMA in 2016 (GTS, 2016).

The participating companies have agreed to neither buy nor finance soy from areas deforested in the Amazon after July 2008 (GTS, 2016), creating a market regulation by excluding supplier producers who do not abide with the requirements (I6; I7; I8). To ensure accountability, the alliance determined a particular geographical area and a minimum size of plantations to monitor. The area encompasses 116 municipalities, representing 98 % of soy production in the Amazon; the minimum size of soy polygons for concern is 25 ha (I2; ABIOVE, 2023). In 2011 the GTS started publishing annual reports and in 2016 an Evaluation Committee was established to verify compliance (ABIOVE, 2019). During the ASM's first 10 years, the decision-making and auditing procedures were not openly accessible; since 2019, Imaflora publishes auditing reports and updates on its implementation through their *Soja na Linha* program (Imaflora, 2023) and later the Soy Moratorium Portal was developed to inform on its updates (Agrosatélite, n.d.).

The state organization INPE (Brazilian National Institute for Space Research) carried out the first monitoring process in 2008 using data from PRODES (Program for the Calculation of Deforestation in the Legal Amazon), the annual official government data of deforestation polygons in the Amazon (INPE, 2022). At that time, the analysis of satellite images had errors, so certain areas had to be personally checked, which incurred higher costs for the companies. Nowadays, this verification process is done through PRODES data, with the verification algorithm, and the CAR data for private properties (Austin et al., 2021). Since 2013, the full monitoring process is carried out by an external hired consultancy firm, which is then validated by the GTS members (I21; ABIOVE, 2023).

Based on the overlap of soy production with deforestation polygons and the CAR data, GTS members identify the landowner's identity and property registration. This data is then inserted into the ASM's signatory companies' "blockage list" of supplying territories. The Evaluation Committee has developed standardized criteria for the buyer's verification process, including control tests, an automated system, and written reports of findings on how companies comply with the ASM (I5). The Brazilian Central Bank, who is also a signatory of the ASM, then withholds financing credit from any of the territories on the "blockage list" (I2).

To ensure compliance, companies hire external auditors to verify if the "blockage" of the territories was done in practice. Auditors conduct trainings to ensure that their knowledge is in line with the ASM's requirements. The Evaluation Committee then assesses the company's report, based on their audit. Companies then receive an assessment grade, which is only known to themselves, and are also provided with an anonymous overall assessment of all companies, so that they can evaluate where they "rank" among others (I24). The Committee then suggests specific action points for improvement and can provide capacity building if requested (I3; I25). The interviewees described it as a process of continuous improvement, where companies have the space to question and ask for clarification (I6; I3). Another important point with regards to space for improvement is that the "blockage list" is updated

around four times per year to give producers the chance to input measures of correction and leave the list. To leave it, they need to sign an agreement with specific conditions to be met. These are analyzed by members of the GTS. If these conditions are not met, they automatically return to the "blockage list". Fig. 1 visually represents the annual monitoring and auditing process of the ASM.

Private and public actors of the GTS, through hybrid governance, work together in this whole process to monitor and verify the ASM process, ensuring the enforcement of this state-like private regulation. Although this process is robust, interviewees acknowledged the consistent issue of soy triangulation, the concern of indirect supply. Namely, companies outside of the ASM can still buy soy produced in deforested land, or from other regions, and then sell it to a trader that has signed the ASM (I1; I5; I7; I11; Villoria et al., 2022). Recognizing this leakage problem, the GTS developed an "Indirect Supply" subgroup (I5). The latest provision has been to track and identify properties owned by family members of those who own blocked properties, to try and avoid indirect supply from close relatives (I6; I25).

