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How is the 'Business of Climate' impacting the 'Climate of Business'?

Studying the trade impact of EU's sustainable supply chain initiatives on 'Emerging Asia'

Institute for International Trade

How is the 'Business of Climate' impacting the 'Climate of Business'? Studying the trade impact of EU's sustainable supply chain initiatives on 'Emerging Asia'¹

Abstract

The European Union (EU) has been championing the cause of environmental governance through sustainability in supply chain initiatives under the umbrella of the EU Green Deal. Whilst the aim is to arrest the social and environmental impact of EU consumption through deforestation regulation and supply chain directive, these laws will have insurmountable impact on trade from 'Emerging Asia'. The shortcomings in these laws and their onerous compliance burdens on exporting countries mean their impact would disproportionately fall on smallholder producers if not complemented with adequate support mechanisms. The fact that both laws focus on sectors that are highly labour intensive, fragmented, and dominated by smallholder producers make it tricky from an economic and social standpoint for the developing countries. The unilateral means currently deployed by Europe lack the intent to engage with stakeholders globally and exhibit an unwillingness to look beyond its own approach as the panacea for all ills. The success of these laws is thus contingent upon Europe mending its approach and addressing the concerns of its trade partners substantively – something that Australia can draw upon, in its own green transition.

Keywords

European Green Deal, green trade measures, deforestation regulation, due diligence directive, corporate sustainability, supply chain, Emerging Asia, EU

About the authors

Sakshi Abrol² Sakshi Abrol is a PhD Scholar at the Center for Development Research (ZEF), University of Bonn. Her research, 'Advancing the livelihood opportunities of forest-dependent communities in India through inclusive markets and trade' is funded by the German Academic Exchange Service (DAAD). Prior to this, she has consulted with the Government of India on projects such as tribal livelihoods, Open Network for Digital Commerce (ONDC) and market integration for dairy producers, and with corporates on projects such as 'Impact of e-commerce in India'. Her interest areas lie at the intersection of inclusive value chains, livelihood and technology.

Dr. Surendar Singh³ is an Associate Professor (International Business) at Jindal School of Liberal Arts and Humanities, O.P. Jindal University, Sonapat, Haryana. His research interests include international trade, global value chains, industrial policy, global business strategy, trade and geopolitics and global supply chains. He has worked as National Consultant for the World Bank Group, Washington D.C and Asian Development Bank, Manilla, United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) Bangkok, Thailand and European Commission, Brussels. He is also a Visiting Fellow, Korea Institute for International Economic Policy, South Korea.

1. A term popularized by the International Monetary Fund constituting the countries of China, India, Malaysia, Thailand, Vietnam, Indonesia, and Philippines.

2. Doctoral Researcher at the Center for Development Research, University of Bonn, Germany, Email id: sakshi.abrol91@gmail.com.

3. Associate Professor (International Business) at Jindal School of Liberal Arts and Humanities, O.P. Jindal University, Sonapat, Haryana. Email id: drsurendarsingh@gmail.com.

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Abbreviations

ASEAN	Association of Southeast Asian Nations
CBD	Convention on Biological Diversity
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CSDDD	Corporate Sustainability Due Diligence Directive
DFAT	Department of Foreign Affairs and Trade
EGD	European Green Deal
ESAP	European Single Access Point
EU	European Union
EUDR	EU Deforestation Free Supply Chain Regulation
FLEGT	Forest Law Enforcement, Governance and Trade
FSC	Forest Stewardship Council
GAPKI	Gabungan Pengusaha Kelapa Sawit Indonesia
GATT	General Agreement on Tariffs and Trade
GDP	Gross Domestic Product
IBEF	India Brand Equity Foundation
ILO	International Labour Organization
IPEF	Indo-Pacific Economic Framework
ITC	International Trade Centre
PTA	Preferential Trade Agreements
SCRI	Supply Chain Resilience Initiative
SME	Small and Medium-sized Enterprises
UN	United Nations
UNFCCC	United Nations Framework Convention on Climate Change
US	United States
WTO	World Trade Organization

1. Introduction

The EU has been championing the cause of environmental governance by regulating businesses within its territory and by including sustainability provisions in its trade agreements with third countries.

The resolution of deforestation free supply chains (European Union, 2023) under the European Green Deal (EGD) and the due diligence directive (European Union, 2024) for supply chains are cases-in-point. The former debars the placing of specific commodities in EU markets that have been produced on land deforested post December 2020. The latter makes covered companies⁴ responsible for mitigating the environmental and social risks posed by their businesses. Complementary in nature, both the deforestation free regulation and due diligence directive (*hereinafter: collectively referred to as 'legislations'*) aim to arrest the social and environmental impact of EU consumption by leveraging trade as a policy tool.

In line with the Paris Agreement (United Nations Framework Convention on Climate Change, 2015) these legislations

are critical steps to clean and ethical supply chains. However, the inclusion of chains of activity outside Europe mean these are consequential for the EU's trading partners. Under the deforestation regulation the EU's imports of primary products amounted to US\$ 209 billion in 2023 (ITC Trade Map, 2024). Notably, Europe's major trading partners from Asia namely China, Indonesia, Thailand, India, Philippines and Vietnam are some of the biggest exporters of these goods. Similarly, while the due diligence directive applies to companies and their supply chains that generate a certain amount of business in the EU, their suppliers from these Asian countries will invariably be exposed to the compliance costs and burdens. Thus, the impact of these supply chain regulations on players in developing countries need to be studied.

And as a new entrant to the 'climate club', it would be important for Australia to draw lessons from such studies for its own policy making. It is particularly relevant as four countries from 'Emerging Asia' (China, India, Malaysia, and Thailand) are among the top ten trading partners of Australia (DFAT, 2020).

This paper thus **delineates and analyses the impact of the EU's legislations on its trading partners from 'Emerging Asia'** and identifies their possible trade concerns with Europe's green transition that Australia might want to consider. To this end, a literature review and extensive policy document analysis are undertaken and secondary data from ITC Trade Map is aggregated and analysed.

The first section provides a context to Europe's green transition by situating it within two dominant discourses in the present scholarship. While the sustainability discourse unravels the merits and de-merits of using supply chain initiatives to promote environmental and social good, the discussion on political economy discusses the rules and conventions of international trade and its governance that have a bearing on these legislations. The rest of the paper is structured as follows. A discussion on the key provisions of the legislations is followed by a critical analysis in which examples from specific provisions impacting trade are drawn to support the identified pain points. Then, the impact of these legislations on exports from specific countries in 'Emerging Asia' is provided through trade data, followed by lessons that Australia can draw from the EU in its own green transition. The paper concludes by identifying potential avenues for future research.

4. Eligibility criteria for companies covered under the directive detailed out in Section 3.2



2. Situating the EU's sustainable supply chain initiatives in the larger sustainability and political-economy context

2.1 Understanding the context of the EGD

The world lost 178 million hectares of forest over the last three decades (Food and Agriculture Organization, 2020), an area triple the size of France. The production of commodities like soya, beef, and palm oil are responsible for about 80 percent of tropical deforestation worldwide (Halleux, 2023). The fact that the EU is one of the biggest international consumers of deforestation embodied in trade (Bager et al., 2021) can be seen from the fact that its imports account for 36 percent of global deforestation in world trade (Raza et al., 2020). Thus, environmental considerations dictate that the EU step up and take measures to reduce its global deforestation footprint through unilateral supply chain measures. The fact that EU markets consume products that are sourced through long value chains makes it responsible for both sustainable and ethical business conduct. Unilateral action with extra-territorial implications is justified on the grounds of declining multilateralism (Henn, 2021) and experience of international environmental laws like the United Nations Framework Convention on Climate Change (UNFCCC) or Convention on Biological Diversity (CBD) being rather ineffective (Bodansky and Asselt, 2024) in combating biodiversity loss or environmental degradation. A further advantage of using a unilateral measure is that the EU can rely on its internal competences to regulate commodities placed on its market as opposed to relying on its external competence to ratify and rally support for multilateral agreements (Henn, 2021).

For the past few decades, the EU has been taking a lead in environmental and ethical governance mainly through the inclusion of sustainability provisions in its trade agreements with third countries. Scholarship that argues in favour of the extension of the EU's environmental governance to other territories through trade (Biedenkopf et al., 2018; Durán and Scott, 2021; Marín Durán and Scott, 2022; Raza et al., 2020; Sotirov et al., 2022) is based on two distinct but inter-related arguments. The first is the recognition of the EU's responsibility towards environmental conservation (Henn, 2021; Pendrill et al., 2019) owing to years of consumption of commodities that caused forest degradation and emissions. And the second is the notion that EU can 'lead by example' (Adelle et al., 2018) and 'lead by power' (Henn, 2021) as it is a big and significant market for forest-risk commodities⁵ (Durán and Scott, 2021) and products manufactured under unregulated and informal settings in third countries (Malik et al., 2021).

The argument holding the EU morally responsible puts complicity at its core (Marín Durán and Scott, 2022) and is driven by the idea that strong demand for relevant commodities is a driver of deforestation (Garrett et al., 2013) and social harm. Whereas the second argument is largely premised on the idea that trade liberalization with no heed to the environment or human rights can trigger a race between countries to the lowest level of environmental protection and labour conditions to increase their profitability and, hence, competitiveness (Cao and Prakash, 2012). And it is thus

imperative that trade itself be used to drive environmental conservation and responsible business. Since the EU is responsible for nearly one-third of world trade (Adelle et al., 2018), it can use its market power to drive greener and ethical trade (Bradford, 2020). It can resort to incentives, punishments and offer conditional market access to third countries, or what is termed by Biedenkopf et al. (2018) as manipulating utility calculations. The successful inclusion of environmental provisions in various Preferential Trade Agreements (PTAs) concluded by the EU is evidence of the impact of manipulating utility calculations over other mechanisms like dialogues or negotiations. Using trade as a tool to promote sustainable development has been highlighted several times by the EU (European Commission, 2019; European Parliament, 2020). The EGD can be considered as one such example of 'leading by power' or 'manipulating utility calculations' through supply chain regulations.

