Regulation & Governance

Regulation & Governance (2023) 17, 870–890 doi:10.1111/rego.12540

Hardening corporate accountability in commodity supply chains under the European Union Deforestation Regulation

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Abstract

The European Union (EU) has recently introduced the Deforestation Regulation to close regulatory gaps in the sustainability and legality of global forest and agricultural commodity supply chains. We analyze this regulatory policy change by drawing on accountability scholarship and institutionalist theories of regulation. Our results show that the Regulation aims to enhance corporate accountability mechanisms through mostly state-based hard regulation of commodity supply chains, reducing the role of market incentives and private regulation. This policy change is found to be the result of strategic policy-oriented learning from perceived accountability failures of existing soft market-based instruments, voluntary trade agreements, and experience with market-correcting EU timber legality trade rules in a politically favorable context. The institutionalization of new forest-risk commodity supply chain accountability norms in new EU trade rules would, by design, harden foreign corporate accountability for negative socio-environmental externalities. However, the de-facto hardening will depend on the final regulatory design, acceptance, compliance, implementation, enforcement improvements, and avoidance of leakage effects.

Keywords: EU policy, foreign corporate accountability, supply chain regulation, timber and agricultural commodities, zero-deforestation.

1. Introduction

Despite transnational policy and institutional efforts to conserve, sustainably use, and restore forests (Sotirov et al., 2020), global environmental risks such as forest degradation and deforestation continue at an alarming rate (FAO & UNEP, 2020). Timber logging is the most important driver of global forest degradation (Hosonuma et al., 2012) and an important precursor to deforestation (Vancutsem et al., 2021). Agricultural expansion is the most important driver of global deforestation, driving 90%–99% of tropical deforestation (Pendrill et al., 2022). The European Union (EU) is a worldwide leading importer of deforestation-linked agricultural (e.g., cattle, cocoa, coffee, oil palm, soy, rubber, maize) and forest (e.g., timber, pulp, and paper) commodities—so-called forest-risk commodities (FRCs) (EC (European Commission), 2021a; Pendrill et al., 2019). In particular, the EU is the second-largest importer of tropical deforestation-related commodities after China (WWF, 2021) and one of the biggest importers of commodities grown on illegally cleared land in the tropics (Lawson, 2015). In addition to environmental sustainability issues such as biodiversity loss and climate change, deforestation, and forest degradation are associated with severe human rights violations (Human Rights Watch, 2019). These telecoupled socio-economic and environmental challenges connect demand- and supply-side regions through global FRC supply chains characterized by "complex forms of mutual interdependencies across distant regions" (Lenschow et al., 2016, p. 152).

So far, the EU's external forest-related policy has focused on fighting the production of and trade in illegal timber and timber products. This policy and legal framework includes the EU's Forest Law Enforcement, Governance, and Trade (FLEGT) Action Plan with its supply-side FLEGT Voluntary Partnership Agreements (VPAs) (Zeitlin & Overdevest, 2021) and demand-side EU Timber Regulation (EUTR) (Sotirov et al., 2017). This framework does not regulate supply chain sustainability, neither of timber and timber products nor agricultural FRCs.

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Conflict of interest: The authors declare no conflict of interest.

Accepted for publication 20 May 2023.

To address these regulatory gaps, the European Commission presented a draft for a new Deforestation Regulation (EUDR) in 2021 (EC, 2021a). The legislative proposal prohibits importing and exporting six FRCs (cattle, cocoa, coffee, oil palm, soy, wood) and relevant derived products if their production is linked to legal or illegal deforestation and forest degradation. It obliges importing and exporting companies to exercise risk-based due diligence to assess and mitigate risks along supply chains. The EUDR would repeal the EUTR while expanding its state-based regulatory approach by going beyond the previous focus on legal timber supply chain accountability standards to include agricultural FRCs and environmental sustainability standards (i.e., zero-deforestation and zero forest degradation). The EUDR further develops the due diligence obligations, specifies minimum inspection levels, introduces a country benchmarking system, and significantly reduces the role of existing trade instruments such as timber legality licensing under FLEGT VPAs and private sustainability certification (EC, 2021a).

These proposed EU policy changes raise important research questions about institutionalizing new and hardening foreign corporate accountability (FCA) norms and standards for several reasons. FRCs are predominantly produced in third—mostly tropical—countries, where the EU does not have the jurisdiction to regulate production processes. Furthermore, no legally binding global agreement exists that can justify and impose sustainability or legality standards for FRC production in both producing and consuming countries (Cashore & Stone, 2014; Dimitrov, 2005). So far, the EU has only regulated a less important fraction of FRCs by requiring the legality of transnational timber supply chains through demand-side import legislation, supported by market incentives in the form of accepting supply-side state-sanctioned timber legality licenses and private forest sustainability standards (Sotirov et al., 2017).

Scholarly debates about private–public interactions in global timber supply chain governance discuss whether FCA will be strengthened as private regulation (forest certification) will gain the state's enforcement capacity while state regulation (e.g., EUTR) will gain the private schemes' norm-generating capacity (Eberlein et al., 2014; Overdevest & Zeitlin, 2014). However, studies show that expectations for mutual reinforcement of accountability and legitimacy between the state regulation of timber legality (EUTR) and private regulation of forest sustainability (e.g., FSC) remain largely unfulfilled (Bartley, 2014; Dieguez & Sotirov, 2021; Marx & Cuypers, 2010). Moser and Leipold (2021) challenge the assumption that existing EU regulations, such as the EUTR, have hardened FCA compared to third-party certification.

While the global and EU forest policy framework is well researched (e.g., Sotirov et al., 2020; Zeitlin & Overdevest, 2021), the few existing studies only partially analyze the proposed EU zero-deforestation policy. Bager et al. (2021) argue that mandatory due diligence of FRC supply chains is a politically feasible policy option to reduce global deforestation. However, Schilling-Vacaflor and Lenschow (2021) identify shortcomings in corporate reporting, legal liability, and state monitoring as persistent accountability challenges in the EUDR's design. This scholarship mainly focuses on single case studies, lacking a historical perspective on how the EUDR's new FCA norms have emerged in the context of existing FCA rules such as the EUTR, FLEGT VPAs, and certification. We need a better understanding of how and why new accountability norms are becoming institutionalized in the EUDR in the context of existing policies, rules, laws, and standards. This can help assess the EUDR's regulatory effectiveness in closing accountability gaps for illegal and unsustainable FRC production, trade, and consumption.

In this article, we answer three main research questions: How and why have transnational accountability norms regulating FRC supply chains evolved over time? Which new FRC supply chain accountability norms are becoming institutionalized in the EUDR as a case of an EU regulatory policy change, and why? How would these norms harden or soften FCA for transnational forest and agricultural commodity trade?

To address these questions, we draw on accountability scholarship and institutionalist regulatory change theories to inform our analysis of the institutionalization of normative ideas through EU policy changes. We analyze the institutionalization of accountability standards through private nongovernmental organization (NGO) and industry regulation (e.g., FSC, PEFC), state/hybrid regulation (i.e., EUTR, EU FLEGT Regulation, and VPAs), and mostly state-driven regulation (i.e., EUDR) over time. Empirically, we review the scientific literature and analyze 104 documents, including key policy and legislative documents, webinar and conference discussions, and public and private stakeholder statements.

After detailing our theoretical (Section 2) and methodological framework (Section 3), we present our main results on how the institutionalization of new FRC supply chain accountability norms—carried and advocated for

by key state and nonstate actors—in the EUDR would, by design, harden FCA for negative socio-environmental externalities (Section 4). However, we argue in our discussion and conclusion (Section 5) that the de-facto hardening will depend on the final regulatory design, acceptance, compliance, implementation, enforcement improvements, and avoidance of leakage effects.

2. Theoretical framework

2.1. Foreign corporate accountability

FCA refers to the normative desire to regulate the negative socio-economic and environmental impacts of transnational business conduct across borders in growing international trade. This term captures the accountability of companies for negative impacts directly caused by them or indirectly by their subsidiaries or suppliers (Gustafsson et al., 2023a). FCA is often motivated by consumer government norms to regulate the production processes of increasingly imported goods and services, whether to protect the environment, secure social rights abroad, or avoid market distortions. The restriction is that imported goods and services are produced outside the importers' jurisdiction (Partzsch, 2021).

This article distinguishes three regulation types (state, private, and hybrid), constructed along the degree of compulsion (legally binding, nonlegally binding) and direct participation of actors (state, nonstate, state and nonstate actors) (Sotirov et al., 2020). State regulation legitimizes public actors to hold private actors accountable for complying with state-sanctioned rules and standards through hard (i.e., coercive), command (e.g., hard laws with bans and obligations), and control (e.g., checks, penalties, sanctions) instruments. Private regulation legitimizes private actors to hold themselves (e.g., through industry self-regulation, corporate social responsibility) or other private actors (e.g., through NGO-, industry, and multistakeholder-led certification schemes and standards) accountable through soft (i.e., voluntary) market-based instruments. Hybrid regulation involves public and private actors, engaging in decision-making procedures and resource exchange (e.g., information, knowledge, finance). State agencies often remain in control of most regulatory tasks while delegating (or sharing with) some regulatory tasks to nonstate actors (e.g., NGOs, and industry associations), legitimizing them as authority holders (Börzel & Risse, 2010; Kramarz & Park, 2019).