4.5. Left behind: Perceived market distortions and "losers"

Two key advocacy organizations for rural producer rights in Brazil have stated from the beginning that they are not in favor of the ASM: *Sociedade Rural Brasileira* (Brazilian Rural Society), representing the agricultural sector as a whole, and *Associação Brasileira dos Produtores de Soja* (Brazilian Association of Soybean Growers, APROSOJA) representing the soy producers. Their main concern is that it restricts the business operations of rural producers, who already comply with the applicable state regulation and legal framework (e.g., Forest Code). They argued that this extra private regulation should not be compulsory unless the producers are financially compensated. Rural producers did not agree with their market exclusion following the establishment of the ASM (I14; I15). Various interviewees highlighted the exclusion of rural producers, the lack of financial compensation for them, and the ensuing negative stance from rural producers against the regulation as negative market impacts of the ASM (I2; I3; I7; I8; I14; I15; I16). APROSOJA was invited to join the strategic alliance at the beginning, but they eventually declined to take part. Interviewees explained that they would never participate because of their specific economic interests to protect agricultural producers' property rights against (any) regulation, and the ideological distance between rural producers and NGOs (I2; I14; 127).

Seeing it not as an inclusive action, but one of blockage and exclusion, domestic soy producers, traders, and retailers have called the ASM a type of cartel and a market barrier (I7). This is directly portrayed in this statement: "*it is a monopoly of the sector, because companies compete among each other, but decide together who to buy or not to buy from*" (I14). This view aligns with the B&B theory's assumption that emphasizes that the alliance's market restriction benefits the Bootleggers by giving them competitive advantage. Still, some interviewees said that most rural producers would actually benefit from the ASM because stopping deforestation and reducing the clearing of forest lands for soy production would increase the market demand and, hence, the selling price of soy. Thus, farmers who already have a consolidated land of soy production would win from the state-like ban because it regulates the market to their economic advantage (I6; I21). Nonetheless, smaller local producers can be identified as "direct losers" of the ASM due to unresolved issues of missing economies of scale, increasing costs, and higher market competition pressure. Food industry and retailing companies have also expressed concerns that they have lost trust from some of the local soy producers, who are part of the same supply chain (I4; I6).

Workers on the soy plantations and/or those who live around them were identified as "indirect losers" of the ASM, due to the use of pesticides and poor labor rights. Besides complying to the Ministry of Labor and Employment's list of "slave-like working conditions", other social concerns are not considered in the ASM as its main focus is on achieving zero-deforestation (I1; I7). Another "loser" from the ASM is the Cerrado,
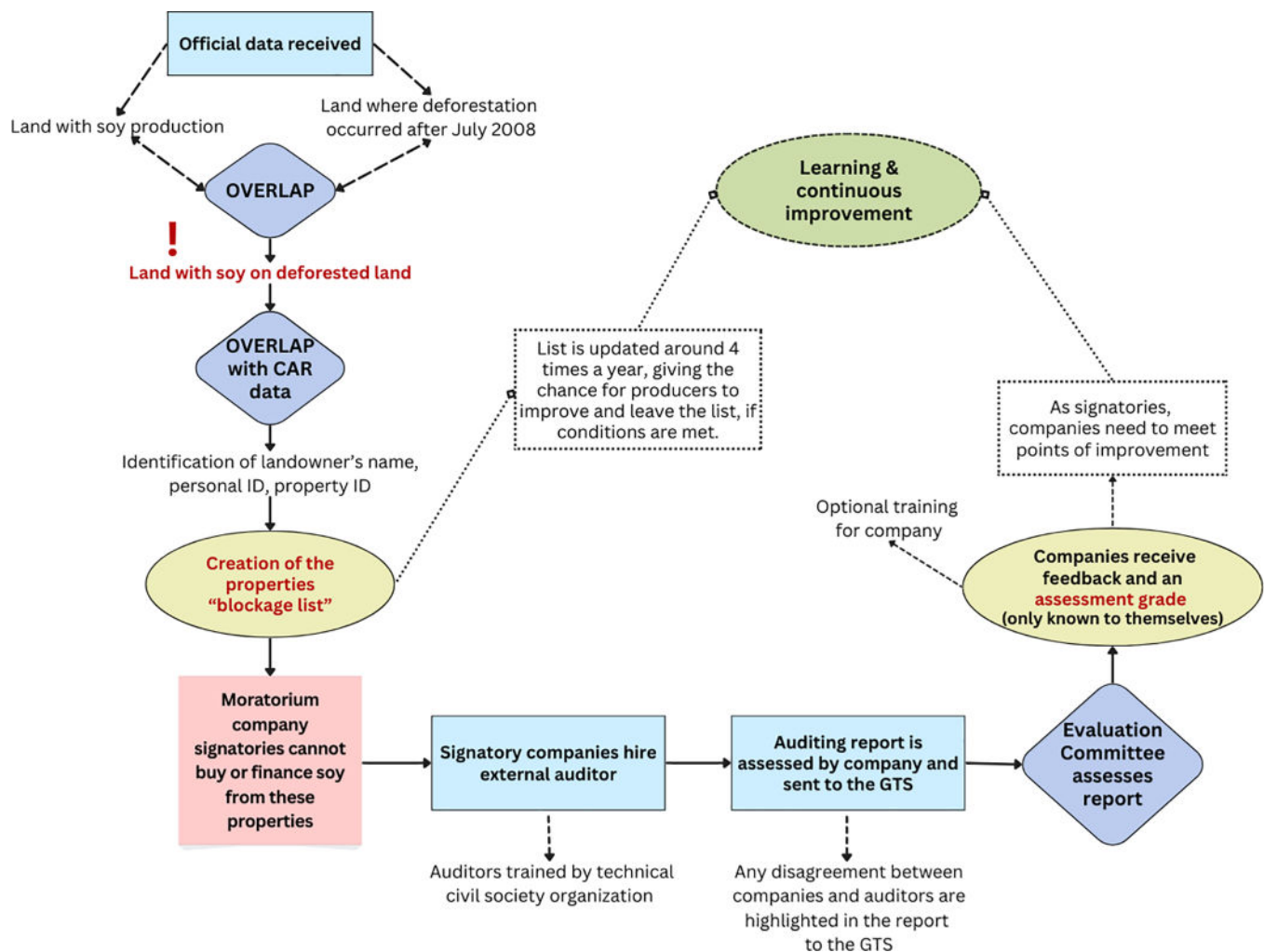
Fig. 1. Annual Monitoring and Auditing Process of the ASM
Source: authors' own compilation based on interviews and analyzed documents.