The scholarship on the effectiveness of supply chain regulations to address global deforestation and social harm, however, is highly divided. The proponents cite evidence from the various certification schemes to show that these have enhanced sustainability (Bager et al., 2021) or give examples of how the voluntary partnership agreements concluded under the Forest Law Enforcement, Governance and Trade (FLEGT)⁶ regulation have had a positive impact on forest governance in signatory countries (Brack and Bailey, 2013), also creating a 'norm cascade' (Pirlot et al., 2018; Marín Durán and Scott,

5. Certain agricultural products such as palm oil, soy and beef are regarded as forest-risk commodities by the EU (Heflich, 2020)

6. The FLEGT action plan was adopted in 2003 and the regulation entered into force in 2005 to tackle illegal logging and regulate the entry of timber to the EU through bilateral Voluntary Partnership Agreements with exporting countries (European Union, 2005).

2022; Partzsch and Vlaskamp, 2016) for other countries to follow suit (Garcia and Pauwels, 2022). Brack and Bailey (2013) argue that specific characteristics of the commodities associated with harm, such as concentrated participation across activities in the supply chain, export-led production, existent voluntary and private sector initiatives for sustainability, make these commodities amenable to supply chain control measures. Owing to this, a combination of measures for controlling the supply chain worked in the cases of timber and related products, and conflict minerals. Country-specific studies also point towards the effectiveness of supply chain regulations (see: Boucher and Elias, 2013). The proponents also argue that, as opposed to the ineffective forest-related global environmental agreements reached under the UN framework, the newer laws developed by the EU and countries like the US and Australia use the framework of sustainability and legality in production (van der Ven et al., 2021), additionally giving products a competitive edge for sales in the international market. With their theory of change alluding to both economic development and environmental protection (European Commission, 2019), these laws are considered both innovative and promising (Sotirov et al., 2022).

Opponents of using supply chain measures for curbing deforestation and human rights violations illustrate the ineffectiveness of this approach by citing evidence from past certification schemes (Hinkes and Peter, 2020; Zhunusova et al., 2022). Ven et al. (2018) attribute the inadequacy of eco-labelling and other certifications in halting deforestation to regulatory loopholes and insufficient uptake by the producers. Studying the case of certification standards relevant to European markets in soy production, Hinkes and Peter (2020) find the reasons for limited uptake by producers include lack of convergence amongst the certification schemes with respect to the definitions of 'forest', 'zero deforestation' (LeBaron and Lister, 2016; Marín Durán and Scott, 2022; Partzsch et al., 2023; Taylor and Streck, 2018) and cut-off dates for deforestation. Aggregating material from various sources makes traceability difficult to implement. Moreover, the premium prices attached to sustainable products might not exist at all or be insufficient to offset the increase in

transaction costs (Hinkes and Peter, 2020; Taylor and Streck, 2018). Adverse effects of these regulations like continuing land use change due to leakage to other forest areas or towards other commodities and shifting of trade to less regulated supply chains have been seen (Bager et al., 2021; Boucher and Elias, 2013; Brandt et al., 2022; Sotirov et al., 2022). Notwithstanding the ineffectiveness of these certifications and audit tools to combat environmental and social harm in global supply chains, LeBaron and Lister (2016) argue from examples of human rights violations in the garment trade from Bangladesh and the shrimp industry in Thailand, that these schemes re-orient global governance away from states to fulfill the interest of private businesses. That is, the governance overload on developing countries on account of these compliance burdens leads to the creation of a gap often filled by private entities (Ponte, 2019) thereby undermining domestic governance. Further, marginalization or exclusion of smallholder producers (Hinkes and Peter, 2020; Marín Durán and Scott, 2022; Raza et al., 2020; Taylor and Streck, 2018; Zhunusova et al., 2022) or extremely stringent regulation dissuading producers from adopting sustainable practices (Partzsch et al., 2023; Patz, 2022) have also been engendered by these regulations. Finally, there are concerns around the practicality of implementation of these measures. These pertain to the limited capacity of customs authorities (Fuchs et al., 2020; Partzsch et al., 2023; Raza et al., 2020) to check whether the goods that arrive at European ports comply with sustainability regulations, difficulty in establishing illegal forest conservation, land use, or labour standards given varying practices and land ownership laws in different countries (Brack and Bailey, 2013) and onerous documentation requirements.

In addition to an ex-post assessment of sustainability laws that imposed restrictions on producer countries, a few studies model the effect these restrictions will have on forest conversion. Predicting impacts on trade, prices and forest conservation of demand-side restrictions on the export of palm oil from Indonesia to Europe, Busch et al. (2022) conclude that half the palm oil produced in deforested land which would otherwise be sent to Europe would be absorbed by other supply chains including

the domestic markets in Indonesia. Additionally, the study predicted only a 5.03 percent decline in conversion of forest to oil palm plantation within a 15-year period post the roll-out of these restrictions. Even with active participation from consumer-countries, demand-side restrictions seem to have a modest impact on curbing deforestation. Comparable predictions are being made for supply chain directive as well. Patz (2022) argues that the distillation and codification of due diligence by businesses faces the risk of transforming an otherwise dynamic activity into a mere 'tick-box' activity. And even if due diligence leads to positive effects for individual firms in the value chain, it may not necessarily translate into positive economic, social and environmental outcomes for the entire domestic economy (Ponte, 2019).

2.2 Political-economy perspective on the EGD

Several countries that are going to be affected by EGD regulations have raised concerns ranging from the WTO-compatibility of these laws to their being used as a guise for protectionism by the EU (M hamed, 2022). In the academic discourse, this is looked at from the perspectives of fairness, national sovereignty of the producer countries, General Agreement on Tariffs and Trade (GATT) rules, and other international standards. To elucidate on the fairness dimension, one can consider the way deforestation is defined by the EU. A cut-off date for deforestation is fair and a practical necessity but may have adverse effects such as 'leakage in time' (Boucher and Elias, 2013). This means that countries or landscapes that have undergone deforestation long ago so that there is no more forest left to clear may find themselves in an advantageous position – rather unfairly – as compared to countries that have vast swathes of forest land (Boucher and Elias, 2013; Ingram et al., 2020). Notably, the latter are often the ones that find themselves 'climbing the ladder' of development (Ingram et al., 2020). In fact, some of these countries like Malaysia, Brazil, and Indonesia argue that these supply chain regulations are an attempt to undermine their sovereignty (Kinseng et al., 2023) as well as their control over their own resources, and hence scuttle their development (Ingram et al., 2020). In this school of thought,



commodity production along with trade is seen as a development engine (Pye, 2019). Hence, by dictating the way commodities should be produced and sold under the EGD paradigm, these countries are seen as subject to unfair limitations (Chang, 2002). Ponte (2019) expands this argument by asserting that green measures are used as product differentiating tools and marketing strategies by lead firms in global value chains, particularly those based in the developed nations. Referred to as the new colonialism discourse (Ingram et al., 2020), critics argue this does not lead us any closer to combating environmental damage or social harm.

Next is the question of whether unilateral approaches to combating deforestation are efficacious at all or a form of 'ecological imperialism' (Gonzalez, 2001). Unlike the criticality of unilateral measures advocated from a sustainability perspective, the political-economy considerations

point to the need for co-operation and participation from all actors (Pirlot et al., 2018), especially the big consumers like China in case of soy and pulp & paper wood products, and India in the case of palm oil (Taylor and Streck, 2018). In the absence thereof, deforestation-related commodities or commodities produced under inadequate social protections will find their way easily into these supply chains. Additionally, bodies representing EU grain and oilseed trade argue that if sustainability compliance gets too complicated, producers and suppliers in countries of origin may stop catering to EU markets altogether (Halleux, 2023). Sustainability and ethical concerns in businesses can thus be tackled in concert with producer countries along with other big consumers. Even under WTO law, a multilateral cooperative approach is considered favourable to address global environmental concerns (Durán and Scott, 2021). A unilateral approach is

bound to be criticized for promoting an EU-centric idea of sustainability (Marín Durán and Scott, 2022) with disregard for contextual practices in producer countries. It can be seen as an attempt by the EU to undermine the authority of its trading partners to govern their own commodities (Garcia and Pauwels, 2022). And finally, using novel concepts like 'established business relationships' in due diligence directive instead of extant international standards, and redefining existing concepts like 'remedy', or expanding the scope of concepts like 'civil liability' (Shift Project Ltd., 2022) open these legislations to further scrutiny.

Having understood the two strands of thought within which one can place the trade-related sustainability provisions by the EU, generally, and both the deforestation regulation and the due diligence directive under the EGD, specifically; we next discuss the provisions within each of these legislations.