Accountability presumes a relationship between authority holders or power-wielders (e.g., elected public officials, private standard-setting organizations) and those holding them accountable (e.g., affected community), called accountability holders (Grant & Keohane, 2005; Partzsch, 2021). In standard (Rubenstein, 2007) or beneficiary (Koenig-Archibugi & Macdonald, 2013) accountability, people affected by decisions have direct control over actors who produce a policy outcome on their behalf. This bi-directional power relationship is contrasted with arrangements where external actors and institutions (e.g., EU officials, EU institutions) that are not accountable to affected communities (e.g., in tropical countries) can still exercise accountability on communities' behalf (Partzsch, 2021). This accountability-by-proxy (Koenig-Archibugi & Macdonald, 2013) or surrogate accountability (Rubenstein, 2007) entails substituting the accountability holder with a surrogate (or proxy).

Accountability can entail a regulatory process where some actors have the right to judge and sanction other actors if the latter fail to fulfill their responsibilities and obligations in ways consistent with accepted standards of behavior (Grant & Keohane, 2005). Standards of behavior are regulatory outputs of policy change processes, mirroring dominant actors' core normative values, beliefs, and interests (Sabatier & Jenkins-Smith, 1999). Standards can foster or hinder accountability as they include rules, norms, guidelines, decisions, and programs that public, private, or hybrid regulatory institutions promulgate to influence the conduct of regulated actors (Wood et al., 2019). These are typically articulated at the regulatory stages of norm formation (agenda-setting and negotiation) and norm institutionalization (adoption) (Abbott & Snidal, 2021a).

Accountability requires public, private, or hybrid regulators to justify their actions and submit to the scrutiny of the general public or narrower constituencies of interested and affected stakeholders (Alemanno, 2015; Radaelli & De Francesco, 2007). Accountability scholarship examines normative and analytical questions of who holds whom accountable for what and according to what standards (Bovens, 2010; Grant & Keohane, 2005).

Importantly, FCA frequently entails unclear or contested accountability relationships. It is often unclear whether transnational companies are accountable to domestic or importing public authorities, consumers, or affected communities (Gustafsson et al., 2023a). Moreover, increasingly long chains of accountability in global

trade (Park & Kramarz, 2019) and legal issues of jurisdictional competencies in a complex web of international and national soft and hard laws with different standards and free trade rules make it difficult to hold transnational companies accountable for negative socio-environmental externalities (Gustafsson et al., 2023a; Weinstein & Charnovitz, 2001).

Accountability theories add to existing hard and soft law perspectives by helping disentangle multi-layered accountability relationships during regulatory design, implementation, and enforcement processes (Park & Kramarz, 2019). Accountability scholarship distinguishes between the intrinsically interlinked design (or input) tier and execution (or output) tier of accountability. The design tier refers to the formulation of policies and includes processes of framing problems, identifying priorities, setting policy goals, and developing solutions. The execution tier refers to interventions such as implementing and enforcing policies (Kramarz & Park, 2019). Accountability scholarship has mainly focused on the execution tier of accountability, overlooking the institutional design of accountability mechanisms and their underlying normative logics and biases (Park & Kramarz, 2019), particularly in transnational public policies (Gustafsson et al., 2023b). This article analyzes the design of accountability standards and mechanisms under the EUDR in the context of the design and execution of existing private and hybrid forest-related regulations. Taking a historical perspective, we analyze the ratcheting up (or down) and hardening (or softening) of FCA norms under the EUDR (see Section 2.2).

2.2. Hardening foreign corporate accountability

As accountability norms develop, they are institutionalized in rules, policies, and standards through the following accountability mechanisms (Grant & Keohane, 2005).

Primarily hard intervention logics:

1 *Hierarchical*: relationships within organizations (e.g., superiors can exercise power over subordinates through office removal or task constraints).
2 *Supervisory*: hierarchical relationships between organizations (e.g., the World Bank and the International Monetary Fund are subject to state and court supervision).
3 *Fiscal*: mechanisms through which funding agencies can demand reports and sanction-funded agencies (e.g., the United Nations and the World Bank rely on government funds).
4 *Legal*: public and private actors must abide by formal rules and can be held accountable for their actions (e.g., in administrative or criminal courts).

Primarily soft intervention logics:

5 *Market*: investors and consumers can exercise power through markets (e.g., boycotts, investment decisions, and purchase choices).
6 *Peer*: mutual evaluation of organizations by their counterparts (e.g., cooperation exclusion).
7 *Reputational*: involved in all accountability forms; reputation as a means to exercise "soft power" (Nye Jr, 2004, p. 5) even when other accountability mechanisms are unavailable (e.g., naming-and-shaming campaigns).

Accountability entails two key dimensions (Newell, 2008): answerability refers to the right to request "justification for (in)action" (Newell, 2008, p. 124), enforceability further enables the realization of accountability claims, as in the form of penalties or sanctions. Soft accountability requests answerability only, and hard accountability requests both answerability and enforceability (Fox, 2007). Importantly, some accountability mechanisms are more effective if standards of legitimacy (e.g., conformity to human rights norms) against which power-wielders can be held accountable are formally encoded in enforceable laws. Others rely more on informal norms and standards (Grant & Keohane, 2005). The state can promulgate regulations that establish hard accountability mechanisms for private business actors by requiring them to comply with minimum standards (e.g., environmental and social standards), set procedural and public law norms (e.g., due process), and default rules (e.g., reporting, transparency) (Abbott & Snidal, 2021b). Standards not formally legalized primarily operate through soft accountability mechanisms such as reputational risk and peer pressure (Grant & Keohane, 2005).

The type and number of applicable accountability standards and mechanisms determine transnational actor accountability (Grant & Keohane, 2005). Raising or *ratcheting up*—as opposed to ratcheting down—FCA

(Cashore & Stone, 2014) occurs by introducing new soft and/or hard accountability standards and/or mechanisms. This refers to increasing the number of FCA standards (e.g., new environmental standards) and/or mechanisms (e.g., by one or more accountability mechanisms 1–7). It can also occur by expanding existing standards and/or mechanisms (e.g., shifts in regulatory detail, scope, and coverage). We understand *hardened*—as opposed to softened—FCA as an increase or expansion of hard accountability standards and/or mechanisms regulating transnational business actors, for instance, through adopting new hard laws with command and control rules to enforce newly institutionalized accountability standards.

2.3. Institutionalization of accountability norms

Hardened FCA involves a process of regulatory policy change where norms are developed and institutionalized in hard accountability standards and mechanisms (e.g., policies, laws, rules). Norm institutionalization implies that they become an integral part of "sets of regularized practices with a rule-like quality, [which] structure the behavior of political and economic actors" (Hall, 2010, p. 204; cf. Hall & Taylor, 1996). Historical institutionalism helps explain that policy actors involved in policy-oriented conflicts and learning are the main drivers of—or barriers to—regulatory policy changes and hence the development and institutionalization of accountability norms. The behavior of policy actors and their coalitions as agents of normative change or stability is guided by their normative values and instrumental beliefs, called "policy paradigms" (Hall, 1993, p. 279).

Disruptive events such as the fragmentation of political authority, governmental changes, socio-economic developments, public opinion, and policy failures are intervening factors that can trigger policy-oriented learning within and between actors and coalitions, resulting in regulatory policy change. Learning refers to "a deliberate attempt to adjust the goals or techniques [or instruments] of policy in response to experience and new information. Learning is indicated when policy changes as the result of such a process" (Hall, 1993, p. 278).

3. Methodology

Empirically, this article is informed by a qualitative content analysis (Mayring & Fenzl, 2019) of documents relevant to tracing the process (Beach & Pedersen, 2019) of the EUDR's development. This includes deductive-inductive coding of policy documents (D1–D104; Supporting Information) and an academic literature review. Policy documents include official decision-making outputs such as European Commission (Commission) communications and legislative proposals, European Parliament (Parliament) reports and resolutions, and Council of the European Union (Council) conclusions. Additional documents include (environmental) NGO ((E)NGO) reports, conference records, public and private stakeholder statements, Commission FLEGT/EUTR/EUDR expert group summary records, and commissioned studies.

We identified documents through a search of EU databases by using keywords such as "deforestation-free," "supply-chain," "zero-deforestation," and "stepping up EU action." Closely following legislative developments online and in conversations with key informants, we systematically added additional documents to a Zotero database until data saturation (Creswell & Creswell, 2018). Taking a historical perspective, we analyzed key policy developments starting from the early 1990s until the Commission published its legislative proposal for a new EUDR in 2021 (2021/0366 (COD)) (EC, 2021a).

We triangulated different interrelated theory-led empirical analyses to ensure the result's reliability and validity. To answer our first two research questions on the evolution and institutionalization of FRC supply chain accountability norms, we first trace the historical development of key private, hybrid, and state regulations in the forest and agricultural sectors to analyze the ratcheting up (or down) of FCA standards and mechanisms (Sections 4.1–4.3). Second, we zoom in and analyze how the institutionalization of new FRC supply chain accountability norms under the EUDR would harden (or soften) FCA for transnational forest and agricultural commodity trade (Section 4.4). Through analytical induction (Miles & Huberman, 1994), that is, by inductively developing results fitting to theory-derived deductive analytical categories (Section 2), both analyses served to classify FCA into three types of FRC supply chain regulation: accountability types I, II, and III. In Section 5, we discuss our main findings in light of the research questions and scientific literature, drawing conclusions and suggestions for further research.

