Logistics Service Providers as Compliance Intermediaries: Reallocating Traceability Obligations in Vietnam's Agro-Forestry Export Supply Chains

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Abstract
The European Union Deforestation Regulation, applicable from 30 December 2026, shifts the market barrier facing Vietnam's three leading agro-forestry exports, coffee, rubber and timber and timber products, from product attributes to an obligation of proof grounded in data. Existing scholarship concentrates on smallholders and exporting firms, leaving unanswered the question of who actually creates, holds and transmits traceability data once goods leave the processing plant. Using desk research with a four-tier source-reliability protocol, this study constructs a matrix contrasting statutory responsibility with de facto control over data. The findings reveal a structural misalignment: legal responsibility is concentrated in the EU importer, whereas the data determining compliance resides with collectors and logistics service providers, actors bearing no statutory duty. The study proposes the concept of the compliance intermediary, specifies three conditions for its emergence and four conditions for its effective operation, and cautions that low-risk country status exempts operators only from risk assessment, not from the underlying information requirements.

Keywords: *traceability; supply chain governance; logistics service providers; EU Deforestation Regulation; transaction costs.*

1. Introduction

The three commodities falling within the scope of the European Union's new deforestation regulation, namely coffee, timber and timber products, and rubber, are simultaneously three pillars of Vietnam's agro-forestry export structure. In 2025, coffee export turnover reached approximately 8.6 billion United States dollars, the highest level in the history of the sector, with the European Union holding the position of largest market at a share exceeding 40 per cent; exports to this bloc alone amounted to 665.6 thousand tonnes worth 3.63 billion United States dollars, a 70 per cent increase in value compared with 2024 (Ministry of Agriculture and Environment, 2026). In the same year, exports of timber and timber products reached 17.2 billion United States dollars; although the direct share going to the European Union fluctuated only between 4.8 per cent and 5.2 per cent, the bloc plays the role of setting reference standards for the entire industry (Vietnam Timber and Forest Product Association, 2026). What merits attention is that the new barrier lies neither in tariffs, which have already been deeply reduced under the Vietnam - European Union Free Trade Agreement, nor in the technical standards applied to products. The barrier lies in the obligation of proof through data. A consignment of coffee meeting every quality criterion will still be refused if the geographic coordinates of the plot on which it was produced cannot be traced. The nature of the barrier has therefore shifted from the physical attributes of the goods to the information-organising capacity of the supply chain.

The urgency of the problem is tightly bound to timing. The European Union Deforestation Regulation, hereafter abbreviated as EUDR, applies from 30 December 2026 to large and medium-sized enterprises, and from 30 June 2027 to small and micro enterprises (Arthur Cox, 2025). The 2025 amending act narrowed the obligation to submit a due diligence statement to the operator placing the product on the European Union market for the first time. This change reduces the procedural burden on downstream links, yet it does not reduce the volume of data that must be collected upstream. Legal responsibility has been concentrated, while the origin of the data remains dispersed. The date of application is now only weeks away, which turns every gap in the data transmission mechanism into an immediate commercial risk.

The analytical point of departure for this study is a paradox. Vietnam has been classified in the low-risk group under Commission Implementing Regulation (EU) 2025/1093, which entails a check rate of only one per cent of operators rather than the three per cent applied to the standard-risk group. The scope of this concession must nonetheless be understood accurately. Low-risk status exempts operators only from the risk assessment and risk mitigation steps. The obligation to supply geolocation information for every plot of production land and the obligation to preserve the integrity of the consignment remain fully intact. The consequence is that the lowest level of administrative supervision is coupled with consignment-level data requirements that have not been reduced at all, so that the compliance bottleneck shifts away from production and declaration and falls instead on the link connecting the physical flow of goods with the flow of documents, that is, on logistics. The governance risk here is pronounced: low-risk status may generate policy complacency and delay investment in data infrastructure, while buyers in the European Union continue to impose requirements stricter than the statutory minimum. A survey of 333 smallholders across 16 countries found that 74 per cent of respondents were concerned that tighter compliance requirements would push output towards less regulated markets (International Institute for Sustainable Development, 2026).