the Amazon's neighboring biome. Interviewees stated that there could be market leakage, where soy producers in the Amazon affected by the ASM would move to deforest areas in the Cerrado biome that are not regulated (I1; I2; I13; I19), also confirmed by the literature (Villoria et al., 2022). Other areas mentioned that are not checked by the ASM, but may be larger than 25 ha and affected by deforestation are, for example, rural settlements, conservation units, and indigenous lands (I12).

Lastly, some interviewees noted the issue of supply from non-signatory companies who enter the supply chains of the ASM member companies, but lack the means of verification. Hence, it was requested that more private and public actors should join the ASM. These include all other soy buyer companies currently not participating in the agreement, global retailers (e.g., Walmart, McDonald's, Carrefour), agrochemical producers, other deforesting agricultural sectors (e.g., livestock), as well as the Ministry of Agriculture and Livestock (MAPA), local governments, public research institutes, and other banks besides the Brazilian Central Bank (I5; I11; I13).

4.6. Regulatory spillover effects: All eyes on the Cerrado

So far, the ASM's largest regulatory spillover effect has been the creation of the GTC (I19). The idea of replicating the ASM in the Cerrado Biome has been recommended in scientific articles and by NGOs (Greenpeace, 2018b; Gibbs et al., 2015; Strassburg et al., 2017). One of

the six biomes in Brazil, the Cerrado is home to one of the most bio-diverse savannas in the world. As with the Amazon, deforestation threatens regional climate and water availability; however, the deforestation rate in the Cerrado is five times faster than the Amazon (IPAM, 2018; Rodrigues et al., 2022). These facts incited an open statement in 2017 called "*Manifesto do Cerrado*", with signatures from at least 150 companies showing their support for economic incentives to reward producers' efforts in conserving native vegetation in the Cerrado (Bragança, 2018; FAIRR, 2021; Brazil, 2019). The GTC was at first created as a GTS sub-group in 2017, but then continued further discussions independently from 2018 onwards. It is seen as an attempt to replicate the ASM in the Cerrado biome, but important differences remain and are being discussed (I1; I2; I6; I7; I8; I10; 112).