4. Results

4.1. Type I accountability: Private forest-risk commodity sustainability and legality FCA standards

Due to the difficulties for states to regulate global production processes and associated sustainability challenges, private forms of transnational governance emerged during the global deregulation waves of the 1980s and 1990s (Abbott & Snidal, 2021b; Kramarz & Park, 2019). This outsourcing of regulating supply chains to private actors was necessary due to inherent legitimacy issues and legal constraints to influencing sovereign states (Abbott & Snidal, 2021b).

In the forest sector, the Forest Stewardship Council (FSC) multistakeholder certification—uniting environmental and human rights advocates with timber producers, traders, and retailers—and the competing industry-led Program for the Endorsement of Forest Certification (PEFC) were among the first private regulations to certify sustainable forest management practices and set chain of custody standards (Abbott & Snidal, 2021a) (Fig. 1). These schemes emerged after repeated intergovernmental failures to agree on a legally binding global forest convention during the 1990s (Sotirov et al., 2020). They are described as innovative nonstate market-driven governance mechanisms (Cashore, 2002), working mostly without state regulation (Abbott & Snidal, 2021a).

In the agricultural sector, similar NGO and industry regulations set sustainability standards for agricultural commodities (e.g., coffee, soy, palm oil) and cattle/beef production and supply chains. Central schemes include the NGO-led Rainforest Alliance and competing industry-led 4C coffee certification schemes (Lambin et al., 2018). Key multistakeholder certification schemes—managed by NGOs, civil society organizations (CSOs), companies, and producers—include the Roundtable on Sustainable Palm Oil (RSPO) and Round Table on Responsible Soy (RTRS). The Global Roundtable on Sustainable Beef (GRSB) is a tripartite multistakeholder certification scheme additionally involving regulatory authorities and governmental agencies as consulting members (Abbott & Snidal, 2021; Garrett et al., 2019; Lambin et al., 2018; D102–D104). In addition to these incentive-based standards, industry-oriented strict sanction-based standards include bans and moratoria, such as the Brazilian Soy Moratorium and G4 Cattle Agreement (Garrett et al., 2019; Lambin et al., 2018).

Similar to forest certification, these private regulations developed through normative (dis)approval of (un)sustainable business practices from NGOs, CSOs, consumers, retailers, employees, and shareholders, as well as

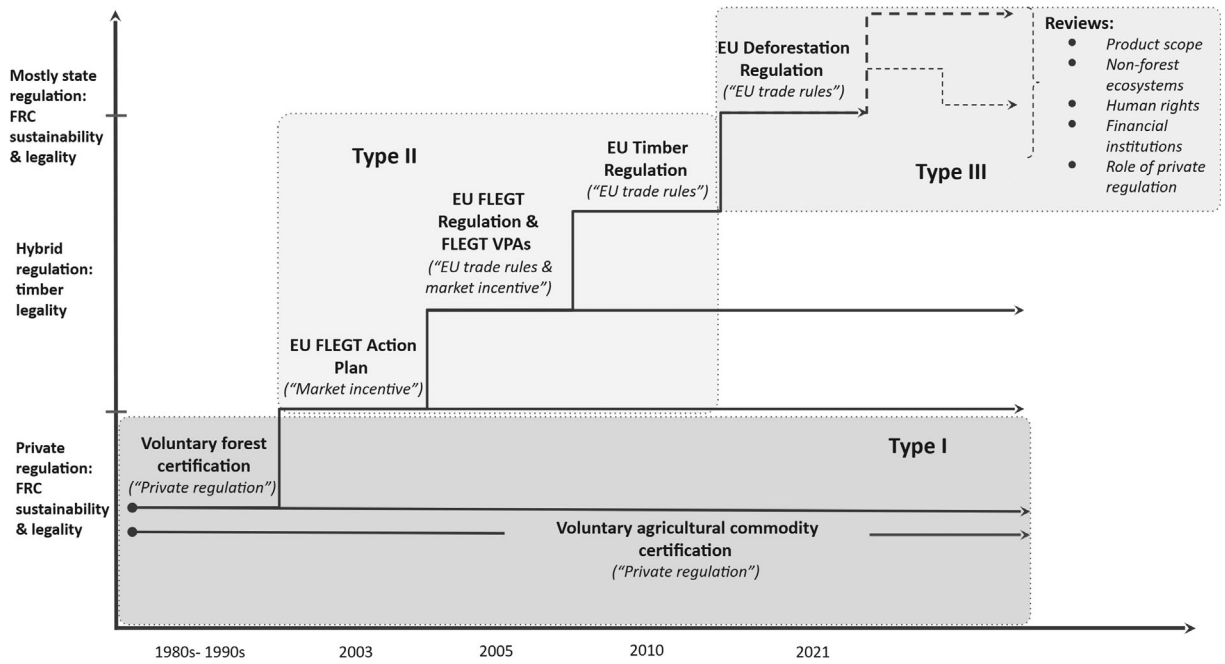

FIGURE 1 Ratcheting up accountability standards in transnational forest and agricultural supply chain regulations. Authors own illustration building on Cashore and Stone (2014).

through market (dis)incentives (e.g., business reputation, price premium, market access, boycotts) (Garrett et al., 2019; Kramarz & Park, 2019; Partzsch, 2020; Rueda et al., 2017).

Moreover, various companies announced zero-deforestation pledges in response to increasing civil society pressure and governmental scrutiny (Lambin et al., 2018). Mainly driven by reputational and associated profitability concerns, these industry self-regulation initiatives are voluntary sustainability commitments, indicating a company's intent to eliminate deforestation from its supply chains (Garrett et al., 2019; Lambin & Thorlakson, 2018; Rueda et al., 2017).

The adoption of private sustainability regulations can lead to ripple effects along supply chains, for instance, if lead firms (e.g., retailers) request minimum sustainability standards from producers and suppliers through peer pressure (van der Ven, 2019). However, private certification schemes and industry self-regulation have faced several FCA shortcomings. These include an overall lack of or deficiency in implementation, monitoring, transparency, and global market uptake (Garrett et al., 2019; Kramarz & Park, 2019; Lambin et al., 2018). Leaving private actors to set their own accountability standards and perform functions usually reserved for government agencies involves risks, as in resource and expertise constraints for monitoring and enforcing compliance. Such accountability and transparency risks are further exacerbated when companies outsource regulation monitoring to private consultants and auditors, further removing state control and reducing accountability (Sarfaty, 2015).

Consequently, FCA type I, where private actors are expected to voluntarily hold themselves (i.e., first-party) or other private actors through a party associated with the company (i.e., a second party) or an independent group (i.e., a third-party) (Rueda et al., 2017) accountable for the sustainability and legality of FRC supply chains, did not yield the desired impacts regarding the overarching policy goal to reduce global deforestation. Figure 2 illustrates accountability relationships under FCA type I, which are mainly driven by soft *market* (e.g., profit and influence loss after consumer boycotts), *peer* (e.g., downstream or upstream pressure to follow peers' sustainability standards), and *reputational* (e.g., naming-and-shaming) *accountability* mechanisms with no or very limited

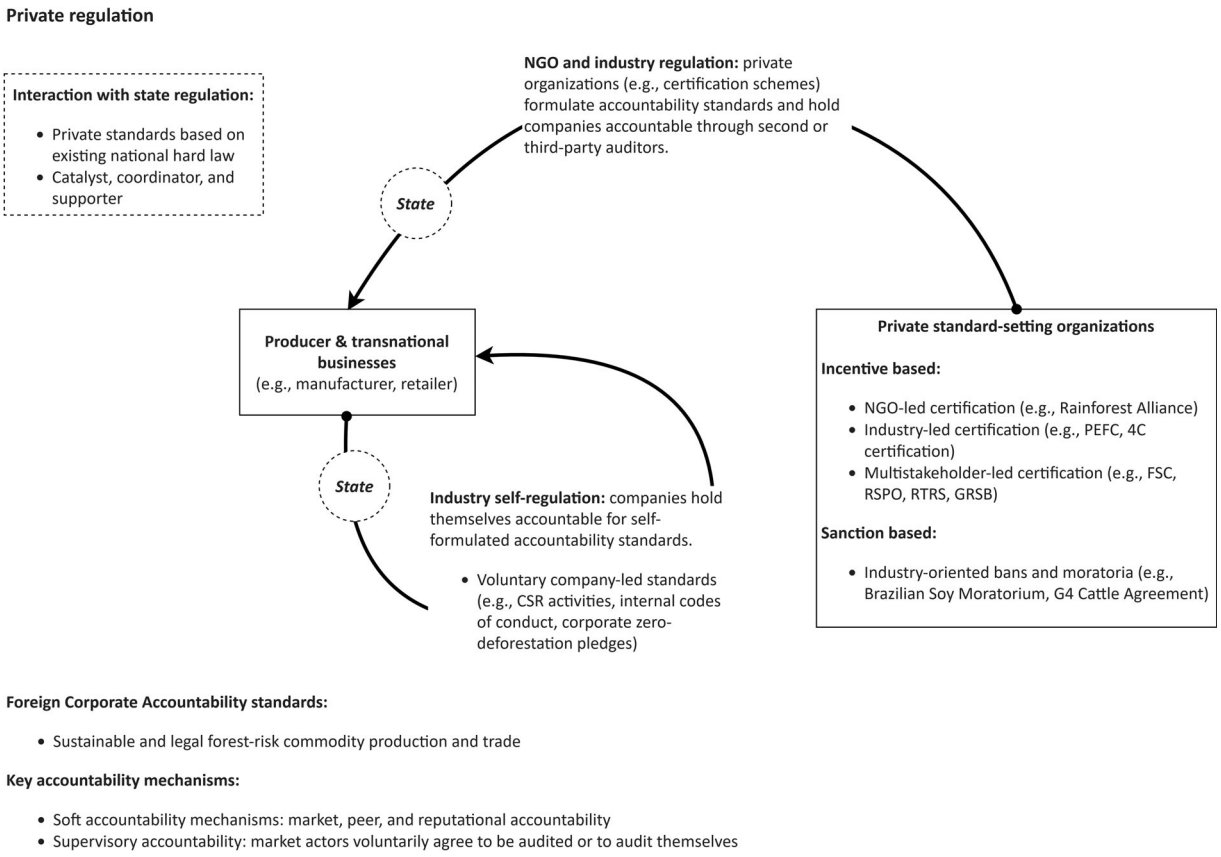

FIGURE 2 Forest-risk commodity supply chain accountability type I (authors' own illustration).