From this paradox, the study poses three questions. First, at which links of Vietnam's agro-forestry export supply chains are EUDR traceability obligations allocated in law and discharged in practice? Second, why does the logistics service provider become a compliance intermediary even though it is not an actor bearing direct legal responsibility? Third, which institutional and capability conditions determine whether this compliance intermediary operates effectively or fails? In answering these three questions, the study pursues three contributions. Theoretically, it proposes the concept of the compliance intermediary in order to incorporate into the global value chain analytical framework an actor long regarded as governance-neutral, building on the research stream concerned with the governance role of midstream actors (Grabs & Carodenuto, 2021; Reardon et al., 2021). Methodologically, it constructs a framework contrasting legal obligation with de facto control over data, allowing the point of rupture to be located precisely rather than described in general terms. In policy terms, it offers specific role allocations for regulatory agencies, industry associations, exporting firms and logistics service firms. The paper is structured as follows. The next section reviews three related research streams and identifies the gap. Section three presents the theoretical framework drawing on transaction cost theory and global value chain governance theory. Section four describes the desk research method together with the source stratification protocol. Section five presents the analytical results. Section six discusses theoretical and practical implications. Section seven concludes with policy recommendations and the limitations of the study.

2. Literature Review

The problem set out above is illuminated by three research streams that have developed relatively independently of one another. Each stream addresses part of the problem well, yet the separation between them has left the gap that this study seeks to fill.

The first stream focuses on traceability governance in agricultural supply chains. Its clearest achievement is a reasonably complete description of the technical architecture of traceability systems and the supporting technology groups, from batch identifiers and sensors to distributed ledgers and remote sensing (Astill et al., 2019). This stream has also quantified persuasively the compliance cost burden falling on smallholders together with the risk of their exclusion from the chain. A survey of 286 forestry and agricultural smallholders across three continents found that the greatest barrier is not awareness but the ability to demonstrate legality and supply geolocation coordinates (Mwangi et al., 2025). Another survey of 333 smallholders in 16 countries recorded that 74 per cent of respondents were concerned that stricter requirements would push output towards less regulated markets (International Institute for Sustainable Development, 2026). What this stream has not achieved, however, is to move beyond a unit of analysis that always stops at two poles: the smallholder at the start of the chain and the exporting firm at its end. The segment between these two poles is treated as a black box. Technology studies implicitly assume the existence of a single actor that owns the chain and holds sufficient authority to deploy a synchronised system, an assumption that does not hold for a fragmented chain. Research on the sustainability governance role of traders has begun to open this black box, but the objects examined are multinational trading corporations that take ownership of the goods, not service-providing actors that do not (Grabs & Carodenuto, 2021).
The second stream examines the impact of extraterritorial sustainability regulation on suppliers in developing economies. Its most important contribution is to clarify the mechanism by which responsibility is cascaded down the chain. A first-tier supplier must not only comply itself with the requirements of the lead firm but also implement those requirements among suppliers further down, forming a double agency role whose conditions and limits have been analysed in some depth (Wilhelm et al., 2016). This stream also identifies the power asymmetry between buyer and supplier, along with the tendency for compliance costs to be pushed progressively upstream (International Institute for Sustainable Development, 2026). The limitations of this stream lie in two points. First, its analytical models stop largely at the bilateral relationship between buyer and first-tier supplier, with the implicit assumption that responsibility propagates along the ownership of goods. That assumption overlooks actors that participate in the chain through service contracts. Second, the evidence of compliance in these studies usually takes the form of certification or supplier assessment outcomes, which are periodic and attached to the firm. By contrast, the evidence demanded by the European Union deforestation regulation is attached to the individual consignment and is continuous in nature. This difference in the unit of evidence has not been addressed by the stream above.
The third stream discusses the role of logistics service providers in sustainable supply chains. A systematic review of work published between 2000 and 2016 on third-party logistics service providers organised the field into five thematic groups: drivers, green practices and their effect on performance, information and communication technology tools, energy efficiency in road transport, and cooperation with shippers (Evangelista et al., 2018). In a different direction, research on small and medium-sized enterprises in the midstream of value chains, including wholesaling, logistics and processing, has demonstrated that this is a forgotten middle which nonetheless plays a decisive role in chain operation in developing economies (Reardon et al., 2021). What this stream has not achieved is to avoid reducing sustainability to operational efficiency and emission intensity. Information technology is viewed as a cost optimisation tool rather than as infrastructure for creating legal evidence. As a result, the logistics service provider continues to be modelled as a party executing the shipper's instructions, neutral in governance terms. The legal function of this actor has scarcely been posed as a research question. From these three streams an unoccupied intersection becomes visible. The first stream knows which data must be collected but does not ask who holds the data in the middle segment. The second stream knows the direction in which responsibility travels but follows