3. Demystifying the EU deforestation regulation and the due diligence directive

3.1 The EU Deforestation Free Supply Chain Regulation

The deforestation free supply chain regulation (*hereinafter: EUDR or regulation*) debar the placing and exports of seven commodities i.e. cattle, coffee, cocoa, soya, palm oil, rubber, wood and their derivatives produced or cultivated in lands deforested or subject to degradation after 31 December 2020, on or from EU markets. Further, the laws of production applicable to these products at the level of producer countries should be adhered to. The regulation additionally stipulates the application of other EU value chain requirements of human rights or environmental protection in conjunction with the regulation. With this, the EU seeks to minimise the consumption of commodities from supply chains associated with deforestation and forest degradation; and foster the demand of 'deforestation free' commodities. The list of commodities, referred to as 'relevant commodities', was decided based on an impact assessment conducted prior to the promulgation of the regulation and the stated aim was to cover those commodities whose consumption drives the greatest amount of forest degradation and is substantially driven by demand from the EU. The regulation provides for a review and progressive expansion of the list two years after the enforcement of the regulation. EUDR defines 'deforestation free' broadly to include both deforestation and forest degradation. These, in turn, mean any structural changes to forest cover, taking the form of the conversion of primary forests into plantation forests or other wooded land, that engender a long-term reduction in biodiversity, products and ecosystem services offered by the forests. The specific clause(s) that will impact imports into the EU are:

- **Country benchmarking system:** Benchmarking of countries or sub-

national jurisdictions under different risk categories – high, standard, and low; and commensurate compliance requirements are stipulated. Which means that operators in countries categorised 'high' risk will be subject to stricter compliance and enhanced scrutiny. A simplified due diligence for products from 'low' risk countries is envisaged where operators must collect all information about the relevant products and have the documentation in place but are not required to conduct risk assessment and mitigation.

- **Obligations of operators and traders:** Operators are defined as any legal person that exports any of the covered commodities to or from the EU. Traders are defined as people, other than operators, working in the supply chain making available on the Union market any of the relevant commodities. The regulation stipulates a concatenation of compliances by such operators and traders starting with mandatory due diligence. The following steps will have to be followed by operators and large traders:
 - Gathering all relevant information, e.g. geographical coordinates of the plot of land where the products were raised or cultivated.
 - Identification of the risk of non-compliance of relevant commodities based on information gathered. While building on the risk assessment criteria, additional indications are provided to the operators that go beyond the risk level set by the country benchmarking system. The list includes information on area of production, nature of the relevant commodity and of the supply chain, complementary information like third-party certifications.
 - Where necessary, mitigation plans to bring down the risks to negligible

levels. In the event of lack of information, risk assessment and mitigation are deemed not possible and hence the operator or trader is debarred from placing the relevant commodity on the EU market.

In general, traders are subject to lighter obligations than operators since it is understood that the role of the trader may come after the product has been placed on the market. However, large traders can have significant impact on the supply chains, so the regulation differentiates between obligations of large traders and Small and Medium-sized Enterprises (SMEs). The former have the same obligations as operators while SMEs have lighter obligations. SME traders are required to keep a record of their suppliers and customers for at least five years and make such information available to competent authorities upon request.

- **Obligations of competent authorities:** Competent authorities are mandated to carry out checks on operators and traders, and risk analysis of due diligence statements using a risk-based plan. A risk-profiling of operators and traders will also be undertaken and parties showing a consistent track record of compliance will be subjected to a reduced frequency of checks. Further, competent authorities are empowered to take immediate action if certain commodities present high risk of non-compliance. The punitive measures include suspension of commodities from the EU market or levying fines. It is understood that a temporary suspension for a period of 3 working days, which can further be extended, will allow the competent authorities to perform necessary checks. Competent authorities are entrusted with sharing information and coordinating the development of risk criteria for uniform application throughout the Union. Finally, competent authorities can

carry out checks outside the scope of risk-based plans if they come into possession of evidence or information concerning non-compliance of commodities with the regulation.

- **Obligations of the Customs Authority:**

An integrated information system is envisaged through which customs shall be able to verify the status of the due diligence statement related to the commodities arriving at the borders. Customs can also destroy or render inoperable a non-compliant relevant commodity upon the request of the competent authorities.

- **Obligations of the member states:**

Member states are obliged to report annually on the status of implementation of the regulation. To optimize for coverage, member states are obliged to ensure that a certain number of operators and traders as well as a certain percentage of market value in each category of commodities and products, are checked. Competent authorities in member states should therefore ensure that at least 15 percent of operators and traders and 15 percent of the total value of commodities from high-risk countries are subject to checks annually.

3.2 The EU Corporate Sustainability Due Diligence Directive

The EU has proposed Corporate Sustainability Due Diligence Directive (*hereinafter: CSDDD or directive*) with the objective of developing a horizontal regulatory framework to reduce the potential fragmentation of rules of responsible business conduct and providing a level-playing field for all companies in the Union market. The directive places mandatory regulatory provisions on companies to mitigate the adverse impact of their business operations on human rights and the environment. These have been passed in the form of minimum standards that member states must follow in their respective national laws. The scope is not limited to the business operations of entities within the Union but also covers their value chain operations or chain of activities in third countries.

Three criteria are identified for the application of the directive to three groups of companies. First, EU companies with more than 1000 employees (revised from 500) having a net worldwide turnover of more than €450 million (revised from €150 million) in the two consecutive preceding financial years. EU companies below these thresholds operating in one of the defined high-impact sectors are omitted. Second, it will apply to third country companies with a total turnover of €450 million. Third, it applies to franchised companies – both EU and non-EU – with more than 1000 employees for those operating in the EU; and with a turnover of €80 million and royalty earnings of €22.5 million for both. The provisions follow a staggered approach beginning with bigger companies obliged to comply within 3 years of its date of entry into force, and all in-scope companies within 5 years of coming into force. Although the directive remains silent on SMEs, they could potentially be impacted if they are associated with large companies through value chain networks. The legislation does not mention specific products but the sectors that maybe impacted include textile, agricultural products, fisheries, and minerals, amongst others.⁷

The adverse environmental or human rights impacts targeted in this directive have been borrowed from the violations listed in international environmental and human rights conventions such as the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), the Convention on Biological Diversity (CBD), International Labour Organization (ILO) conventions, and the International Covenant on Civil and Political Rights. Environmental impact encompasses any damage to land, water, soil, or air that impairs the natural bases for food, water, sanitary facilities, other ecosystem services and subsistence for communities dependent on such ecosystems. Human rights impacts include basic human rights to life, security, freedom of thought and religion, freedom of assembly and collective bargaining, and workplace rights such as fair and adequate wages, workplace safety and standards, residential standards if lodging is provided by the employer, and rights of children to health,

education, safety and standard of life.

Through the inclusion of 'chain of activities' in the provisions of the directive, all upstream business partners of the in-scope companies, including those in third countries and smaller players who are otherwise exempt from the directive, will be impacted by these regulations. In terms of activities, all upstream operations are included in the scope of the directive while a few activities of downstream partners find mention too. Distribution, transportation and storage of the products, barring the products that are subject to export control, are included within the scope of the directive. The specific clause(s) that will impact businesses from third countries include:

- **Integration of due diligence into company policies and management systems:**

Companies need to introduce due diligence measures in their corporate policies with a detailed long-term plan, such as describing rules, principles, and codes of conduct to be adopted by their employees and subsidiaries. Companies must also introduce appropriate measures to verify compliance, as stipulated in the code of conduct. Documentation on measures taken by companies to comply with their due diligence obligations shall be retained for 5 years or until such time as any related legal or administrative proceedings are underway. The due diligence policy needs to be updated annually. Through contractual assurances with business subsidiaries, the suppliers and partners in developing countries of in-scope EU firms will be required to have due diligence policies and risk management systems integrated into their business operations.

- **Identification, prevention and mitigation of actual or potential adverse effects:**

Companies need to undertake appropriate measures, including making available robust qualitative and quantitative information to identify "actual and potential adverse human rights and adverse environmental impacts" of their business operations, subsidiaries and associated value chains. Consequently, information will be sought from partners at all levels of the chain of

7. Based on the use of the term 'high risk sectors' in the legislation and the European Commission's examples of these sectors being textiles, agriculture and minerals (European Commission, 2022)

activities every year, or immediately after a major business shift or a change in geopolitical context of business operations. Companies are further required to publish annual statements on due diligence on their websites along with their annual financial statements. The former should also be made accessible on the European Single Access Point (ESAP) – a centralized platform for all public information on entities in the EU. Companies need to prevent, or establish plausible ways to mitigate, potential adverse impacts identified. These measures include developing and implementing preventive plans with clearly defined timelines, seeking contractual assurances from and introducing appropriate verification measures for companies with direct engagement. Third-party verification can also be put in place by in-scope companies to ensure compliance with due diligence procedures by their partners. The facilitative measures require companies to invest in upgradation of their management systems, business strategies, production processes, and infrastructure, as well as extend support to smaller businesses with which they work. The directive encourages greater collaboration and information sharing amongst firms and meaningful engagement with stakeholders for the purpose of effective due diligence.

- **Ending or minimizing actual adverse impacts and remediation:** At par with the extent of the adverse impact, remediation measures for the affected parties including financial and non-financial compensation should be made to affected parties and communities. Failure by the companies to undertake remedial actions will invite member states' competent supervisory authorities to take appropriate actions.
- **Establishing and maintaining a complaints procedure and penalties:** Complaints can be made to the member states against companies, including those in third countries, by trade unions, civil society organizations, people or organizations impacted by an adverse effect, or their legal representatives. The companies are required to establish a mechanism to receive complaints and notifications including those made anonymously and from non-affected parties. Failure

to comply with the European Union's Common Safety Data Sheet regulations has substantial repercussions. An EU Member states-appointed regulatory body has the jurisdiction to impose fines on companies that fail to comply. These punishments might include monetary penalties, other remedial measures and directions for adherence. Those who are harmed by the failure of companies to comply with CSDDD responsibilities have the right to seek compensation for any resulting losses. Companies who do not comply with CSDDD would have a complex and wide-ranging negative impact including financial penalties, having to face legal proceedings that might damage their reputation, in turn affecting their future commercial opportunities. The in-scope companies are free to temporarily suspend or terminate business relationships with their suppliers or partners in situations where they do not see mitigation plans for adverse impact succeeding.