state control. Market actors voluntarily agree to be audited or to audit themselves (*supervisory* and *peer accountability*). Failures to adopt or comply with private sustainability initiatives can result in market sanctions, including reputational loss, profit loss, lower share prices, a firm's collapse, certificate withdrawal, and supply chain exclusion, depending on the adopted sustainability instruments' stringency and reputational damage (Kramarz & Park, 2019; Rueda et al., 2017). The state's role is limited to catalyzing, coordinating, and supporting regulatory activities, particularly during the agenda-setting, negotiation, and enforcement stages (e.g., preferential status and financial support) (Abbott & Snidal, 2021). Furthermore, private standards are frequently based on compliance with existing national social and environmental protection hard laws (Abbott & Snidal, 2021; Lambin & Thorlakson, 2018).

4.2. Type II accountability: Hybrid timber legality FCA standards

After skepticism about the effectiveness of voluntary intergovernmental cooperation to tackle illegal logging and associated timber trade (Bernstein & Cashore, 2012), the EU decided to replace bilateral FLEG initiatives with state-sanctioned trade regulations (T) (Overdevest & Zeitlin, 2014). The EU formally hardened FCA for timber legality by adopting and implementing the FLEGT Action Plan in 2003. The Plan consists of two EU laws: (1) the demand-side Council Regulation No 2173/2005 (FLEGT Regulation), allowing for the control of timber imports to the EU from partner countries entering into supply-side oriented bilateral FLEGT VPAs, requesting them to set up national timber legality licensing and assurance systems (TLAS), and (2) the demand-side EU Regulation No 995/2010 (EUTR) prohibiting the placing of illegally sourced timber and timber products on the EU market, requesting operators to exercise due diligence along their supply chains (D1–D5; Sotirov et al., 2017).

The FLEGT VPAs' voluntary design accommodates World Trade Organization (WTO) rules that only permit trade restrictions when importing and exporting countries agree. VPAs become legally binding to both parties upon ratification (Bernstein & Cashore, 2012). The EUTR complies with WTO rules by requiring EU domestic producers and importers to exercise due diligence when placing timber products on the EU market (Overdevest & Zeitlin, 2014). The forest-specific EU laws' theory of change is to improve foreign corporate (e.g., operators, traders) and governmental (i.e., EU Member States, partner countries) accountability by encouraging and stimulating the legal, but not necessarily sustainable, production, trade, and consumption of timber and timber products. The FLEGT Action Plan's narrow accountability standard of timber legality—as defined by the producer country in a multistakeholder process—instead of sustainability sought to respect producer countries' sovereignty and ensure the legitimacy of EU external action-oriented trade restrictions (Bernstein & Cashore, 2012). The legality accountability standard is set through state-led market incentives (FLEGT VPAs, green lane for FLEGT licensed timber under the EUTR's due diligence requirements) and state-sanctioned trade rules (VPAs' TLAS requirements, EUTR's prohibition clause) (Fig. 3). Compared to voluntary private FRC supply chain regulation, the institutionalization of timber legality accountability standards in EU and third countries' state standards resulted in a ratcheting up and hardening of FCA standards, mainly by introducing new hard accountability mechanisms (e.g., due diligence obligations, TLAS requirements) that apply to more market actors in the EU and third countries (e.g., domestic and transnational companies) (Figs. 1 and 3). Third-party verification schemes (e.g., forest certification) can formally be used to comply with the EUTR's risk assessment and mitigation obligations, partially fulfilling the EUTR's timber legality FCA standard (D5; Dieguez & Sotirov, 2021). A detailed comparative analysis of applicable hard and soft accountability mechanisms under the EUTR and EUDR follows in Section 4.4.

Over a decade after its adoption, the EUTR's implementation and enforcement come with key challenges in most EU Member States, limiting the de-facto hardening of timber legality FCA. The subjective term "negligible risk" and the ambiguous rules on how to prove compliance have frequently caused difficulties in proving business noncompliance and infringements in court: "operators […] have not always been facing legal consequences for contravening the EUTR" (D43, p. 29). Further implementation and enforcement challenges include a lack of political will and enforcement capacities, loopholes for operators to evade obligations, as well as nonawareness and a limited understanding of due diligence obligations, particularly by smaller operators (D43). They have led to incoherent and inconsistent implementation and enforcement across Member States, as in differences in the number of checks and levels of penalties (Köthke, 2020; McDermott & Sotirov, 2018). This has led to EU market

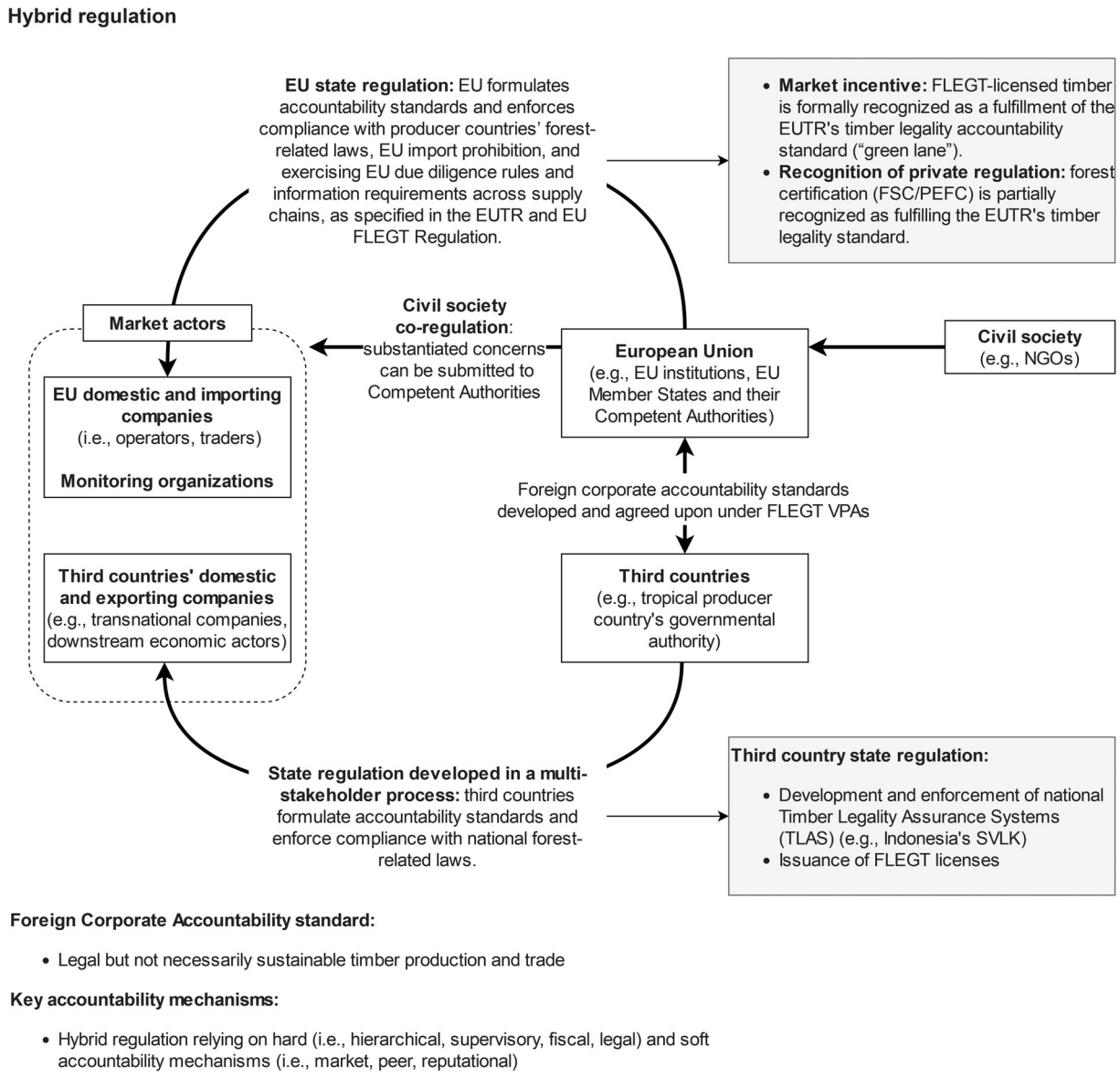

FIGURE 3 Forest-risk commodity supply chain accountability type II (authors' own illustration).

distortions and leakage effects, allowing for illegal timber and timber product imports via specific Member States, with little or no enforcement in Southern and Eastern European countries (D43; D81).