only the flow of goods ownership. The third stream understands the operational and informational capabilities of logistics service providers but does not connect those capabilities to legal obligation. No study has yet posed the question directly: who actually creates, holds and transmits traceability data from the moment goods leave the processing plant?

This gap is particularly serious in the Vietnamese context. Coffee and rubber chains have a dispersed procurement structure operating through multiple layers of collectors and intermediary agents, with the customary practice of aggregating and mixing consignments at collection points. It is precisely there that the link between plot geolocation data and the physical consignment is severed. After this point of rupture, transport, warehousing and customs documents become the only body of evidence capable of reconstructing the consignment's journey. In addition, the existing literature on Vietnam consists mainly of policy reports and action plans, rich in description but not yet generalised into an analytical framework. This study fills that gap by placing the logistics service provider at the centre of the analysis as a compliance intermediary.

3. Theoretical Framework

The gap identified above calls for an explanatory framework for the question of why the compliance function migrates towards an actor that bears no legal responsibility. This study integrates two theories: transaction cost theory and global value chain governance theory.

Transaction cost theory provides the answer to the question of where the function should be located. Williamson (1985) proposed three attributes determining the governance form of a transaction: asset specificity, uncertainty and transaction frequency. All three attributes are present at a high level in the traceability obligations imposed by the European Union deforestation regulation. First, traceability data is a site-specific asset. The coordinates of a coffee plot in Đắk Lắk have value only for the particular consignment originating from that plot; they cannot be transferred, cannot be reused for another consignment, and lose all value if the link to the physical consignment is severed. This specificity drives measurement and verification costs very high, because every unit of goods requires its own body of evidence. Second, uncertainty manifests in the fact that the acceptance standards of buyers and competent authorities are not yet stable, making it difficult for parties to anticipate what level of proof will be sufficient. Third, transaction frequency is very high because the obligation arises for each consignment rather than on a firm assessment cycle. When all three attributes are high, transaction cost theory predicts that the transaction will not be organised through a purely market mechanism but will shift towards tighter governance forms, or be assigned to an actor holding a scale advantage in handling that very class of asset. In agro-forestry export chains, having each exporting firm build its own system for collecting and storing data from thousands of suppliers is the option with the highest unit cost. Conversely, an actor that already operates consignment-level documentary infrastructure can absorb this function at a considerably lower marginal cost. This is the economic basis for the migration of the compliance function.

Global value chain governance theory provides the answer to the question of relational form. Gereffi et al. (2005) identify three explanatory variables: the complexity of transactions, the codifiability of transaction information and the capability of suppliers. The new regulation acts on all three variables simultaneously. Complexity rises because the information to be transmitted is no longer product specification but land use history together with coordinates. Codification requirements rise because the information must be standardised into a format accepted by the European Union's system. Meanwhile, upstream supplier capability is low, particularly at informal links. Following the logic of this framework, the combination of high complexity, high codification and low capability will push the chain away from market and modular forms towards relational and even captive forms. In other words, the regulation not only raises costs but also restructures power relations within the chain.