3.3 Critical assessment of the legislations

3.3.1 Extra-territorial implications of unilateral measures by the EU

If EUDR is passed in its current form, the bulk of smallholder producers in developing countries would be rendered ineligible to export on account of their customary production practices. In India, for instance, a large part of tribal communities practice agroforestry or communities that practice cultivation in cleared forest lands to support their livelihoods. Additionally, the Forest Rights Act of 2006 in India grants rights of access, use, procurement of forest resources, cultivation and grazing in forest land to forest-dependent communities (Haque, 2020). Similarly, customary laws and the Community Forest Act of 2019 govern the right of access to, and use of land by, the tribal communities in Thailand (RECOFTC, 2021). None of these producers will be able to export coffee or soy products produced on this land or meat of bovines that grazed in their land. Furthermore, the EUDR policy document states that much of deforestation on account of agriculture in third countries is legal and compliant with the

respective national laws (European Union, 2023). Subjecting them to laws of forest management and degradation as defined by the EU means creating laws that impinge on their national sovereignty. Under Article 28, while drawing up a plan for cooperation with third countries, the regulation bestows upon the EU overreaching powers to partake in or influence decisions like land planning and management, agricultural productivity or supply chain management, that essentially fall within the ambit of national governments.

On similar lines, most production units or producers would be in violation of CSDDD in the developing countries in Asia where families are widely regarded as units of production deploying both children and elderly in the production processes in varying capacities (Abdullah et al., 2022). While establishing dignified labour standards across the supply chain through legislations such as CSDDD is important, imposition of EU standards without any qualification will effectively cut out smallholder producers from the EU supply chain.



Art 15 of the CSDDD stipulates that all entities that fall under the ambit of this law including those from third countries will have to draw up transition plans for climate change mitigation, much in line with the Paris Agreement and EU's climate neutrality targets. This kind of imposition on non-EU companies is in violation of a fundamental tenet of climate change negotiation – common but differentiated responsibility and respective capabilities (Durán and Scott, 2024; Scott and Rajamani, 2012). Even under the Paris Agreement, each country has pledged their own 'nationally determined contributions' that aligns with their larger climate mitigation goals. The underlying thought behind this kind of flexibility is that every country is different, in that, they are at varying levels of development, have unique strengths (Abeyasinghe and Arias, 2013) and have historically contributed differently to climate change. Furthermore, the article expects firms to limit their exposure to coal, oil and gas related activities. Oblivious to the fact that national-level energy and related



infrastructure policies often determine what kind of energy is available for businesses, this ask from companies arguably falls outside their ambit.

3.3.2 Complicated and restrictive compliances

The legislations will adversely impact smallholder producers especially in developing countries exporting these commodities to the EU, by increasing their costs of compliance. Firms will have to make additional investments in terms of establishing a department within their business operations to prepare rules and regulations, codes of conduct, and verification mechanisms, to be followed by their employees and subsidiaries. This will translate into both costs and regulatory burden on them. Setting up traceability mechanisms would require further investments in manpower and technology. Small producers with limited resources thus stand to lose out.

Both the legislations necessitate a system of certifications, third-party verifications and labelling standards. There are some problems with this – beginning with the high cost to company (Deros and Verhaeghe, 2019; Neumann et al., 2000). The costs would further be escalated as many of these producers will depend on certification bodies outside their country. However, certifications and licensing schemes accepted in one importing country might not work in another. It is also unclear as to how far the voluntary certifications like that of the Forest Stewardship Council (FSC) will be considered as a proof of compliance under EUDR. The FSC Certification has a provision for minimal conversion of forests into agricultural land i.e. up to 5% of total certified forest land if it leads to long-term conservation. Additionally, the nuanced geolocation data required by EUDR surpasses the current FSC requirements. It thus seems that businesses operating with FSC licence will have no advantage over other players and will nevertheless have to undertake compliances under the EUDR. And this leads to the second problem with these legislations – they create a complex system of overlapping compliances ultimately leading to a reduction in trade benefits for smallholder producers (De Pena, 2023). By attempting to harmonize policies and practices across trading countries, these green trade legislations may be doing the exact opposite.

And finally, methods of contractual assurance and third-party verifications are recognized as inadequate for the goals of prevention and mitigation as they weaken duties by confining them to a general compliance check (Siegel, 2009).

3.3.3 Arbitrary criteria and loosely defined parameters

The criteria for benchmarking of countries under the EUDR is both vague and arbitrary (Marín Durán and Scott, 2022) with no clarity on indicators and data – qualitative and quantitative – that would be utilized by the Union. While EUDR necessitate making available the data used for benchmarking, this will largely be a post-determination exercise. And the broad assessment criteria mentioned in in paragraph 3 of Article 29(1) of the regulation points at those countries that have a high production of relevant commodities, in effect, punishing them for the same. The second problem with this kind of assessment is that it puts an entire country into a particular category, thus burdening businesses within the country with lengthier and more complicated compliances, including those who follow ethical and sustainable practices.

Under Article 9 of CSDDD, that allows filing of complaints by stakeholders and non-affected parties, it is unclear as to what will constitute the nature of complaints and what kind of adverse impacts will come under the ambit of the compliant. The provision leaves much room for interpretation. Companies are further required to establish a mechanism to receive complaints and notifications including those made anonymously and from non-affected parties. Without a fully evolved system of checks to ensure only legitimate claims are made, this provision can, in effect, be misused. Additionally, by allowing parties to file complaints against companies in third countries in EU courts, country-level legal justice systems are subverted, and it additionally vitiates the tripartite framework (consisting of governments, workers, and employees) within which labour standards are negotiated and agreed upon under the ILO's aegis (Kruglak, 1989). This can thus be exploited by malicious parties who intend to soil the international reputation of a third country. Also, while allowing leeway to third parties is akin to some form of stakeholder consultation, it is neither the prerogative

of these parties nor within their means to identify risks posed by businesses (Patz, 2022). The complainants might often lack adequate information about a company's due diligence commitments to establish negligence or malintention.

Definition of deforestation seems to be keeping in mind the EU's interests. Europe has 3% of its total forests as primary, while developing countries have huge tracts of primary forests (FAO, 2020), some of which will be impacted with growing consumption demands as their economies grow. Further, several countries in Asia and Latin America heavily depend on agriculture and slotting them together with the industrialized nations of Europe seems unfair.

Finally, there are some inconsistencies in the legislative documents. While Art 28 of EUDR talks about reinforcing the rights of indigenous communities or smallholders, it promulgates laws that may exclude them from the value chain altogether thereby subjecting them to livelihood losses and consequent vulnerabilities (Derous and Verhaeghe, 2019; Neumann et al., 2000).

3.3.4 Shifting the power balance in favour of importing countries and companies

The benchmarking clause in the EUDR transfers a lot of power to the importing countries. Importers will naturally gravitate away from producers in countries slotted under the high-risk category. And, while earlier, exporters in third countries could influence trade decisions through competitive bidding/pricing, that will no longer be the case. By erecting huge barriers against the entry of relevant products from certain countries, trade will no longer remain a factor of cost-efficiency. Rather, a question of 'which products can enter the market' – the answer to which will heavily depend on laws by EU member countries and the practices followed by procuring agencies. Similar possibilities exist with respect to CSDDD (Patz, 2022).

This is further exacerbated by market asymmetry faced by smallholder producers in developing countries (Das and Hussain, 2017). There is, for example, significant potential of market information gaps in deforestation free supply chains. Small-scale farmers are often completely incognizant of the end markets where lead firms sell their products (Kaplinksky,

2004). This is particularly true in the case of coffee, and cocoa products that are largely traded through value chain led trade. Moreover, these producers lack access to price data information as most of the lead firms are reluctant to share this with them. Furthermore, the lack of formal contracts increases the level of uncertainty regarding the purchasing volumes among buyers, middlemen and farmers (Bellemare et al., 2022; Shepherd, 2018). All this creates a situation where small-scale farmers are exposed to a high degree of risk, potentially reducing their bargaining position within supply chains.

Under the CSDDD, companies are required to use market and non-market mechanisms like pre-qualifications or eligibility criteria, incentives and determination of risk before providing credit services to ensure compliance by their business partners. The directive additionally requires companies identifying potential non-compliant business partners to delve into the latter's business practices and strategies, pricing and trading mechanisms. It thus gives a lot of freehand to in-scope companies to influence their business partners and impact their business decisions. Identification of potential adverse impact before providing loans, credit and financial services to partner firms may limit their access to finance and can undermine their ability to raise finance at competitive rates.

With respect to the agricultural sector, the directive prescribes purchase at fair prices at all levels of the supply chain. While the intent may be good here, 'fair prices' is a subjective term. What is 'fair' or its logical synonym i.e. government-approved Minimum Support Price in India, for example, may not qualify as 'fair' for EU member states. Foisting EU standards of 'fair prices' upon businesses in third countries could escalate their costs and make them uncompetitive even within their domestic markets.

3.3.5 Traceability requirements distant from on-ground reality

The design of traceability requirements and systems are important in responsible trade policies (Van Ommen, 2009).

The CSDDD proposes the use of digital tools like satellite imagery, drones or platform-based solutions for traceability and surveillance across the value chain. If translated into rules by member states, this kind of provision

can severely disadvantage smallholder producers in developing countries with inadequate infrastructure and high costs of digitalization (Curto and Gaspar, 2021). Moreover, the use of foreign surveillance technology will be costly and is likely to be met with suspicion by the respective governments on account of imperilling national security.