The FLEGT Regulation and VPA's core achievements include systemic improvements in proxy accountability, as in enhanced stakeholder and civil society participation, strengthened governance structures, and capacity building. FLEGT VPA-specific challenges include the limited coverage of partner countries and the complexity, slowness, and cost of negotiation processes. So far, only Indonesia—out of 15 countries negotiating and implementing a VPA—has reached the FLEGT licensing stage. Furthermore, key EU trade partners (e.g., Russia, Ukraine, Brazil), which are considered high-risk concerning illegal logging, never entered into VPA negotiations with the EU (D43). The Commission also reported trade leakage of timber exports from VPA countries to China while "the EU continues to finance domestic stakeholder activities as long as the VPA process is still ongoing" (D43, p. 26). Moreover, research suggests that VPA-related EU investments of over 1.5 billion € have been unable to address social inequalities and injustices. Furthermore, licensing-related administrative burdens on the supply side without providing a price premium on the demand side has harmed domestic timber-supplying economies by reducing the competitiveness of small-scale businesses (Villanueva et al., 2023).

Strategically learning from this experience, evaluated and summarized in the 2021 EUTR/FLEGT fitness check, the Commission reported only a moderate success of both Regulations on reducing illegal logging and preventing illegal timber from entering the EU market (D43). The Commission tentatively registered EUTR-related reductions of illegal timber imports (12%–29%) while also reporting an absence of trade shifts to more transparent countries, even registering rising imports from high-risk countries (e.g., Ukraine, Myanmar, China). Nevertheless, the Commission decided on an expanded EUTR-like approach to further harden FRC supply chain accountability (see Sections 4.3 and 4.4).

4.3. Type III accountability: Mostly state-based forest-risk commodity sustainability and legality FCA standards

Motivated by the perceived shortcomings and failures of type I and II accountability standards by key EU state (e.g., Commission, Parliament, Council) (D6–D52) and nonstate actors (e.g., (E)NGOs) (D53–D55), the Commission started developing a new legal framework against EU-driven global deforestation based on EUTR-like due diligence requirements for FRC supply chains (Fig. 4). Building on the Commission's 2008 Communication addressing global deforestation and forest degradation (D6), experience with the EUTR's adoption and implementation since 2010 (D5; D43), and a series of targeted stakeholder conferences, studies, and impact assessments since 2011 (D31–D46), the Commission—represented mainly by its Directorate-General for the Environment (DG ENV)—published a roadmap in 2018 (D7) and a Communication on "stepping up EU action against deforestation and forest degradation" (D8). Published in July 2019—shortly before handing the presidency of the Commission from Juncker to von der Leyen—the Communication was an own-initiative procedure (D74), led by DG ENV under the co-leads of DG for Development Cooperation (DEVCO; now DG for International Partnerships (INTPA)) and Agriculture and Rural Development (AGRI) (D7).

The Council of EU Member States Agriculture and Fisheries Ministers (AGRIFISH) endorsed the Commission's proposition to tackle global deforestation and forest degradation by encouraging EU consumption of deforestation-free products through new regulatory and nonregulatory measures in its 2019 Council conclusion (D12). The Parliament started working on its legislative recommendations while the Commission already had inscribed a legislative proposal—described as a "unique case" by a DG ENV representative (D19). The Parliament published two reports and resolutions between 2020 and 2021, requesting the Commission to take ambitious legal action (D23–D30). It was represented by the responsible Committee on the Environment, Public Health and Food Safety (COM ENVI) and the Committees for opinion on Industry, Research and Energy (ITRE), Development (DEVE), International Trade (INTA), and Agriculture and Rural Development (AGRI) (D75–D76).

After launching several EU public consultation initiatives (D47–D50) and targeted stakeholder meetings (e.g., expert group/multistakeholder platform) (D65–D73), the Commission published its proposal for a new EUDR in November 2021 (D11). The EUDR falls under the umbrella of the European Green Deal, contributing to the 2050 climate neutrality and biodiversity loss reduction goals (D11 D21–D22).

The negotiation and adoption of the Commission's draft regulation occurred in an ordinary ex-co-decision legislative procedure between the Parliament under the leadership of the responsible COM ENVI, the Committees for opinion INTA, AGRI, DEVE, and Internal Market and Consumer Protection (IMCO) (D76), and the Council, representing Member States agricultural and environmental ministers (D12–D18).

As a normative policy change, the EUDR—as proposed by the Commission in 2021—would formally ratchet up and harden FCA standards in transnational forest and agricultural supply chain regulations (Fig. 1). This would mainly occur through institutionalizing new FRC supply chain accountability norms in new hard law standards (i.e., zero-deforestation and zero forest degradation), hardening existing FCA mechanisms (e.g., improved due diligence obligations), and reducing the role of FLEGT VPAs and private regulation, as visualized in Figure 5 and detailed in Section 4.4.

4.4. Hardening FCA for legal and sustainable forest-risk commodity trade

4.4.1. Institutionalization of new FRC supply chain accountability norms

The EUDR's design builds on experiences implementing other EU supply chain and environmental regulations, notably the EUTR, FLEGT Regulation, and FLEGT VPAs. The EUDR's official policy objective is to close the

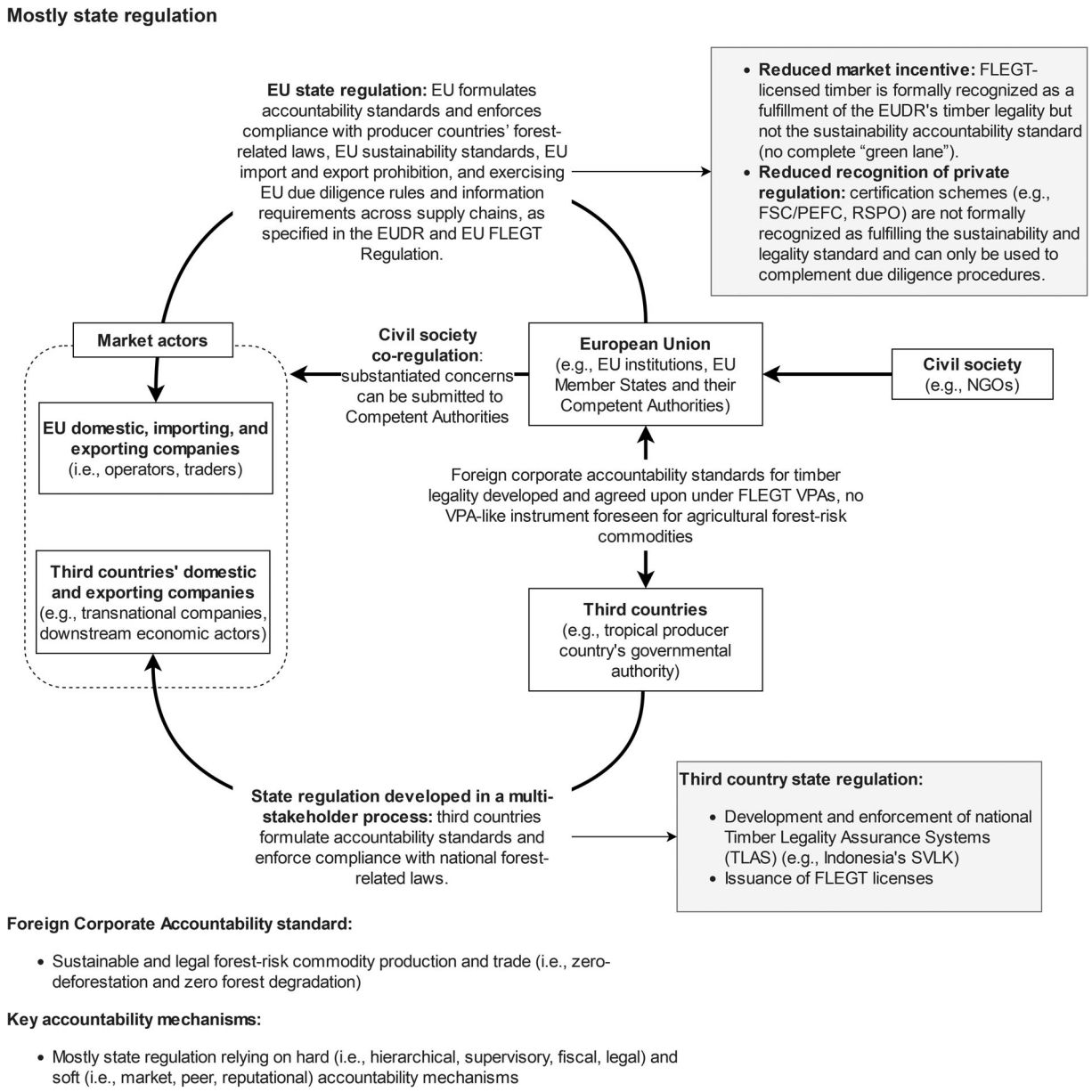

FIGURE 4 Forest-risk commodity supply chain accountability type III (authors' own illustration).

regulatory and accountability gap in EU trade policy and governance mechanisms of not directly addressing deforestation and excluding deforestation caused by agricultural FRC production, trade, and consumption: "the existing EU legislative framework [EUTR and FLEGT Regulation] focuses on tackling illegal logging and associated trade and does not address deforestation directly" (D11, p. 26). The Commission concluded that the EUDR needs to go beyond the previous focus on hybrid timber legality accountability standards (type II): "focusing solely on legality of timber was not sufficient" (D11, p. 27). The new, mostly state-based, regulatory initiative (see Section 4.4.2) expands the FRC supply chain accountability scope by addressing sustainability in addition to legality and by covering mainly agricultural FRCs in addition to timber and timber products (type III). The EUDR proposes a cut-off date of December 31, 2020, for its zero-deforestation and zero-forest degradation accountability standards. They are set through an FAO-based "deforestation-free" definition, encompassing deforestation and forest degradation. Deforestation is defined as "the conversion of forest to agricultural use, whether human-induced or not" (D11, p. 34); forest degradation refers to unsustainable harvesting operations that "cause a

reduction or loss of the biological or economic productivity and complexity of forest ecosystems […]" (D11, p. 35). Timber and timber products would exclusively be covered by the second part of the deforestation-free definition (i.e., forest degradation), highlighting structural difficulties in regulating agricultural and timber products in the same legislation. These definitions are fundamental policy shifts compared to the EUTR. They expand the regulatory scope from requesting timber and timber product legality—as defined by the producer country without a cut-off date—to regulating the legality and EU-defined sustainability (i.e., deforestation-free) of forest and agricultural commodity supply chains (Fig. 4). By hardening FRC supply chain accountability standards to minimize the EU's consumption impact on deforestation and forest degradation and to increase the EU's demand for and trade in legal and deforestation-free FRCs, the EU seeks to achieve the European Green Deal's policy goals of reducing EU-driven greenhouse gas emissions and biodiversity loss (D11).