Integrating the two theories allows the study's central proposition to be formulated. Transaction cost theory explains why the compliance function concentrates at a single point; global value chain governance theory explains why that point becomes a new locus of power. On this basis, the study proposes the concept of the compliance intermediary, defined as an actor that bears no direct legal responsibility towards the regulatory authority but holds the information infrastructure essential for another actor's legal obligation to be discharged. This concept differs from the double agency role of the first-tier supplier, which attaches to an actor that owns the goods and has a direct contractual relationship with the lead firm (Wilhelm et al., 2016). The compliance intermediary participates in the chain through a service contract and does not own the goods, yet it is where the documentary flow converges.

The compliance intermediary emerges when three conditions are met. First, supply is dispersed to the point where no upstream actor has sufficient scale to generate standardised data on its own. Second, the data requirement is continuous and attached to each consignment, rendering periodic certification mechanisms unsuitable. Third, there exists a central actor that already possesses a consignment-level operational data flow for business reasons, independently of any legal requirement. Vietnam's coffee, rubber and timber chains satisfy all three conditions, and the actor satisfying the third condition is the logistics service provider.

Figure 1 presents the integrated analytical framework. The upper band depicts the degree of legal responsibility under the regulation, concentrated almost entirely in the importer within the European Union. The lower band depicts de facto control over three layers of data. The two shaded areas mark the misalignment, concentrated at the collector link and the logistics link, actors that hold data but bear no obligation. The dashed arrow between smallholder and collector represents the point of rupture in the data flow at the stage of aggregation and consignment mixing.



Figure 1. Analytical framework of the misalignment between legal responsibility and control over data in agro-forestry export supply chains

Source: Compiled by the author on the basis of Regulation (EU) 2023/1115, the 2025 amending act on the date of application and Commission Implementing Regulation (EU) 2025/1093.

4. Research Methodology

The study employs a qualitative design based on systematic documentary analysis, belonging to the semi-systematic review category in Snyder's (2019) classification, and combining four operations: synthesis, analysis, evaluation and comparison. This design was chosen because of an irremediable characteristic of the research object: the European Union deforestation regulation has not yet entered into application, so primary data on actual compliance behaviour cannot yet exist. The study's unit of analysis is also not the firm but the legal obligation, an object accessible only through documents. Data were collected between June and October 2026. Sources were stratified into four tiers by reliability, and this hierarchy determines how conflicting sources are handled. Tier one comprises original legal texts retrieved from the EUR-Lex database, specifically Regulation (EU) 2023/1115, the 2025 amending act on the date of application, Commission Implementing Regulation (EU) 2025/1093 on country risk classification, together with guidance documents and the technical questions-and-answers set issued by the European Commission and the operating guidance for the information system receiving due diligence statements. Tier two comprises domestic regulatory documents, centred on the Framework Action Plan for adapting to the deforestation regulation issued by the Ministry of Agriculture and Rural Development in July 2023, Decision No. 1235/QĐ-BNN-HTQT dated 4 May 2024 on the establishment of the Joint Working Group, Decision No. 144/QĐ-LN-KH&HTQT dated 4 July 2024 of the Forestry Department, Decree No. 102/2020/NĐ-CP on the Vietnam Timber Legality Assurance System, and Decree No. 163/2017/NĐ-CP on logistics service business. Tier three comprises reports of international organisations and industry associations, including reports of the International Institute for Environment and Development and the International Institute for Sustainable Development, together with data from the Customs Department, the Ministry of Agriculture and Environment, the Vietnam Coffee - Cocoa Association and the Vietnam Timber and Forest Product Association. Tier four comprises peer-reviewed academic literature. Academic literature was retrieved from two databases, Scopus and Web of Science, using two query strings. The first combined a keyword group on the obligation of proof with a keyword group on chains and a keyword group on service intermediaries, structured as: ("traceability" OR "due diligence" OR "deforestation-free") AND ("supply chain" OR "value chain") AND ("logistics" OR "freight forwarder" OR "third-party logistics" OR "intermediary"). The second narrowed the search to the empirical context: ("EUDR" OR "Regulation (EU) 2023/1115") AND ("Vietnam" OR "coffee" OR "rubber" OR "timber"). The scope was limited to the period 2015 to 2026, document types were articles and reviews, the language was English, and subject areas were business and management, environmental science and social sciences. Results from the two strings were merged and deduplicated, then screened in two rounds, first by title and abstract and then by full text. The inclusion criteria comprised four points: the document addresses directly the mechanism for transmitting compliance data along the chain; or addresses the allocation of responsibility between links; or provides empirical data on Vietnam's coffee, rubber and timber sectors; and the full text is accessible. The exclusion criteria comprised four points: documents promoting technological solutions without verification data; press articles without source attribution; studies addressing only remote sensing techniques without reference to relationships between actors; and documents published before 2015, with the exception of two foundational theoretical works retained for their role in constructing the analytical framework. The analytical procedure comprised three steps. Step one was deductive coding according to four obligation groups drawn directly from the regulatory text: supplying geolocation information, ensuring the integrity and separability of consignments, retaining due diligence records for the statutory period, and supplying information upon request by the competent authority. Step two was cross-tabulation: for each obligation group, the study determined simultaneously two attributes, namely the actor bearing legal responsibility and the