What complicates the traceability requirement in both these legislations further is the way agriculture is structured in developing economies. Most landholdings are small (Nájera, 2017) and many a times procurement and aggregation of crops like coffee happens through cooperatives or procurement bodies. This means that each consignment of coffee that gets exported to the EU comes from multiple middlemen, each of whom sources from multiple farmers making traceability extremely difficult. To add to this, many countries in 'Emerging Asia' have unclear land titles, informal land holdings (Mitchell et al., 2016), and protracted procedures for obtaining land titles often to the disadvantage of smaller producers and forest communities. A similar problem arises with respect to export of cattle feed or bovine meat. With unclear land ownership and stray cattle grazing prevalent in countries like India, traceability seems implausible.

It is additionally difficult to tackle the challenges related to traceability due to multiple independent actors involved in commodity value chains. This is quite evident in product specific value chains like rubber in Malaysia or Thailand that comprise of three main components: upstream players, midstream players and downstream players. A significant volume of raw and intermediate rubber produced in Malaysia is sold in international markets for further processing into finished products (Kawano, 2019). And traders in Thailand often mix rubber from various sources in collection centres for forward sales (European Forest Institute, 2024). It is thus very difficult to map the entire value chain to establish the traceability of rubber products in terms of their production, supply, and intermediaries, amongst others.

The next section delves into trade data to discuss the quantum and type of exports from the Emerging Asian countries that are likely to be impacted by these legislations.

4. Understanding the impact of these provisions on trade emanating from 'Emerging Asia'

In this section, we elaborate upon trade directed to the EU countries that fall within the ambit of the two legislations and delve into some highly impacted product categories from each of the countries in 'Emerging Asia'.

These countries were chosen for two reasons. First, 'Emerging Asia' is a big exporter of goods being regulated under the supply chain initiatives, having exported US\$273 billion worth of products under the two legislations to the EU in 2022 (ITC Trade Map, 2024). Second, they are not just the EU's major trading partners but also Australia's. Australia exported about US\$191 billion worth of products to these countries, constituting about 45% of their total exports in 2022 and imported products worth US\$123.5 billion in the same year (Observatory of Economic Complexity, 2024). Notably, these countries and Australia have a shared interest in enhancing trade and investment in the Indo-Pacific region and fostering supply chain resilience expressed through their participation in the Indo-Pacific Economic Framework (IPEF).⁸

Sectoral trends of India's exports to the EU for product items covered under the deforestation regulation and the due diligence directive are provided in the Annexure (Table 1). While exports in all these sectors are likely to be impacted by these legislations, the most vulnerable products include coffee, leather hides, textile and garments, minerals, paper, wooden furniture and chemicals. Coffee is one of India's leading exports to the EU, constituting approximately 60% of total coffee exports from India (Kulkarni, 2024). It is the second most important beverage produced in the country after tea and provides direct employment to 2 million workers (Indian Trade Portal, 2020), while also providing substantial indirect employment. Out of the total 0.25 million

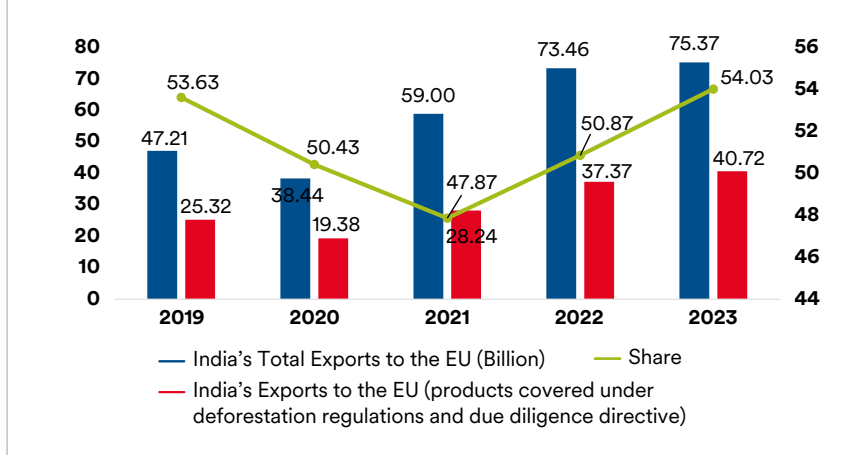
coffee producers in India, 99 percent are small and marginalized farmers (Prakash et al., 2015) and a sizeable part of coffee growers in India belong to the indigenous communities. Coffee is produced mainly in three regions of India with Karnataka, Kerala and Tamil Nadu forming the traditional coffee-growing region, followed by the new region developed in the states of Andhra Pradesh in the south and Odisha in the east, and the third region being the northeastern states of Assam, Manipur, and Meghalaya. Accounting for significant export value – worth US\$1.12 billion in 2023 (IBEF, 2024) – coffee is a key contributor to India's foreign exchange reserves, its gross domestic product (GDP) and tax revenues (Malladi, 2015). Given its developmental

4.1 India

Figure 1 depicts the broad trends of India's exports to the EU showing an upward trajectory for total exports except 2020. The total exports were US\$47.21 billion in 2019 and reached US\$75.37 billion in 2023. Likewise, India's exports covered under deforestation regulation and due diligence directive of the EU (or relevant commodities) demonstrate an upward trend, from US\$25.32 billion in 2019 to US\$40.72 billion in 2023, thereby comprising 54% of India's total exports to the EU. Clearly a significant volume of India's exports is sensitive to the legislations.

Figure 1: India's Exports to the EU markets (US\$ billion)

Source: ITC Trade Map, 2024



8. IPEF was launched by the U.S. in Tokyo, Japan in 2022 with thirteen initial partners including Brunei Darussalam, Fiji, India, Indonesia, Japan, Malaysia, New Zealand, Philippines, Republic of Korea, Singapore, Thailand, the U.S. and Vietnam to build cooperation and economic integration in the region (The White House, 2022).

significance, a range of government initiatives (see: Coffee Development Trust, Integrated Coffee Development Project Scheme) are focussed on supporting coffee plantations in forested areas inhabited by indigenous communities. With new areas being developed to support domestic and international demand for coffee, and to promote local livelihoods, land granted to forest-dependent communities under the Forest Rights Act will be used for cultivation.

Leather sector alone contributes 54% to India's total exports to the EU market (Consulate General of India, 2020). It is a labour-intensive industry that provides employment to 4.4 million people largely from the weaker and marginalized sections of the society (Council for Leather Exports, 2024). The female participation in this sector is prominent as women constitute about 40 percent of the total workforce (Invest India, 2024a). Leather and footwear production centres are spread throughout the country and states like Tamil Nadu, Uttar Pradesh, West Bengal and Maharashtra are the major producers (Council for Leather Exports, 2024). It is also one of the top ten foreign exchange earners for India (Council for Leather Exports, 2024).

Textile and clothing sector is another important sector which is likely to be impacted by the legislations. The sector contributes about 20 percent to India's total exports to the EU market (Government of India). It is arguably an important sector for the economy contributing 5% to the GDP, employing 45 million people directly and 100 million indirectly (Invest India, 2024b). The sector has strong backward and forward linkages and generates significant positive externalities on the economy. The large presence of small firms in this sector makes it significant from the development point of view.

A quick assessment of the above-mentioned sectors demonstrates that the potential implications of the deforestation regulation and the due diligence directive will not just be confined to exports but will have far-reaching impact on industries that are labour-intensive, dominated by small players and comprising vulnerable social groups in India.

4.2 China

Figure 2 illustrates China's total exports to the EU and the relative share of exports covered under the deforestation regulation and due diligence directive. China's total exports to EU markets have increased at a much faster pace than exports in sectors covered under the two legislations. China's total exports increased from US\$366.7 billion in 2019 to US\$ 502 billion in 2023 while its exports of relevant commodities saw a rise from US\$ 94.3 billion in 2018 to US\$ 136 billion in 2022 constituting a share of 26.3% in its total exports. Clearly, a substantial volume of China's exports to the EU is slated to be affected by the two legislations.

A sectoral analysis shows that textile and clothing, wood and furniture, and chemicals are the top exporting sectors to the EU market, constituting 61.3 percent of the total exports of relevant products (Table 2). Within textiles, China's exports of garments such as women's suits, jerseys, pullovers, cardigans, t-shirts, jackets, blazers, and trousers are considerable. China exports a lot of knitted fabrics, seats and textiles for furniture to Italy and Germany (Malik et al., 2021). The textile and clothing sector occupies an important place in the Chinese economy as its contribution to the national GDP is estimated to be 8.7 percent (Asia Garment Hub, 2024) and it has historically played an important role in social development (Guan et al., 2019). The sector enjoys a distinct position with a well-developed value chain (raw cotton to finished garments) and strong backward and forward linkages to sectors

such as agriculture, logistics, paints and dyeing within the economy. The sector employs a significant 430 million workers from raw material production (fibres) to the cut-make-trim stage with a major participation of women in that (Common Objective, 2018). Given the exposure of the textile and clothing sector to EU markets, the potential implications of the legislations in increasing compliance costs and regulatory burden on Chinese businesses will have to be reckoned with.

4.3 Indonesia

Figure 3 illustrates Indonesia's steadily rising exports to the EU from US\$13.3 billion in 2019 to US\$16.69 billion in 2023. It additionally throws light on Indonesia's exports of products covered under the deforestation regulation and due diligence directive, amounting to US\$8.89 billion in 2019 and US\$11.36 billion in 2023, with a share of 68 percent in total exports to EU markets.