4.4.2. Hardened FRC supply chain accountability mechanisms, supported by soft accountability mechanisms

To implement and enforce the new FRC supply chain accountability standards, the Commission believes that new EUTR-like, but hardened, "legally binding options […] would be more effective than voluntary measures"

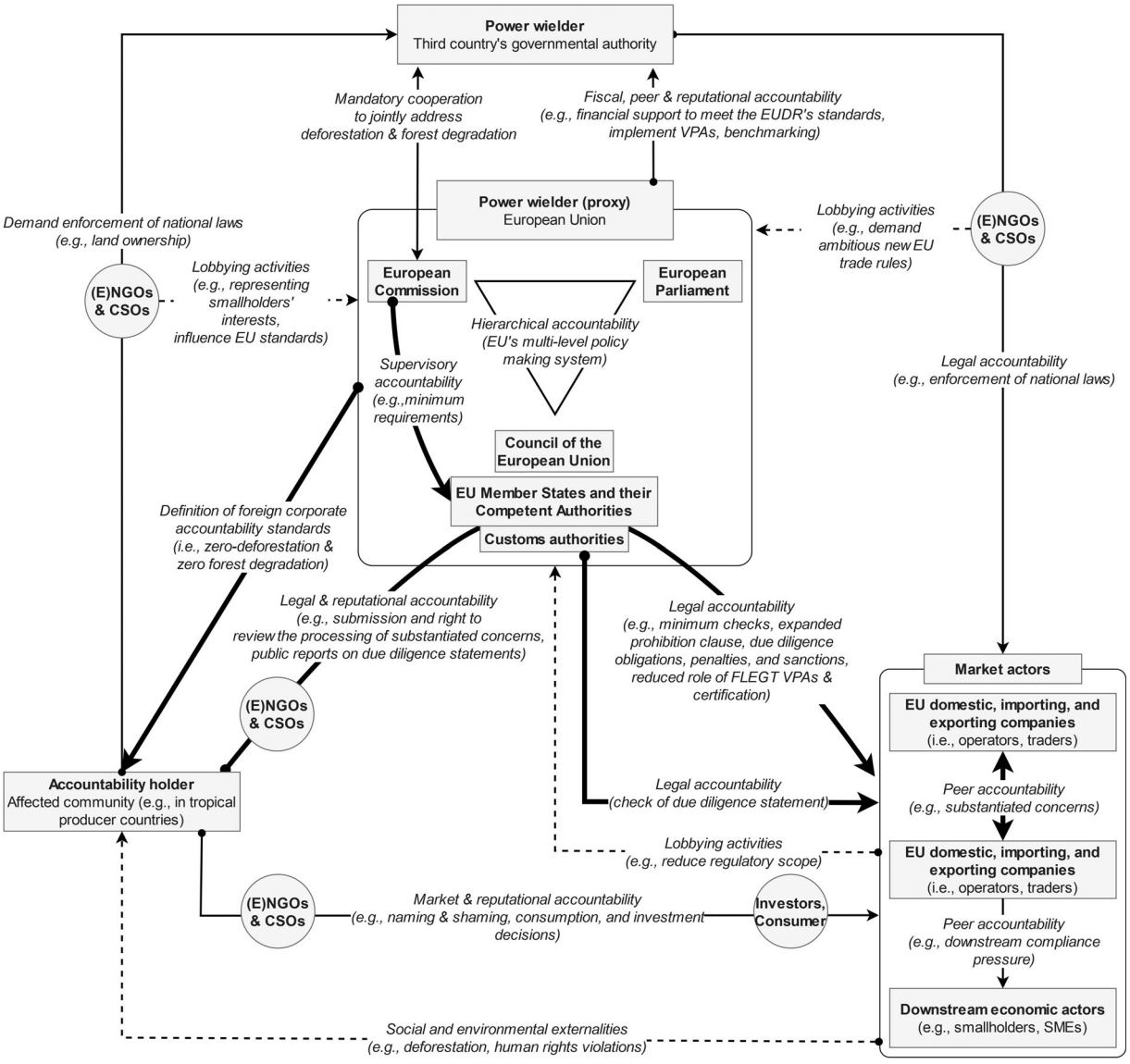

FIGURE 5 Hardened foreign corporate accountability mechanisms under the EUDR (Commission's 2021 proposal). *Arrows*: direction of influence; *bold arrows*: key hardened accountability standards and mechanisms (authors' own illustration).

(D11, pp. 5–6). The proposed EUDR would, by design, harden the *legal accountability* of operators and traders mainly through two key EUTR-like legal mechanisms; an expanded prohibition clause and more clearly defined mandatory due diligence rules (Fig. 5).

First, unlike under the EUTR, the prohibition clause expands to traders (i.e., those that make FRCs available on the EU market) in addition to operators (i.e., those that place FRCs on the EU market or export them). Specified commodities and products can only be placed or made available on the EU single market—or exported from the Union market—if they fulfill three mandatory criteria. Similar to the EUTR, they must (i) comply with producer countries' legislations. Additionally, FRCs must comply with two new obligations. They can only be imported or exported from the EU market if they (ii) are deforestation-free (see Section 4.4.1) and (iii) are covered by a specified due diligence statement. Following the EUTR's approach, the EU seeks WTO law compliance by equally applying the EUDR's scope to commodities and products produced within the EU. Unlike the EUTR, the EUDR additionally regulates timber exports from the EU to third countries (D5; D11; Figs. 3 and 4).

Second, strategically learning from difficulties in implementing and enforcing the EUTR (see Section 4.2), the EUDR innovates due diligence rules. Innovations include stronger traceability requirements by requesting new geolocation requirements, a new definition of "negligible risk" to improve the EUDR's enforceability in courts, and new obligations to submit due diligence statements to a new information system before importing or exporting FRCs (D11). Furthermore, unlike under the EUTR, firms can no longer outsource the development and evaluation of due diligence statements to private Commission-recognized Monitoring Organizations (D5; D11).

Third, the role of private regulation (i.e., certification) in proving regulatory compliance has been reduced compared to the EUTR's hybrid regulatory approach (type II). The Commission repeatedly highlighted the limited accountability and transparency of voluntary private regulation (i.e., certification and industry self-regulation) (D43–D46). For instance, the EUDR's accompanying impact assessment emphasized the shortcomings of certification schemes, referring to "abundant literature on […] shortcomings in terms of governance, transparency, clarity of standards, reliability of monitoring systems, etc." (D45, p. 40). Due to the eroding legitimacy of nonstate market regulation, private certification (type I) is not recognized as a green lane to fulfill the EUDR's legality and sustainability due diligence obligations (Dieguez & Sotirov, 2021). Unlike under the EUTR, third-party verified schemes (e.g., certification) are explicitly only permitted as an auxiliary tool to complement due diligence obligations and must fulfill the EUDR's information requirements (D11).

Fourth, strategically learning that there is "limited evidence that the [FLEGT] VPAs overall have contributed to reducing illegal logging" (D11, p. 7) and that these VPAs are complex and resource intense (see Section 4.2), the Commission suggested repealing the FLEGT Regulation. The Commission stated that this "would free considerable resources [which] could be used in [a] new approach that addresses the issue more effectively and more efficiently" (D43, p. 46). As a compromise solution to respect bilateral commitments, FLEGT-licensed wood is proposed to fulfill the EUDR's legality standard, but not the sustainability standard (i.e., deforestation-free) (D11). Unlike under the EUTR, FLEGT-licensed wood is not granted a green lane to the EU market under the EUDR (Figs. 3 and 4). These governance changes between the EU and third countries point to changes in *fiscal accountability*. Third countries are likely subject to stricter fiscal accountability towards the EU—represented by the Commission—for receiving financial support to meet the EUDR's accountability standards, implement VPAs, and enter into a newly proposed instrument called Forest Partnerships.