actor holding the data in practice, each attribute coded on a three-point scale of full, partial and none. The difference between the two attributes constitutes the indicator measuring the degree of misalignment. Step three was cross-verification between source tiers. Coding was performed independently by two persons, points of disagreement were resolved through discussion, and the initial level of agreement was reported. Rules for handling conflicts were specified in advance to ensure replicability. An item of information was admitted to the results only when confirmed by at least one tier-one or tier-two source, or by two mutually independent tier-three sources. Where tiers conflicted, information from the higher tier was given priority. Conflicts that could not be resolved by this rule are stated openly in the results section rather than discarded silently; a typical case is the inconsistency among secondary sources regarding Vietnam's country risk classification status. The research design has three limitations that must be acknowledged. First, the results are conceptual and are stated as propositions requiring empirical testing after the regulation enters into force. Second, the documentary base is systematically biased towards formal actors; the informal collector segment leaves few documentary traces, so the role of this group may be reflected incompletely. Third, the legal framework is still evolving, and the findings are therefore tied to the regulatory position as at October 2026.

5. Analytical Results

Analysis of the original texts allows the due diligence obligations under the European Union deforestation regulation to be separated into four groups of differing legal character. The first group comprises information collection obligations, in which the key requirement is the geolocation coordinates of all plots of land where the commodity was produced, together with description, quantity, country of production, time of production and information on the supplier. The second group comprises risk assessment and risk mitigation obligations. The third group comprises the obligation to establish a due diligence system and retain records for a period of five years. The fourth group comprises the obligation to submit a due diligence statement and to supply information when the competent authority of a Member State conducts a check. A legal point requiring clarification is the scope of the simplified due diligence mechanism applicable to commodities originating from a country in the low-risk group. This mechanism exempts the importing operator only from the second obligation group. The remaining three groups are retained in full. The one per cent check rate reflects only the probability of inspection, not the volume of data that must be prepared. Misreading this point is the source of the widespread but inaccurate claim that low-risk status allows Vietnamese firms to enjoy relaxed traceability requirements. A second point frequently misunderstood is that the regulation does not impose an obligation of physical separation between consignments. What the regulation requires is that the due diligence statement list all plots corresponding to the specific consignment. The logical consequence of this requirement is stricter than a ban on mixing: mixing is not prohibited, but it expands the list of plots to be declared and means that a single non-compliant plot can invalidate the entire consignment. This is precisely the mechanism that turns traditional aggregation practices into a systematic source of legal risk.
Table 1 presents the matrix contrasting the four obligation groups with the two attributes coded according to the procedure set out in section four.