A concrete difference is that the leading NGO was WWF to start. Greenpeace took issue with the proposed "Cerrado Soy Agreement" because it would not aim at zero-deforestation (Greenpeace, 2018a; Greenpeace, 2018b; I1). Instead of state-like instruments (bans, market disincentives, controls), market incentive instruments, such as green bonds and payments for ecosystem services, are being considered by the different non-state actors in the discussions for the Cerrado Soy Agreement, to compensate rural producers (I2; I8). An interviewee affirmed that since the term "moratorium" was withdrawn in the GTC process during negotiations, the economically interested private actors have actively engaged with international donors to secure funding opportunities (I12). NGOs, on the other hand, seem to be less engaged in the

negotiation since then (I26). No official agreement has yet been signed for the Cerrado (WWF, n.d.). This shows how a change of direction, interest or motivation, can make a strategic alliance split. Coming back to the B&B theory, this is an example of how there are important differences between Baptist groups which can affect the longevity and replicability of the alliance to other contexts.

Alternatively, two initiatives were recently developed by ABIOVE alone, the Cerrado Conservation Mechanism (CCM) in 2022 and the Cerrado Authorized Suppression Control (CSA) Commitment in 2023. The CCM provides financial compensation to soy producers in the Cerrado biome who maintain the native vegetation as a legal reserve instead of transforming the land for soy crops, which they are legally allowed to do following the Forest Code. It adopts the concept of payment for environmental services, providing a platform where traders and fund managers can assess what financial compensation should be given to registered producers (ABIOVE, n.d.; Agrosatélite, 2020). The CSA Commitment, on the other hand, is not a market incentive to avoid deforestation beyond the law but rather a market disincentive that assists law enforcement. Relating to 11 federal states in the Cerrado, it is a commitment by ABIOVE and ANEC member companies not to purchase or finance soybeans grown in deforested areas without a Vegetation Suppression Authorization in the Cerrado, from August 1, 2020 (cut-off date), with monitoring for the 2022/23 harvest onwards (ABIOVE and ANEC, 2023). Neither initiative has yet to show its outcome.

Fig. 2 provides a historical overview of the key events regarding the development of the ASM and its regulatory spillover to the Cerrado.

The failure of a multi-stakeholder agreement has led to a diversity of similar initiatives by civil society, also based on the concept of payment for ecosystem services, such as IPAM's CONSERV project established in 2020 (IPAM) and BVRio's SIMFlor project founded in 2022 (BVRio, 2022) (I26).

4.7. Long live the alliance: Assessing regulatory longevity

On the verge of its 20th anniversary, the ASM is a longstanding example of a successful zero-deforestation hybrid regulation (Rausch and Gibbs, 2021; Gibbs et al., 2015; Gollnow et al, 2018; Kastens et al, 2017; Lambin and Furumo, 2023; Nepstad and Shimada, 2018). Despite its known limitations, such as geographic leakage and indirect supply (Heilmayr et al., 2020; Villoria et al., 2022), its regulatory governance has remained alive. As noted in our theoretical framework, the concept of "policy-oriented learning" guides this Section's analysis, since the B&B theory falls short in explaining the maintenance of such strategic alliances. Our 19-year timeframe analysis of documents and interviewed

stakeholders sheds light on the strengths and weaknesses of the alliance's long-term governance.

Four factors that enabled the governance longevity are apparent: time to learn; the open-ended nature of the agreement; the harmonization of the soy sector through strong associations; and the power of hybrid governance. Time gave the actors space for learning, adapting, and refining their regulatory politics (e.g., addition of governmental actors, decision-making process) and monitoring instruments (e.g., verification satellite images and third-party auditing) (see Sections 4.3 and 4.4). Today many of the companies who signed the ASM have their own advanced sustainability compliance system, looking not only at deforestation but also at forced labor and social rights. This is not due to the ASM alone, but the agreement and alliance formation assisted in the consolidation of internal systems (I25).