The Commission's proposal regulates market actors through a combination of hard and soft accountability mechanisms. First, the proposal partially addresses the EUTR's *legal accountability* loophole of excluding traders from due diligence obligations by considering large traders as operators under the EUDR. Trader exemptions from the EUTR's due diligence rules are reported to have allowed operators to evade due diligence obligations (e.g., by establishing front companies) (D83–D84). Similar to the EUTR, traders that are small and medium-sized enterprises (SMEs) would be only subject to information requirements (i.e., collection and storage of supply chain information). Building on experiences with behavioral changes under the EUTR, the Commission expects an increase in FCA of unregulated market actors through soft *peer accountability* due to compliance pressure along supply chains: "the requirements of improved transparency and information gathering to fulfill the [due diligence] obligations […] have put pressure on all actors along the supply chains" (D43, p. 38). The Commission specifically excluded financial service providers from its proposal (D11), despite the Parliament's strong advocacy

to expand the regulatory scope to all market actors, including the financial sector and investments (D29). The Commission argued that the EU Taxonomy Regulation and future Corporate Sustainability Reporting Directive (current Non-Financial Reporting Directive) are better suited to steer finance and investment sectors (D11).

Consequently, only operators and traders need to be prepared to pay nationally determined "effective proportionate and dissuasive penalties" in case of noncompliance with the EUDR's prohibition clause, information requirements, due diligence rules, and reporting requirements (D11, p. 47). Learning from EUTR penalties across Member States—incoherent overall and unlikely to be strictly imposed (McDermott & Sotirov, 2018)—the EUDR establishes expanded penalty criteria to harden FCA and disincentivize illegal and unsustainable FRC trade. This includes a new provision that fines should be proportionate to traders' and operators' annual turnovers, and new possibilities to confiscate revenues and exclude operators and traders from public procurement processes (D11; D43).

The EUDR addresses EUTR-specific implementation and enforcement difficulties by specifying obligatory, more clearly defined minimum inspection levels for Member States competent authorities. Additionally, customs authorities must verify the receipt of due diligence statements. These policy innovations expand the *legal accountability* of operators and traders towards Member States competent authorities and customs authorities, who are required to closely cooperate with the Commission, for instance, via the new information system. The Commission expects an increase in soft public *reputational accountability* for operators and traders as they would be required to report publicly on their due diligence system annually. Additionally, the Commission must enable public access to anonymized datasets of the Register Information System containing operator and trader due diligence statements (D11).

Moreover, competent authorities must check operators and traders if third parties submit substantiated concerns. This builds on the EUTR's Article 10(2) (D5) and means that state authorities must carry out checks when they possess "objective and verifiable information regarding noncompliance" (D11, p.19). Unlike under the EUTR, operators and traders must inform competent authorities if they receive substantiated concerns, hardening their *peer accountability* and *legal accountability* towards competent authorities. Furthermore, the public, (E)NGOs, and CSOs are entitled to review the processing of their substantiated concerns by competent authorities. This innovation would further harden the *legal accountability* of operators and traders (D11). However, in the absence of a civil liability and access to remedies clause, victims cannot directly hold market actors accountable for negative socio-environmental externalities (answerability only) (Fig. 5).

(E)NGOs and CSOs have a key role as watchdogs, for instance, by actively compiling and disclosing information on deforestation-linked corporate but also governmental (EU and third countries) activities. Key activities include publishing reports and data on regulatory infringements, deforestation, and human rights violations (D77–D82). This public *reputational accountability* is interlinked with expectations of increased *market accountability* by enabling investors and consumers to exercise soft power through informed purchasing, market boycotts, or investment decisions (D11).

Furthermore, the Commission proposed to design the EUDR as a "future-proof dynamic system," foreseeing a power increase for the Commission to ensure adaptability to market developments, new data, and scientific evidence (D11, p. 6). This includes the Commission's empowerment to publish country benchmarking results, categorizing producing countries and regions as low, standard, or high risk through implementing acts (D11). This deforestation and forest degradation risk-rating system is expected to increase *peer* and *reputational* accountability of third countries and EU Member States based on economic concerns related to a high-risk rating (e.g., trade disruption, reputational risks). The benchmarking system also affects the *legal accountability* of operators and traders as the due diligence and minimum inspection obligations are risk-based (i.e., the possibility for simplified due diligence for low-risk imports and exports, and risk-based number of minimum controls). The Commission also proposed to be empowered in adopting delegated acts to institute changes to the information requirements under the due diligence system and amend the list of relevant products. While the Commission would have the power to adopt delegated acts, the Parliament or Council may revoke this power at any time. Before adopting a delegated act, the Commission must consult with experts designated by each Member State. Furthermore, upon adopting a delegated act, the Commission must inform the Parliament and Council; the act only enters into force if there are no objections (D11). Consequently, the EUDR would empower the Commission to further harden *legal accountability* while maintaining its *hierarchical accountability* towards the Parliament, Council, and

Member States. Unlike under the EUTR, the Commission would be obliged to cooperate with third countries to address deforestation and forest degradation (Article 28) (D11).

The policy instrument choice for enforcing the new FRC supply chain accountability standards fell on a Regulation (as opposed to a Directive) to ensure harmonized and equal obligations and direct requirements for all operators that must be implemented simultaneously and identically in all 27 Member States (D11). The EU has exclusive competencies for managing the customs union and external trade policies regulating the EU single market, including removing barriers and competition policies (Hix & Høyland, 2011). The role of Member States is limited to applying the law by designating competent authorities for carrying out the EUDR's obligations and defining national-specific rules on penalties, controls, and reporting, which must comply with the Commission's minimum requirements. Learning from the inconsistent resource availability for competent authorities across Member States under the EUTR, the EUDR states that Member States should ensure sufficient resources for competent authorities (i.e., financial, staffing). The EUDR introduces a cost recovery innovation by empowering Member States to authorize competent authorities to reclaim enforcement costs from noncompliant operators or traders. Member States are required to notify the Commission about defined rules on penalties and subsequent amendments, ensure the EUDR's implementation and enforcement, and annually report to the Commission and the public on its application (e.g., plans for checks, control numbers, and results). The Commission must provide a publicly available Union-wide overview of the EUDR's application (D11). Upon the EUDR's adoption, Member States and their competent authorities will have expanded *supervisory accountability* towards the Commission—and to some extent, the public.

Overall, the outlined policy innovations in the EUDR would, by design, harden the legal accountability of FRC-exporting and importing businesses and improve the regulatory implementability and enforceability compared to the EUTR (Fig. 5). Nevertheless, the EUDR's design bears its own risks, as in its practical implementability, enforceability, and de-facto hardening of corporate accountability. This includes the absence of an internationally accepted definition of forest degradation, which limits enforceability. Furthermore, the newly proposed simplified due diligence obligations for operators and large traders sourcing from low-deforestation risk countries or regions involve risks of ignoring illegality and concentrated or commodity-related deforestation risks (D83–D84).

The draft legislation is seen as a "landmark regulation," significantly increasing the FCA and sustainability scope of EU supply chain regulations—as expressed by COM ENVI's rapporteur responsible during a 2022 public symposium (D94). However, key demands by the Parliament and (E)NGOs (e.g., Fern, Greenpeace)—such as the inclusion of nonforest ecosystems (e.g., wetlands), an expanded product scope (e.g., rubber, maize, all FRC-derived products), the financial sector, compliance requirements with international human rights standards, access to justice for victims, and improved public transparency mechanisms (e.g., list of noncompliant operators and traders)—are excluded from the Commission's proposal. The inclusion or exclusion of these demands was subject to discussions between the Commission, Parliament, and Council. Pro-hardened accountability (e.g., (E)NGOs, businesses seeking economic and reputational benefits, leveled playing fields, or market protectionism) and competing status-quo-oriented actor coalitions (e.g., governmental authorities from producer countries and corporate actors fearing increased administrative and legal burdens or complicated international trade) lobbied EU officials to institutionalize their respective demands (D11; D53–D64).

5. Discussion and conclusion

How and why have transnational accountability norms regulating FRC supply chains evolved over time? Which new FRC supply chain accountability norms are becoming institutionalized in the EUDR as a case of an EU regulatory policy change, and why? How would these norms harden or soften FCA for transnational forest and agricultural commodity trade?

First, our results show that strategic policy-oriented learning based on experience with progress and limitations of existing EU and transnational forest-related regulations initiated the emergence of new FRC supply chain accountability norms and standards (i.e., zero-deforestation and zero forest degradation). This includes learnings from accountability types, which until recently focused on voluntary private regulation of sustainable and legal FRC production and chains of custody (certification, industry self-regulation) (type I) and regulating timber

legality through market-correcting EU trade rules (EUTR, FLEGT Regulation) and market incentives (EU-partner country FLEGT VPAs), partially recognizing private regulation (certification) (type II). Second, these new accountability norms are becoming institutionalized in a new hard law (EUDR) regulating the legality and ecological sustainability (i.e., deforestation-free) of key FRCs, repealing the EUTR and significantly reducing the role of FLEGT VPAs and private regulation (type III). Third, the institutionalization of new FRC supply chain accountability norms in an EUTR-like but stronger EU state-based regulatory approach with an expanded prohibition clause (e.g., the inclusion of traders), improved risk-based due diligence obligations (e.g., due diligence statement, geolocation requirements), as well as improved implementation and enforcement mechanisms (e.g., minimum inspection levels), would by design harden FCA for negative market externalities on the environment. This mainly occurs through hardened legal accountability enacted by EU institutions and Member State authorities vis-à-vis operators and traders and hardened supervisory accountability of Member States competent authorities towards the Commission. Additionally, the EUDR strengthens civil-society co-regulation and hardens operator and trader peer accountability by introducing improvements to the processing of substantiated concerns. The EUDR also foresees behavioral changes of (unregulated) corporate actors along supply chains through expanded soft market, peer, and reputational accountability mechanisms.