Table 1. Matrix contrasting legal obligations under the European Union deforestation regulation with actors holding the data in practice in Vietnam's agro-forestry export supply chains

Obligation group	Legal basis	Actor bearing legal	Actor holding the	Typical failure mode in the absence	Degree of misalignment

		responsibility	**data in practice**	**of a compliance intermediary**	
Collecting geolocation information on plots of production land	Article 9	Importer in the European Union	Smallholders generate it; collectors and procurement agents hold it in fragmented form; processing firms hold it in aggregated form	Coordinates exist but cannot be linked to the specific consignment; the declared list of plots is incomplete or inaccurate	High
Risk assessment and risk mitigation	Articles 10 and 11, exempted under the simplified due diligence mechanism in Article 13 for low-risk origin	Importer in the European Union	Importer; providers of remote sensing data	No significant failure arises under Vietnam's current conditions	Low
Ensuring consignment traceability and retaining records for five years	Articles 9 and 12	Importer in the European Union; the exporting firm is bound only by contract	The logistics service provider is the sole party continuously holding transport, warehousing and customs documents for each consignment	The consignment's journey cannot be reconstructed when queried retrospectively; records are dispersed across multiple parties with no one responsible for retention	High
Submitting the due diligence statement and supplying	Article 4 and the chapter on checks by competent authorities	Importer in the European Union	Data are scattered upstream; the importer holds only the portion	Response time exceeds the required deadline; the consignment is detained	Medium

information upon inspection			already declared	pending supplementary evidence	
Overall	-	Responsibility is concentrated almost entirely in a single actor located outside Vietnamese territory	Data are dispersed across three groups of domestic actors, none of which bears a statutory obligation	Risk is funnelled towards Vietnamese exporting firms through contractual clauses rather than through law	High

Note: The degree of misalignment is determined on a three-point scale of low, medium and high, on the basis of the difference between the codes in the two columns for legal responsibility and control over data.

Read vertically, Table 1 reveals a pronounced asymmetry. The legal responsibility column contains essentially a single actor, whereas the data control column extends across at least three groups of actors, none of which bears an obligation towards the regulatory authority. Read horizontally, high misalignment is concentrated in the first and third obligation groups, that is, precisely the two groups from which low-risk status grants no exemption. This result reinforces the paradox set out in the introduction and shows that it is not a rhetorical claim but a structural feature of the regulation's design. The cause of the high degree of misalignment lies in the procurement structure of the chain. Vietnam's coffee and rubber industries operate on a base of very numerous small-scale smallholder producers connected to processing firms through multiple layers of collectors and agents. Relationships at these intermediary layers rest largely on cash, trust and local custom, and rarely leave verifiable documentation. A survey of 286 smallholders across three continents found that the greatest barrier lies not in awareness but in the ability to demonstrate legality and supply coordinates (Mwangi et al., 2025), while a survey of 333 smallholders in 16 countries recorded that 74 per cent feared being pushed out of tightly regulated markets (International Institute for Sustainable Development, 2026). At the collection point, coffee from dozens of households is poured into a single mass. From that moment, the one-to-one relationship between plot coordinates and physical volume no longer exists in reality; it exists only if reconstructed through documentation. This is the point of data rupture represented by the dashed arrow in Figure 1. It is precisely at this point of rupture that four compliance functions emerge at the logistics service provider. The first function is generating and retaining documents attached to the consignment. Bills of lading, warehouse receipts, delivery notes, tally records and customs declarations are the only documents in the chain drawn up for each consignment, bearing a time stamp and possessing independent legal value. The second function is maintaining physical separation between volumes of goods with different records. This is not mandated by the regulation but required by the logic of risk, and it can be performed only at the warehousing stage. The third function is linking commercial data with customs procedure data, where freight forwarders play a familiar technical coordinating role. The fourth function is supplying retrospective evidence when a consignment is queried months later. Transaction cost theory explains why transferring these four functions is the efficient option. Freight forwarders already operate consignment-level documentary infrastructure for business reasons, independently of any legal requirement; the marginal cost of adding traceability data fields to existing infrastructure is far lower than the cost for each exporting firm to build its own collection system for thousands of suppliers. This observation