The sectoral orientation of Indonesia's exports to the EU markets shows that products of plant origin, construction material, footwear and other commodities are the top exporting sectors under deforestation regulation and due diligence directive (Table 3). Indonesia is particularly known for the exports of its palm oil to EU markets and is the biggest supplier of palm oil and its products to the countries in the Union (Setiyanto, 2024). The sector is vital not just from a socio-economic standpoint with its role in rural economic development, regionally balanced growth and poverty reduction but also its contribution to land restoration, carbon

Figure 2: China's Exports to the EU (US\$ billion)

Source: ITC Trade Map, 2024

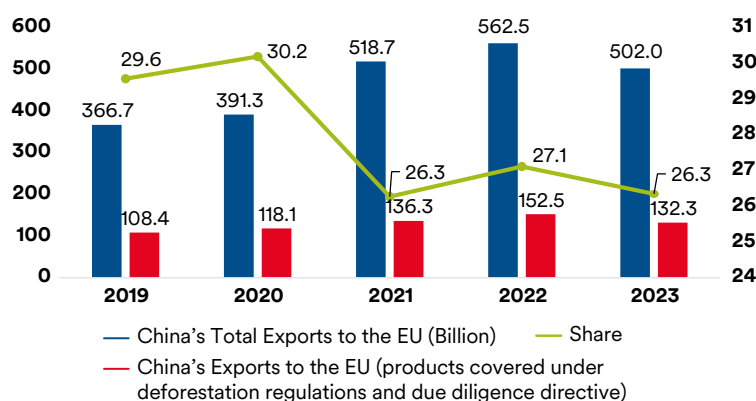
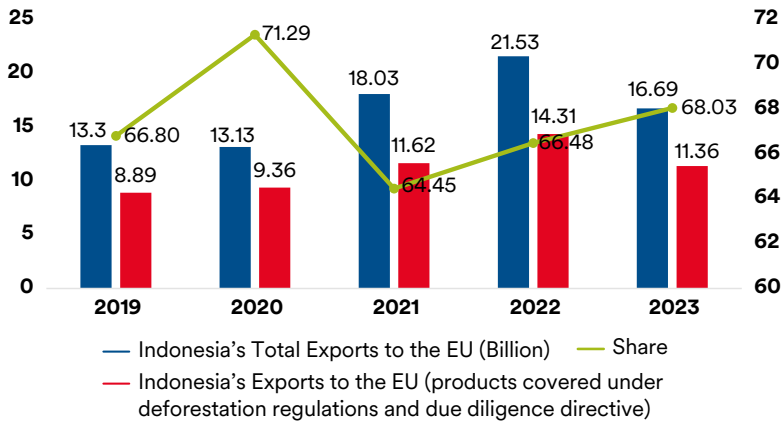


Figure 3: Indonesia's Exports to the EU markets (US\$ billion)

Source: ITC Trade Map, 2024



biomass improvement, soil and water conservation make it important from an ecological point of view (Kinseng et al., 2023). Studies additionally show that oil palm development has indirect beneficial effects on non-participating members through infrastructural development or reduction of inter-village inequality (Kinseng et al., 2023). It contributes 3.5% to GDP and provides employment to approximately 12 million people (GAPKI, 2021), a majority of whom are small and marginalized farmers selling through cooperatives or traders (Setiyanto, 2024). The strategic importance of the palm oil sector is evident from its contribution to foreign exchange earnings for the country, averaging US\$ 20 billion annually (Palm Oil Analytics). Indonesia has time and again raised concerns around the stringent and evolving EU regulations making it

tougher for them to enter the Union's markets (Kinseng et al., 2023). At least 20 percent of Indonesia's palm plantations are within forest zones. Informal or overlapping land records make traceability a bureaucratic nightmare and all this is further exacerbated by inadequate institutional capacity at the local level (Permatasari et al., 2024). The multi-fold compliance requirements under the new legislations i.e. meticulous record-keeping of supply chains, tracking and tracing products at every step in the value chain, and proof of adherence to local laws and regulations pose formidable challenges especially to small planters and firms.

4.4 Malaysia

Figure 4 exhibits the annual trends of Malaysia's exports to the EU, rising

modestly from US\$ 20.95 billion in 2019 up to 2022 and then declining in 2023 to reach US\$24.91 billion, and exports of products under the legislations touching US\$ 4.89 billion in 2023 from US\$4.32 billion in 2019. It is further seen that in 2019, the exports of relevant commodities constituted a share of 19.62 percent in Malaysia's total exports to EU markets. The graph is also indicative of a broader trend of a slight growth in the share of relevant commodity exports in Malaysia's total export basket to the EU up to 2021 and then a decline in the last couple of years.

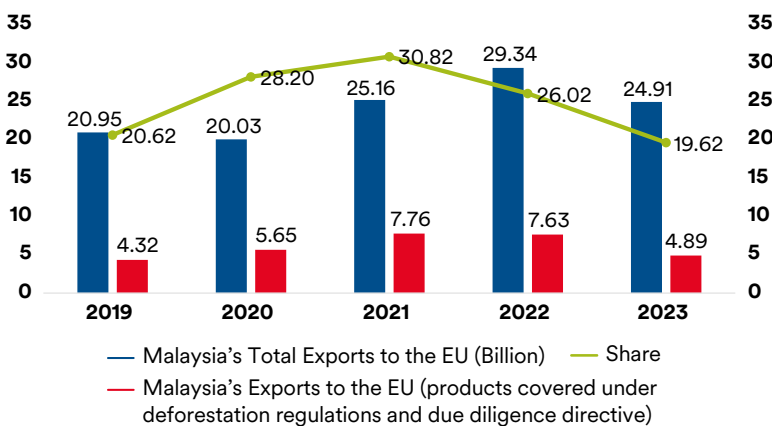
The sectoral trends presented in Table 4 point at rubber and beverage products as the top two exported product categories, comprising more than half of all exports under deforestation regulation and due diligence directive. Palm oil and rubber are major export products to the EU and contribute significantly to the nation's socio-economic development. Rubber contributes 4.7 percent to Malaysian GDP (Ali et al., 2021), is an important source of foreign exchange earnings and holds high historical significance (Kawano, 2019). The sector additionally hosts a long value chain generating positive spillovers into other economic activities like technological and infrastructural development, and capital as well as human resource management (Kawano, 2019).

Comparably, the palm oil sector is significant too given its role in growth, employment creation and export earnings. It contributed 2.4 percent to the national GDP (Statista, 2023) and continues to be the main exporting sector. Important from a social development standpoint as well, about 40 percent of the total palm oil output produced in the country is derived from smallholder farmers (Rahman, 2020).

Given the socio-economic relevance of both products for Malaysia, the implications of EU deforestation regulation and due diligence directive are far reaching. As European companies will become more cautious while selecting their business partners, small players who lack the capacity to adapt maybe entirely left out of the value chain. Conversely, trade should become easier for smaller companies or producer groups as they start complying with the provisions of the legislations. This, however, demands high-level state action, buy-in from private producers, and most importantly, support from the EU countries.

Figure 4: Malaysia's Exports to the EU markets (US\$ billion)

Source: ITC Trade Map, 2024



4.5 Thailand

In Figure 5, broad trends of Thailand's total exports and relevant commodities to the EU markets are exhibited. Thailand's total exports to the EU in 2023 amounted to US\$ 21.58 billion, a slight decline from the previous year. And out of these, 22.4% were goods covered under the two legislations. Thailand's exports of relevant products have seen a slight decline as well, falling from US\$ 4.85 billion in 2019 to US\$ 4.83 billion in 2023.

Within sectors likely to be impacted, rubber, followed by agricultural commodities and animal products, form the biggest product categories as explicated in Table 5. The contribution of rubber itself is 30 percent to the total quantum of relevant commodities exported from Thailand. Thailand is the world's largest producer of natural rubber accounting for approximately one third of global production (European Forest Institute, 2024). The industry is a source of livelihood for one fifth of all agricultural households and is constituted by 1.68 million smallholders who produce 90 percent of total rubber production (European Forest Institute, 2024). What makes the sector unique (as compared to Malaysia) is the low and more recent development of the downstream rubber segment which, in turn, has a considerable presence of foreign firms from countries like China, India, and Australia leading production (Kawano, 2019).

Similarly, Thailand's palm sector – the world's third largest after Indonesia and Malaysia (Statista, 2024) – provides direct employment to 407,225 families engaged in cultivation that cover an area of 1 million hectares across the country (Rijksoverheid, 2024). Owing to reasons like policy support, low manufacturing costs compared to other vegetable oils (Statista, 2024), there has been a consistent rise in the number of farmers cultivating palm oil since 2004 and 80 percent of the total land under palm oil cultivation is managed by small farmers (Rijksoverheid, 2024).

The EU is Thailand's fourth largest trading partner (European Commission, 2023) making it an important export market. But exports from Thailand have been facing post-pandemic recovery challenges thus making them less competitive (Pongsuwan, 2023). The additional burden of EGD compliances will escalate costs to the detriment of small producers who

already face obstacles like lack of access to credit, information on certifications or efficient plantation management (Ali et al., 2021). As per a Roundtable on Sustainable Palm Oil report, only 2 percent of palm growers in the country are able to meet sustainability standards covering key areas of environmental protection, natural resource conservation, fair labour practices, and community impact mitigation (Rijksoverheid, 2024). Local realities like the informal land tenure or use rights for rubber plantations within forested lands and the participation of foreign workers often without proper work licences (European Forest Institute, 2024) make compliance of the rubber sector with the EU legislations a herculean task as well.