However, it is not only about creating more (Kramarz & Park, 2019), expanding, or formally hardening accountability mechanisms. Continuously alarming deforestation and forest degradation rates (FAO & UNEP, 2020), despite increasing regulatory interventions in the forest sector (Sotirov et al., 2020), prompt the questions: Do we need more accountability mechanisms, or rather, better ones? Are those with the authority to govern the environment held accountable for the design of environmental interventions (Kramarz & Park, 2019)?

We show how the EUDR would by design formally harden FCA mechanisms by closing regulatory and accountability gaps in regulating FRC trade after learnings from type I and type II accountability failures. However, this would not necessarily result in de-facto hard accountability.

First, the EUDR's de-facto implications for hardening FRC supply chain accountability will depend on the final regulatory design (e.g., addressing risks of simplified due diligence requirements), which was still subject to political negotiations between EU institutions and Member States at the time of writing. Additionally, further research is needed to examine whether reducing the regulatory scope (e.g., exclusion of nonforest ecosystems, financial institutions, SMEs) was necessary to reduce trade-offs to improve market actor compliance (Williamson & Lynch-Wood, 2021) and achieve the consensus needed for a major EU policy change (Sabatier, 1998), or instead reflects status-quo-oriented interest group power to influence the regulatory design (e.g., incorporation of contra-regulatory interests). While the EUDR's development was a moving target, the Commission's proposal is a proxy for the final negotiated text—a compromise proposal between the Parliament's and Council's more extreme positions (Hix & Høyland, 2011; Sotirov et al., 2017). Future research should examine the final regulatory scope compared to the Commission's proposal to assess the integration or omission of key beliefs and interests of pro-hardened accountability and status-quo-oriented actors and implications for de-facto-hardened accountability. This would help to close knowledge gaps concerning the degree of consensus needed to institute a major policy change in the EU's multi-level policymaking system (Sabatier, 1998; Sotirov et al., 2021).

Second, the behavioral changes of regulated market actors (i.e., operators, large traders) and unregulated but relevant actors (e.g., financial institutions, traders that are SMEs) in terms of cleaning up supply chains will determine policy impacts. Compliance with the EUTR, for instance, was particularly challenging for smaller, resource-constrained operators, who were often unaware of their responsibilities (Köthke, 2020). Other operators evaded obligations by exploiting legal loopholes and implementation and enforcement shortcomings in EU Member States (EC, 2021b; McDermott & Sotirov, 2018).

Third, the de-facto hardening under the EUDR will depend on national implementation and enforcement improvements in EU Member States. For instance, the EUTR's implementation was subject to inconsistent enforcement across different clusters of Member States, depending on their administrative capacities, wealth, import dependence, and NGO involvement (McDermott & Sotirov, 2018). Strategically learning from these shortcomings, EU state actors foresee implementation and enforcement improvements, evidenced—among others—in the EUDR's new risk-based minimum inspection levels and expanded due diligence obligations. These policy innovations could improve corporate compliance through a perceived and de-facto higher likelihood of being

checked—particularly when importing from high-risk areas—and mandatory improvements in corporate due diligence procedures (e.g., due diligence statements, new geolocation requirements). However, learning from experiences with EU supply chain regulations, challenges to de-facto hardened accountability under the EUDR would likely include the limited capacity of (E)NGOs and CSOs to act as (independent) watchdogs (Balboa, 2017; Weber & Partzsch, 2018) and the limited institutional capacities of EU countries to enforce compliance (McDermott & Sotirov, 2018) despite a new enforcement cost reclaim mechanism for Member States competent authorities. Future research should explore to what extent the EUDR's formally hardened accountability mechanisms drive desired transformative corporate behavioral changes across FRC supply chains.

Fourth, we observe persistent issues owing to competing goals inherent in global environmental governance institutions (Kramarz & Park, 2019); in our case, protecting and preserving the environment by increasing production, trade, and EU consumption of sustainable FRCs. By expanding the legislative sustainability scope, the EUDR's design points toward important achievements in navigating the "accountability trap" (Kramarz & Park, 2019, p. 5): when authority holders are not held accountable through existing governance institutions for the design tier of environmental governance, biasing short-term economic goals at the expense of environmental goals (Kramarz & Park, 2019). However, the EU's unilateral regulatory move with still unclear cooperation measures to support third countries in meeting new EU accountability standards bears risks of diverting trade to less regulated markets, minimizing potential global deforestation and forest degradation impacts. Scholars should examine to what extent the EUDR's final regulatory design values the environment as a secondary or primary goal compared to economic goals. This would support research on the normative biases in global environmental governance institutions and accountability mechanisms "that seek to verify, measure, and monitor compliance for some things but not others" (Kramarz & Park, 2019, p. 10). Furthermore, most accountability mechanisms in public, private, and hybrid governance are narrowly designed as control and compliance tools, impeding transformative environmental governance (Park & Kramarz, 2019). Park and Kramarz (2019) argue that viewing accountability through the lens of learning instead of compliance and enforcement is needed to avoid the accountability trap in the design and execution tier of environmental governance interventions, distinguishing between procedural and substantive learning. While our results support that the EUDR as an EU regulatory policy change occurred through strategic policy-oriented learning with type I and type II procedural accountability failures in a politically favorable context, more thorough research is needed to assess the substantive scope of this policy learning process. Furthermore, future research could analyze additional pathways to policy change, such as internal and external shocks or negotiated agreements (Sabatier & Weible, 2007).

Additionally, research on the EUDR's legitimacy is needed. The EU, for instance, seeks to exercise accountability on behalf of affected communities and nonhuman entities (e.g., biodiversity, climate) in third countries by enacting EU trade rules with the threefold objective of minimizing environmental impacts, reducing the EU's imported greenhouse gas emissions, and promoting deforestation-free EU consumption. These accountability-by-proxy arrangements (Koenig-Archibugi & Macdonald, 2013) with conflicting economic, social, and environmental goals (Cashore & Bernstein, 2022) bring unique challenges, including risks of misinterpreting local needs and excluding their policy instrument preferences (Kramarz et al., 2023; Partzsch, 2021). Key legitimacy issues emerge because the EU's leading share of commodity import-embedded deforestation results from displaced deforestation, namely demand-driven deforestation occurring outside the EU's borders, while the EU is increasing its forest cover (Pendrill et al., 2019). Such normative challenges affect the EUDR's acceptance—a crucial precondition for successful regulation, in addition to knowledge about implementation rules and resources (Williamson & Lynch-Wood, 2021). Consequently, improvements in external governmental accountability, as in enhancing the inclusion of external stakeholders in the policy process, are required for legitimate governance beyond EU borders (Schilling-Vacaflor & Lenschow, 2021).

Overall, our results show that the de-facto hardening of accountability depends on both the design and execution tiers of accountability (Park & Kramarz, 2019) and that policy and institutional changes do not occur in a vacuum but within the framework of existing and "sticky" policies, rules, laws, and standards (Streeck & Thelen, 2005). Our results empirically support Cashore and Stone's (2014) theorization of an incremental process of ratcheting up environmental standards. We show that ratcheting up socio-environmental accountability standards in EU public law has occurred through a strategic policy-learning process, newly introducing and expanding hard and soft accountability mechanisms. This includes built-in possibilities to ratchet up towards higher

(e.g., gradual product scope expansion under the EUDR) or down towards lower private or public standards (e.g., a green lane for sustainability certification and FLEGT licenses under the EUDR).

To summarize, the regulation of deforestation related to global trade in agricultural FRCs follows similar FCA innovations in the forest sector (i.e., regulation of legal timber production and trade) (type II). This includes policy shifts away from private regulation (i.e., sustainability and legality certification, industry self-regulation) (type I) towards increased state regulation by developing new EU trade rules based on new FRC supply chain accountability standards (i.e., legal and sustainable FRC supply chains) (type III).

Finally, this article comes with some limitations. Globalized accountability relationships in increasingly long supply chains are more complex than our analysis is able to capture. While we identified key FCA types in FRC supply chain regulation, this does not capture the complexity of existing accountability types. For instance, in Southeast Asia, public certification schemes for palm oil [i.e., Indonesian Sustainable Palm Oil (ISPO), Malaysian Sustainable Palm Oil (MSPO)] emerged as competition to stricter private certification schemes (e.g., RSPO) (Partzsch, 2020). Synergies and trade-offs between existing and newly emerging public, private, and hybrid governance arrangements are poorly understood. They require further research to assess their impact on global sustainability and FCA in increasingly globalized FRC supply chains with unclear and contested accountability relationships.

Acknowledgments

We thank Maria-Therese Gustafsson for her helpful comments and suggestions for this manuscript and are grateful for the exchange with participants at the 5th International Conference on Public Policy. We thank three anonymous reviewers for their thorough feedback and suggestions, which greatly improved the article.

This research has received funding from the European Union's Horizon Europe research and innovation program under grant agreement No. 101060765, and the Forest, Markets, and Climate Governance (FGMC) program of the UK Government Foreign, Commonwealth, and Development Office (FCDO), co-funded by the Embassy of the Republic of Indonesia in Germany. Open Access funding enabled and organized by Projekt DEAL.

DATA AVAILABILITY STATEMENT

The data that supports the findings of this study are available in the supplementary material of this article.

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Supporting information

Additional Supporting Information may be found in the online version of this article at the publisher's web-site:

Appendix S1. Policy document overview.