is consistent with the conclusion that the midstream of value chains in developing economies plays a decisive role yet has been neglected in research (Reardon et al., 2021), and it extends the research stream on the governance role of midstream actors to a group of actors that do not take ownership of the goods (Grabs & Carodenuto, 2021). Whether the compliance intermediary can in fact operate, however, depends on four conditions that Vietnam's current situation does not fully meet. The first is data capability. The domestic logistics service market consists mainly of small-scale firms, and a systematic review of this group of actors shows that information technology remains the least developed of the five thematic areas surveyed (Evangelista et al., 2018). The second is the legal basis. Current law on logistics service business does not define the responsibilities, powers and retention periods applicable to traceability data, leaving this function outside the scope of default contractual obligations. The third is interoperability standards. Growing-area data, enterprise data and electronic customs data currently lack a common identification standard permitting automatic matching at consignment level. The fourth is the cost allocation mechanism. When legal obligation is concentrated in the importer while implementation costs arise upstream, costs tend to be pushed down to the weakest link through contractual clauses, reproducing precisely the power asymmetry mechanism described in research on multi-tier chains (Wilhelm et al., 2016).

Taken together, the analytical results show that the logistics service provider has become a compliance intermediary in practice without being recognised as such institutionally. The distance between its actual role and its legal status constitutes the systemic risk facing Vietnam's agro-forestry export chains during the current transitional period.

6. Discussion

The analytical results raise three issues requiring discussion at the theoretical level, the policy level and the level of generalisability.

Theoretically, the study's findings compel a reconsideration of how the supplier capability variable is defined in the global value chain governance framework. Gereffi et al. (2005) understand supplier capability primarily as production capability, that is, the ability to meet a product's technical requirements at a given level of quality and cost. Under a regulatory regime based on the obligation of proof, the capability that determines a link's position is instead data capability, that is, the ability to generate, retain and transmit evidence attached to each consignment. These two types of capability do not coincide and do not necessarily reside in the same actor. A processing firm may meet the highest production standards yet still fail in compliance terms if it cannot access data residing at another link. This is the point at which the present study supplements the original theoretical framework. A second theoretical consequence concerns the double agency model. Wilhelm et al. (2016) describe the first-tier supplier as an actor that both complies and transmits requirements downwards, on the assumption that responsibility propagates along the ownership of goods. The concept of the compliance intermediary proposed here describes a mechanism that differs in nature. This actor does not own the goods and has no contractual relationship with the lead firm, yet it holds the information infrastructure on which another party's obligation depends. In other words, power here derives not from a position in the flow of ownership but from a position in the flow of information. This finding extends the research stream on the governance role of midstream actors to service-providing actors (Grabs & Carodenuto, 2021; Reardon et al., 2021), and at the same time reveals the limits of the bilateral buyer-supplier approach. In policy terms, the most important finding is the dual character of low-risk status. Administratively, this status is a considerable negotiating achievement, reducing the check rate and removing one obligation group from the importing side. In terms of incentives, however, it may produce a perverse effect. When the public signal is low risk, firms readily infer that their existing level of preparation is sufficient, whereas three of the four obligation groups remain intact and are