Figure 5: Thailand's Exports to the EU markets (US\$ billion)

Source: ITC Trade Map, 2024

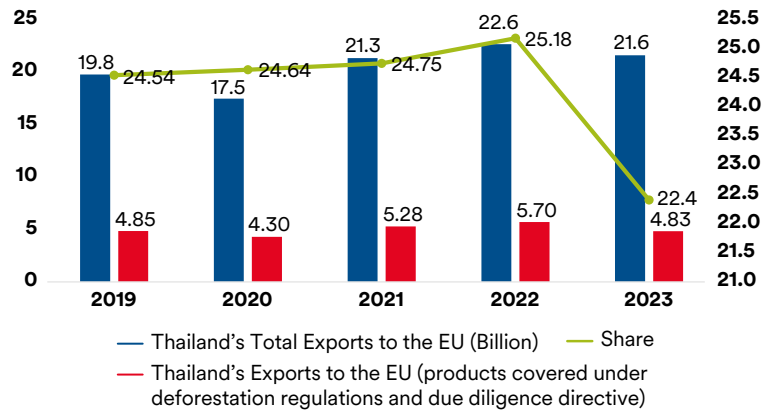
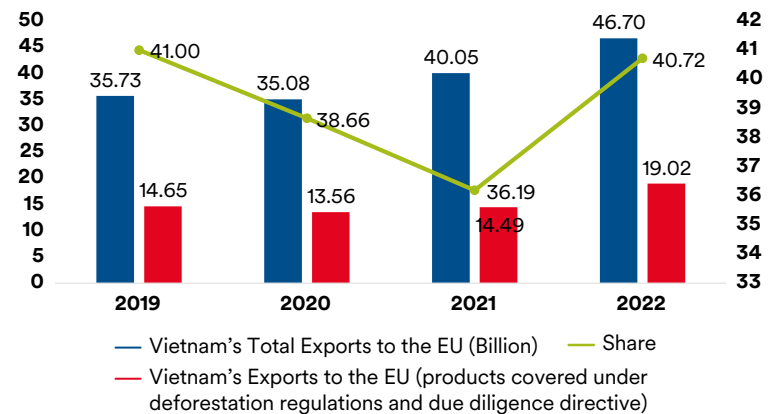


Figure 6: Vietnam's Exports to the EU markets (US\$ billion)

Source: ITC Trade Map, 2024



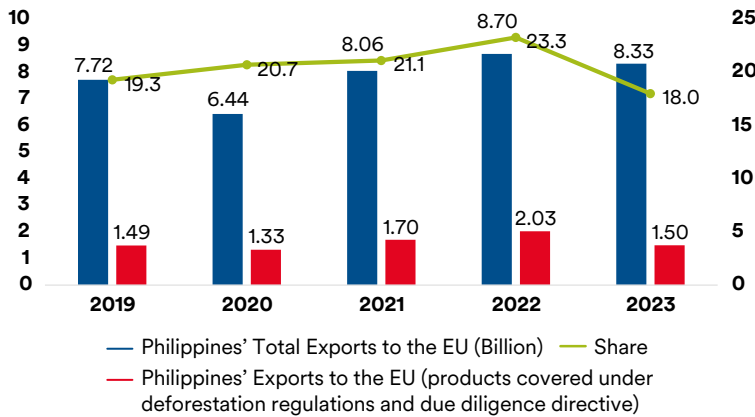
4.6 Vietnam

Figure 6 shows that the total exports of Vietnam to the EU increased from US\$ 35.73 billion in 2019 to US\$ 46.70 billion in 2022, reflecting an increase over the past years. However, Vietnam's exports of relevant commodities showed mixed trends, starting at US\$ 14.65 billion in 2019, then dipping in 2020 and subsequently spiking to US\$ 19.02 billion in 2022. The exports of relevant commodities accounted for 40.72 percent of the total exports of Vietnam to the EU in 2022.

The sectoral orientation of exports to the EU (Table 6) demonstrates that textile and clothing, leather and footwear, and minerals are important products falling under the ambit of the legislations. Coffee is also an important export product to

Figure 7: Philippines' exports to the EU markets (US\$ billion)

Source: ITC Trade Map, 2024



the EU markets. The country is the fourth largest exporter of textiles and apparel globally and the sixth largest exporter to the EU (Centre for the Promotion of Imports from developing countries, 2023). The sector employed around 3 million people in 7000 factories across the country in 2018 (World Wide Fund for Nature, 2018). Contributing one tenth of the total industrial output and accounting for one fifth of all employment generated in the country (Dung Do, 2021), this sector is essential to Vietnam's economic growth and social development. The sector is highly labour intensive and with 80 percent of its workforce being women (Huong, 2017), it is an important source of livelihood for them.

Likewise, the coffee sector of Vietnam is highly exposed to the legislations. Vietnam is the second largest producer of coffee after Brazil and is one of the largest exporters to the EU markets controlling 16 percent of the total coffee trade in the EU (VietnamPlus, 2024). Contributing 3 percent to the country's GDP and 10 percent to its total agricultural exports (Standen and Medina, 2022) it is also an important source of rural employment providing jobs to 60000 farming households (Government of Vietnam, 2022).

The highly unorganized coffee sector that is predominantly controlled by small-scale producers who face challenges related to inadequate infrastructure development and technical know-how (Do et al., 2020) is likely to be impacted by the EGD legislations. Additionally,

the extent to which the already certified coffee producers (organic, fair trade, rainforest alliance etc.) can or are allowed to leverage their existing compliances will be critical to their export performance. On similar lines, smaller enterprises that dominate the textile and garment industry already face disadvantages such as low product diversification, low value realization, loss of labour productivity and inadequate management skills in international trade (Dung Do, 2021). Added regulatory burdens and the requirements to clean their production systems would have to entail support from both the domestic government and their trade partners.

4.7 Philippines

Figure 7 showcases Philippines' fluctuating total exports to the EU, with a notable decline in 2020, followed by a recovery and a slight subsequent dip in 2023 reaching US\$ 8.33 billion. The exports of relevant commodities exhibit a similar pattern and stood at US\$ 1.50 billion in 2023 accounting for 18 percent of the total exports of Philippines to the EU.

Sector-wise export data (Table 7) underscore the impact of these legislations on rubber which constitutes about 41 percent of the total trade under the relevant product categories. Wood products, and construction material are other important categories from the perspective of exports to the EU.

Rubber exports show a notable increase from 2019 to 2022, peaking at US\$

977.6 million in 2022, followed by a decline to US\$ 614.9 million in 2023. Complementing agricultural incomes by providing industrial jobs and supporting other industries such as furniture, rubber is important for poverty alleviation and rural development in Philippines (Mag-Aso and Garcia, 2021). Given that most rubber growers are small farmers, putting in place due diligence procedures and risk mitigation plans will require significant capacity building and resource support.

This section provided an overview of the potential impact of the legislations on trade emanating from 'Emerging Asia' directed at the EU. Delving a level deeper makes it clear that many of these countries import a considerable volume of goods from other countries, including each other, which then find their way into EU markets. Thus, the picture enunciated in the discussion above is a small part of a much larger and complex landscape of value-chain led exports to EU markets that will be exposed to the EGD legislations. The design of these legislations and its implications on the quantum and type of exports from 'Emerging Asia' provide crucial lessons for countries like Australia where the formulation of such policies is currently underway. The next section considers some of these lessons.

5. Lessons for Australia's green transition

In view of the global climate change crisis, Australia has launched a 'Net Zero Plan' (Australian Government) to focus on policies that facilitate transition to net zero emissions by 2050.

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As a preparation to achieve these targets, possible policy options that promote environmentally and socially responsible supply chains are being explored. In this context, it is pertinent for Australia to draw lessons from the design and implementation of the EGD in general, and the two legislations in particular, to arrive at plausible pathways to greening of trade.

Firstly, the scope, coverage and content of the legislations demonstrate extra-territorial implications with the result of reconfiguring the existing geography of supply chains whilst encumbering free flow of trade from countries that lack the capacity to adapt soon enough. It is thus important for Australia to adopt a calibrated approach, particularly in view of its supply chain resilience related imperatives, and its geostrategic alignment with countries in 'Emerging Asia'. The pandemic intensified the debate surrounding supply chain vulnerabilities, prompting numerous countries to express a growing interest in diversifying away from China-centric supply chains. Given that greater than US\$ 200 billion worth of trade ensued between Australia and China in 2022 (Observatory of Economic Complexity, 2024) making China its biggest trading partner, Australia has been working to shift supply chains from China to the Association of Southeast Asian Nations (ASEAN)⁹ (Shi et al., 2021).

Australia's Supply Chain Resilience Initiative (SCRI)¹⁰ and its participation in IPEF as a founding member are all attempts at counterbalancing China's influence (Curtis et al., 2022; Garin, 2023). However, if Australia continues to follow the EU style EGD regulations, it may be self-harming. As greater compliances and concomitant cost burden accrue disproportionately to countries that lack adaptive power (Eicke et al., 2021), countries like Vietnam and Thailand could fall behind in comparison to China, which is already emerging as a leader in green technology (Yang, 2022). This, in turn, will thwart Australia's attempts to diversify its trade away from China. And finally, the rise of Indo-Pacific and Quad or the Quadrilateral Security Dialogue¹¹ dictate that Australia considers its geostrategic interests in the region while formulating policies on the greening of trade.