The first ten years permitted the actors to create trust so that in 2016 they established an open-ended agreement, which symbolically showed the long-term commitment of all stakeholders (I1; I13; I20). Secondly, this long-term governance gave space for harmonization: the process of coming together around a common concern, then consolidating an agreement through negotiations brought unity to the soy sector in Brazil. The organized role of the industry associations in convening the business actors was also highlighted (I25). This harmony has been reiterated in recent discussions, for example, regarding compliance with the EU's Regulation on Deforestation-free Products (EUDR) (I6; I24; I25). Lastly, the ASM's hybrid governance, which relates not only to private and public actors working together for its implementation but also because its compliance depends on public policies and instruments, sheds light on a policy mix in action. This case study has given empirical findings of this type of environmental regulation. The ASM shows that this hybrid governance works best when there is a common interest in sharing its benefits, not only in terms of the objective's success (e.g., zero-deforestation) but also the credit of its success (e.g., to obtain financial credit or to show compliance in international forums) (I6; I24; I25). Time enables the consolidation and "stickiness" of governance mechanisms. As an interviewee stated: "at this point, it is very difficult for the soy moratorium to cease to exist, no one has the courage to touch it" (I23).

On the other hand, weaknesses, or rather, possible threats to the ASM's longevity, were also identified, mainly in terms of its scope limitation, its vulnerability to national government policy and discourse, its vulnerability to foreign regulation, and vulnerability regarding how actor motivations and roles in the alliance may change over time. With regards to its scope, not only does the already discussed biome scope play a part but also that it is not territorially universal in its zero-

Source: authors' own compilation based on interviews and analyzed documents

Fig. 2. Key Events Timeline of ASM Development and its Spillover Effect on the Cerrado
Source: authors' own compilation based on interviews and analyzed documents.

deforestation monitoring. It is limited to plot verification (25 ha), to a number of municipalities, and to private lands of signatory soy producers, also not considering public territory, such as conservation units (I25). As mentioned in Section 4.2, the ASM is vulnerable to government change and discourse. Although the policies and discourses of the last federal government did not impact the ASM's continuity, since as a private regulation it does not depend on the government, due to its compliance beyond national law, local state governments continue to address it (I24; Batista, 2023). Threats to the ASM have equally been identified in the literature, but with attention raised to the need for maintaing it given its low opportunity costs in relation to its market access benefits (Rausch and Gibbs, 2021).

5. Discussion and conclusion

How and why have private and public actors worked together to adopt and enforce Brazil's ASM? What are the main regulatory and market outcomes of this cooperation? What characterizes its governance longevity and replicability? Our case study confirms the increasing trend in building strategic alliances between environmental groups and economic interests in environmental and natural resource regulatory domains (Arts, 2002; Auld and Cashore, 2013; Cashore and Stone, 2012; Sotirov and Winkel, 2016; Sotirov et al., 2017). It expands this scientific literature by offering a theory-driven and empirically supported explanation of the ASM as a unique case of hybrid environmental governance of a commodity supply chain. Our empirical study, informed by the B&B political economy theory of regulation, helps derive a better explanation of success and critical conclusions about limitations and side effects that are summarized below and can inform other similar initiatives.

Firstly, our results explain how after initial confrontation between the actors, the ASM emerged as a result of a strategic alliance between NGOs and food industry actors. Both sides pursue a common objective of zero-deforestation soy production in the Amazon to serve (seemingly) complementary goals: the moral interests of NGOs for protecting the environment and the economic interests of business actors for avoiding reputational losses and securing market gains. The use of state-like means (prohibition, "blockage list", monitoring, controls) by NGOs and business interests, supported by state actors, make the ASM function as a hybrid governance. This is shown through private actors relying on public actors' participation, legitimacy, and enforcement capacities to implement the ASM, including prohibition, market disincentives, data information, and control mechanisms. There is also a policy mix in the design of the ASM agreement, where the ASM's implementation relies on and assists with other public policies (e.g., Forest Code, CAR, PRA). This policy interaction was also apparent when explained how governments in place (at the federal or state-level) can affect the survival and the perceived success of the ASM. The strategic delayed inclusion of the public actors (metaphorical Televangelists) benefitted the industry actors (metaphorical Bootleggers) as it allowed the latter to claim credit for the ASM's success while making sure all actors are onboard.