precisely the three with the highest degree of misalignment. It must further be emphasised that the acceptance standard in practice is set not by the regulatory authority but by the buyer. The importer, bearing full legal responsibility, will tend to demand a level of proof above the statutory minimum in order to protect itself, and the cost of that above-standard requirement will be transferred back upstream through contractual clauses. The distributional consequence is that risk accumulates at the weakest link (International Institute for Sustainable Development, 2026). One plausible counter-argument must be addressed directly. It may be argued that the market will adjust by itself: if data has value, exporting firms will purchase the service and logistics service providers will upgrade their capabilities accordingly. This argument is correct in principle but overlooks three practical obstacles. The value of traceability data is realised only when the whole chain participates, creating a classic coordination problem. The benefits of investment accrue to downstream links while the costs arise upstream, creating a dispersion of investment returns. Most importantly, without a legal basis establishing retention responsibility, the service provider has no incentive to bear legal risk for an obligation that is not its own. These three obstacles explain why institutional intervention is necessary rather than waiting for the market. With respect to generalisability, the proposed analytical framework is not tied to any single regulation. It can be applied to any regulatory regime sharing three features: obligations evidenced by data rather than by product attributes, the consignment rather than the firm as the unit of evidence, and dispersed supply. Mechanisms on corporate sustainability due diligence, on carbon border adjustment and on digital product passports all satisfy these three features. Similarly, the framework can be transferred to exporting countries with dispersed smallholder structures. The limit of generalisability lies in the third condition set out in the theoretical framework: a central actor already possessing an operational data flow must exist. In chains where the logistics stage is itself fragmented and informal, a compliance intermediary will not emerge spontaneously, and the problem then becomes one of building public infrastructure rather than one of allocating roles.

7. Conclusions And Policy Implications

The study proceeds from a paradox: Vietnam enjoys low-risk status with a check rate of only one per cent, yet the volume of data to be prepared for each consignment is not reduced at all. Three answers emerge. First, traceability obligations are allocated highly asymmetrically: legal responsibility is concentrated almost entirely in the importer within the European Union, whereas the underlying data are scattered across smallholders, collectors and logistics service providers, none of which bears a statutory obligation. Second, the logistics service provider becomes a compliance intermediary because it is the only link already operating consignment-level documentary infrastructure for business reasons, and therefore faces the lowest marginal cost in taking on the function of generating and retaining evidence. Third, the effectiveness of the compliance intermediary depends on four conditions that are currently unmet: the data capability of service firms, a legal basis establishing retention responsibility, data interoperability standards and a cost allocation mechanism.

For State regulatory agencies

Add to the law on logistics service business provisions on the service provider's responsibility to retain and supply traceability data, together with a minimum retention period corresponding to the requirements of the importing market. Issue a common consignment identification standard for the electronic customs system and growing-area databases. Incorporate geolocation data fields into the set of electronic export documents for the three commodity groups of coffee, rubber and timber.

For industry associations

Develop model documentation linking plot coordinate lists to consignment codes. Organise data capability training for small-scale freight forwarders. Establish a cost-sharing mechanism between exporting firms and suppliers rather than pushing the entire burden onto smallholders.

For exporting firms

Incorporate data obligation clauses into logistics service contracts, specifying clearly the scope, format and retention period. Do not treat low-risk status as grounds for delaying investment, because the acceptance standard in practice is determined by the buyer and not by the check rate.

For logistics service firms

Position compliance assurance services as a new revenue stream rather than an incidental cost. Prioritise investment in consignment-level data matching capability before investing in complex technology. The study has two main limitations. First, the results are conceptual and are stated as propositions requiring empirical testing once the regulation enters into application. Second, the documentary base is biased towards formal actors, while the informal collector segment leaves few documentary traces. Two directions for further research are proposed: a quantitative survey of the data capability and actual compliance costs of freight forwarders after the December 2026 milestone; and a comparative case study of the coffee chain and the timber chain in order to test the conditions for the emergence of a compliance intermediary in two different chain structures.

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