Secondly, our analysis sheds light on why the ASM is quite a unique case of hybrid governance. Its successful formation relied on a specific context of converging enablers: a sectoral crisis, foreign pressure linked with national enforcement failure, a flexible agreement in the hands of the regulated, use of a hybrid governance with public instruments, and most importantly, the Amazon scope facilitated the NGOs' appeal and monitoring while boosting the industry actors' reputational image at a low cost to the sector's production in Brazil.

Thirdly, our regulatory governance analysis through the B&B lens reveals how the strategic alliance developed the ASM as an exclusive private market regulation with a privileged role of key NGOs and agribusiness actors in the downstream supply chain (export-oriented traders, big retailers) without the participation of many upstream business actors (domestic landowners, food producers) and many other downstream actors engaging in risky indirect supply. As a result, the Agreement's exclusion logic leads to winners and losers in the market,

reinforcing global inequalities of production and social welfare. Understanding these issues highlights the importance of considering and listening to all actors in a global supply chain when creating a market regulation. This is now apparent in other exclusion governance mechanisms, such as the EUDR, where producer countries complain of not being part of the decision process and argue that smallholder producers deserve consideration (Fern, 2021; Suroyo et al., 2023).

Fourthly, although the ASM appears to have been born of a specific context, we show how it has had a very important regulatory spillover on the Cerrado through an attempt of replicability. Our results portray interest from all stakeholders on achieving a similar agreement, but disagreement with regards to concept definition, objective, and leading organizations. This has resulted in an ideological and structural "split" of the alliance and the development of various parallel initiatives, mainly focusing on market incentive mechanisms rather than disincentives. It remains to be analyzed whether these mechanisms will be effective and efficient enough in the face of the world's environmental crisis and tipping points (Flores et al., 2024). Further regarding spillovers and replicability, the fact that the ASM has not been replicated to other regions after almost 20 years of fairly proven success, reveals the difficulty in doing so.

As a fifth finding, the analysis of ASM's governance and regulatory longevity provides lessons for similar initiatives on what can help or hinder regulatory effectiveness in the long run. Longevity enablers were identified as: giving enough time for policy-oriented learning; having an open-ended agreement among the different actors; harmonization of the economic actors, represented by strong associations; and the characteristic of a hybrid private–public governance. Possible threats to regulatory longevity were identified as: scope limitation, vulnerability towards national policy and discourse, vulnerability towards foreign regulation, and vulnerability towards possible changes of actor roles in the alliance when motivations and objectives are revisited. The vulnerability towards public and foreign regulation shows how the survival of a given mechanism may depend on its interaction with other policies and governance mechanisms. The EUDR can be given as an example of such, since it has a similar scope and objective, yet is a foreign unilateral regulation demanding different standards (Oliveira et al., 2024). This interaction, as well as possible delegitimization of the ASM due to it, are interesting developments to be further studied.

5.0.1. Assessing the B&B regulation theory's case application

As part of the paper's theoretical contribution, our case study shows that the B&B theory of regulation has limitations. These encompass the limited focus on actors, the limited timeframe analyzed, and the lack of applicability to what can sustain or hinder alliance maintenance. The theory does not mention other economic operators and how they may influence the alliance, nor those who may be affected by the alliance. The theory focuses solely on the three group of actors in this strategic alliance (Baptists, Bootleggers, and Televangelists). Regarding timeframe, the focus is on how the alliance is built but not on whether the alliance is stable, how it can maintain itself, or what can hinder its continuity. Our analysis on the spillover effect for the Cerrado agreement shows that once there is disagreement on certain concepts, the alliance can easily split (e.g., Greenpeace leaving). This paper's theoretical contribution is in applying the B&B theory to a private regulation rather than a public policy, shedding light on conclusive characteristics of hybrid governance in view of a structured mix of actors, instruments, and policies. Furthermore, due to the B&B's limitations regarding timeframe and maintenance, the additional concept of "policy-oriented learning" gives insights into a historical analysis of such strategic alliance, elucidating what can help or hinder the regulatory longevity of such alliances. This time perspective in our case study also illustrates how these actors may revisit their initial motivations once the alliance has been established.

To conclude, based on these findings and analysis, further research

can be highlighted. This relates to further studies on the interrelation of the public policies with private governance initiatives, and other types of existing hybrid governance environmental mechanisms (e.g., jurisdictional approaches). Additionally, national and foreign regulations (e. g., EUDR) can be compared to the ASM and other non-state market governance mechanisms (e.g., cattle agreement, forest certification, roundtables on sustainable soy) in their impact on environmental conservation, social right inequalities, and market distortions across global commodity supply chains. In this context, a recent study shows how positive changes in public policies can arise from spillovers from private governance, giving space to a "private-governance-driven re-centering of public policy" (Tzankova, 2020).

Moreover, similarities and differences between forest and agricultural commodity certification schemes as non-state market-driven governance mechanisms and the ASM as a state-like private market regulation can be further explored. In particular, viewing which regulations can be considered "inclusive" (certification considering all sustainability aspects) or "exclusive" (market ban focused on one aspect, e. g., zero-deforestation), in Brazil and globally. A better understanding of the policy and market leakage associated with the ASM and its possible replication to other jurisdictions could also be further studied, to provide a better understanding of other solutions in reducing deforestation in other regions, and due to other drivers. In particular, further elaboration on the Cerrado Working Group, and alternative initiatives regarding payment for environmental services in the Cerrado, can be a case study of its own to assess the replicative capacity and effectiveness of this form of environmental governance.

CRediT authorship contribution statement

Rafaella F Ziegert: Conceptualization, Data curation, Formal analysis, Writing – original draft. **Metodi Sotirov:** Conceptualization, Writing – review & editing, Funding acquisition.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

The data that has been used is confidential

Appendices.

Appendix A:. Qualitative coding system

Coding categories (based on B&B theory)	Analysis context
Formation of strategic alliance	Story from 2004 to 2024
Baptists	Interest and role in ASM
Bootleggers	Interest and role in ASM
Achieving common goal by regulation	Rules of regulation to achieve objective
Monitoring and enforcing restrictions	Decision making, monitoring and auditing
Presence of televangelists	Other actors, interest and role in ASM
Unholy alliance: identifying losers	(open – identifying negative impacts)
Policy-oriented learning (beyond B&B)	Change in alliance over time, lessons from actors
Other points of discussion (new codes)	(open)

Source: authors' own compilation

Appendix B:. Anonymized list of organizations interviewed for this study

Anonymized list of organizations interviewed for this study

Overarching category	Category	Interview type	Year(s) interview was conducted
Civil society	International NGO	Online	2019
	International NGO	Online	2019/ 2024
	International NGO	Online	2019/ 2024
	International NGO	Online	2019
	Brazilian NGO	Online/ In-person	2019/ 2024
Businesses	Transnational soy company	Online	2019
	Transnational soy company	Online	2019
	Transnational soy company	Online	2019
	Transnational soy company	Online	2024
	Transnational soy company	Online	2024
Business associations	Brazilian industry association	Online	2019

(continued)

Overarching category	Category	Interview type	Year(s) interview was conducted
	Brazilian industry association	Online/ In-person	2019/ 2024
	Brazilian industry association	In-person	2024
	Brazilian industry association	Online	2024
	European industry association	Online	2019
	European industry association	Online	2019
Governmental organizations	Brazilian federal research institute	Online	2019/ 2024
	Brazilian federal environmental agency	Online	2019
	Brazilian federal government ministry (2 representatives)	Online/ In-person	2019/ 2024
	Brazilian regional consortium	Online	2024
Technical organizations	Brazilian university	Online	2019
	Non-Brazilian university	Online	2019
	Non-Brazilian university	Online	2019
	Private geospatial data company	Online/ In-person	2019/ 2024
	International development organization	Online	2024
	Multi-stakeholder certification organization	Online/ In-person	2019/ 2024

Source: authors' own compilation

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