Secondly, although the intent of EGD regulations is well-founded, it will have limited success unless built on a partnership approach with its trade partners. This entails the use of value-based multilateral cooperation and dialogue with one's trading partners to arrive at fully negotiated sectors and compliance measures. Unless the trading partners are aligned with the procuring country, these measures will be resisted by politically connected countries and

trade be diverted to other supply chains. Additionally, substantial investment by the procuring countries and companies to build capacity in the third countries will have to be undertaken. Without adequate support mechanisms, green trade deals will merely be reduced to measures restricting global trade. A collaborative approach should further be used with trading partners to factor in changes in the supply chain laws in their domestic policymaking and upgrading their domestic industrial standards. Similarly for companies in the legislating countries, they will have to invest in building long-term relationships with people and communities for due diligence to go beyond a checklist for risk identification. And, for remedial measures to be effective, they will have to be contextual and rely on establishing collaborations with local governments and agencies. The success of Australia's

9. ASEAN was established in 1967 by Indonesia, Malaysia, the Philippines, Singapore and Thailand, later joined by Brunei Darussalam, Vietnam, Lao PDR, Myanmar, and Cambodia for cooperation in the economic, social, cultural, technical, educational and other fields, and to promote regional peace and stability.

10. SCRI is an international collaboration between Australia, India and Japan to promote best practice national supply chain policy and principles in the Indo-Pacific.

11. The Quad is a diplomatic partnership between Australia, India, Japan, and the United States committed to supporting an open, stable and prosperous Indo-Pacific that is inclusive and resilient.





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green transition will not just rely on its own domestic policies and action but will also be determined by how well it manages these stakeholders along its value chains. Thus, Australia's domestic consultations on formulating EGD policies should be premised on understanding the competing interest of actors within its value chains.

Thirdly, distilling points from a critical assessment of EU legislations will help the Australian policy makers avoid pitfalls of convoluted and overlapping regulations, complicated compliances, checklist approach, and over standardization. The emphasis should be upon fostering greater convergence in policies to clearly demarcate functional lines in terms of their application. These will help avoid the policy and operational dilemma that value chain participants often operate in, which in turn, generate information asymmetries and magnify their compliance costs. The focus of these legislations should also go

beyond easily measurable things such as contractual clauses or due diligence statements. Additionally, the diversity in different sectors with respect to their social and environmental upgradation should be acknowledged. And the fact that the best path to green transition will be different for different countries, as also recognized in the self-determined national targets under the Paris Agreement (United Nations Framework Convention on Climate Change, 2015), should be appreciated.

Finally, the compatibility of the green deal legislations to be forged by Australia with the rules and conventions of the multilateral trading system, and its existing and foreseeable bilateral trade agreements with third countries should be thoroughly investigated. It will be important for Australia to additionally test whether their policies are well in line with the internationally agreed principles of combating environmental and social harm.

6 Conclusion

The trade implications of environmental legislations that employ trade as a policy instrument should not be overlooked, even when the end goal is to combat environmental degradation and social harm.

Factoring how the 'climate of business' will be affected by the greening of trade is essential to its success. The quantum of exports and the socio-economic significance of the sectors that get impacted by these legislations determine how the recipient country responds to them. For both pieces of legislation discussed in this paper, the impact on businesses from 'Emerging Asia' is significant.

With the ambitious EGD legislations, Europe seeks to assume a leadership role in cleaning up the global supply chains. But if the intent is to decouple social and environmental harm from production and

consumption, unilateral measures are hardly effective. Unless Europe considers country-level distinctions, embarks on the path of partnership, and puts forth adequate support measures for trade continuity; these legislations are not likely to meet their intended targets. And with green transition currently underway in Australia, these should serve as critical pointers. As EGD legislations come into force, deeper investigation(s) into industry-specific impacts, concerns, and adaptive practices will benefit the discourse. It will also be interesting to see how the 'Emerging Asian' economies respond to the greening of international trade laws and reconfigure their trade going-forward.

7. References

- Abdullah, A., Huynh, I., Emery, C.R., Jordan, L.P., 2022. Social Norms and Family Child Labor: A Systematic Literature Review. *Int J Environ Res Public Health* 19. <https://doi.org/10.3390/ijerph19074082>
- Abeyasinghe, A.C., Arias, G., 2013. CBDR as a Principle of Inspiring Actions rather than Justifying Inaction in the Global Climate Change Regime, in: *Climate Change: International Law and Global Governance*. Nomos, pp. 235–258. https://doi.org/10.5771/9783845242774_235
- Adelle, C., Biedenkopf, K., Torney, D. (Eds.), 2018. *European Union External Environmental Policy Rules, Regulation and Governance Beyond Borders*.
- Rijksoverheid, 2024. Thailand advances deforestation-free agri-food system amid EUDR implementation. *Agrospecials Editie 11*.
- Ali, M.F., Akber, M.A., Smith, C., Aziz, A.A., 2021. The dynamics of rubber production in Malaysia: Potential impacts, challenges and proposed interventions. *For Policy Econ* 127. <https://doi.org/10.1016/j.forpol.2021.102449>
- Asia Garment Hub, 2024. China. <https://asiagarmenthub.net/agh-countries/china> (accessed 7.7.24).
- Australian Government, n.d. Net Zero. Department of Climate Change, Energy, the Environment and Water. <https://www.dcceew.gov.au/climate-change/emissions-reduction/net-zero> (accessed 9.3.24).
- Bager, S.L., Persson, U.M., dos Reis, T.N.P., 2021. Eighty-six EU policy options for reducing imported deforestation. *One Earth* 4, 289–306. <https://doi.org/10.1016/J.ONEEAR.2021.01.011>
- Bellemare, M.F., Bloem, J.R., Lim, S., 2022. Producers, consumers, and value chains in low- and middle-income countries, in: Barrett, C.B., Just, D.R. (Eds.), *Handbook of Agricultural Economics*. Elsevier, pp. 4933–4996. <https://doi.org/10.1016/bs.hesagr.2022.03.005>
- Biedenkopf, K., Torney, D., Adelle, C., 2018. Conclusions, in: *European Union External Environmental Policy*. Springer International Publishing, Cham, pp. 337–358. https://doi.org/10.1007/978-3-319-60931-7_17
- Bodansky, D.M., Asselt, H. van, 2024. *The Art and Craft of International Environmental Law*, Second. ed. Oxford University Press.
- Boucher, D., Elias, P., 2013. From REDD to deforestation-free supply chains: The persistent problem of leakage and scale. *Carbon Manag.* <https://doi.org/10.4155/cmt.13.47>
- Brack, D., Bailey, R., 2013. *Ending global deforestation: policy options for consumer countries*. UK: Chatham House, London.
- Bradford, A., 2020. *The Brussels Effect*. Oxford University Press New York. <https://doi.org/10.1093/oso/9780190088583.001.0001>
- Brandt, K., Groß, C., Heydenreich, C., Otten, J., Schufft, F., Teller, F., Voß, M., Weischer, L., 2022. Assessing policy approaches to halt deforestation in EU agricultural supply chains, Germanwatch e.V. Bonn.
- Busch, J., Amarjargal, O., Taheripour, F., Austin, K.G., Siregar, R.N., Koenig, K., Hertel, T.W., 2022. Effects of demand-side restrictions on high-deforestation palm oil in Europe on deforestation and emissions in Indonesia. *Environmental Research Letters* 17. <https://doi.org/10.1088/1748-9326/ac435e>
- Cao, X., Prakash, A., 2012. Trade competition and environmental regulations: Domestic political constraints and issue visibility. *Journal of Politics* 74, 66–82. <https://doi.org/10.1017/S0022381611001228>
- Centre for the Promotion of Imports from developing countries, 2023. What is the demand for apparel on the European market? <https://www.cbi.eu/market-information/apparel/what-demand#:~:text=China%20is%20the%20single%20largest,Turkey%20with%206.5%25%20in%202021> (accessed 5.7.24).
- Chang, H.-J., 2002. *Kicking away the ladder: development strategy in historical perspective*. Anthem Press.
- Common Objective, 2018. *Faces and Figures: Who Makes Our Clothes?* <https://www.commonobjective.co/article/faces-and-figures-who-makes-our-clothes> (accessed 1.7.24).
- Consulate General of India, 2020. *Scope for Indo-German partnership in Leather Industry*. Frankfurt.
- Council for Leather Exports, 2024. *Indian Leather Industry*. <https://leatherindia.org/indian-leather-industry/> (accessed 7.7.24).
- Curtis, H., Hoffman, S., Priyandita, G., 2022. *Australian views on the Indo-Pacific Economic Framework*. Washington D.C.
- Curto, J.P., Gaspar, P.D., 2021. Traceability in food supply chains: Review and SME focused analysis-Part 1. *AIMS Agriculture and Food* 6, 679–707. <https://doi.org/10.3934/agrfood.2021041>
- Das, A., Hussain, Z., 2017. *Global Value Chains: Asymmetries, Realities and Risks* (No. 36), Working Paper 200. New Delhi.
- De Pena, M., 2023. The impact of private and public certification schemes and labels on smallholder participation in agricultural trade. *Acta Hort* 269–276. <https://doi.org/10.17660/ActaHortic.2023.1367.31>
- Deros, M., Verhaeghe, E., 2019. When P stands for politics. The role of the EU in the VPAs: A research agenda. *For Policy Econ* 101, 81–87. <https://doi.org/10.1016/j.forpol.2019.01.020>
- DFAT, 2020. DFAT. <https://www.dfat.gov.au/publications/trade-and-investment/trade-and-investment-glance-2020#imports> (accessed 9.9.23).
- Do, T.N., Kumar, V., Do, M.H., 2020. Prioritize the key parameters of Vietnamese coffee industries for sustainability. *International Journal of Productivity and Performance Management* 69, 1153–1176. <https://doi.org/10.1108/IJPPM-06-2019-0282>

- Dung Do, K., 2021. Evaluating the Competitiveness of the Vietnam Textile and Garment Industry. *Journal of International Business and Management*. <https://doi.org/10.37227/jibm-2021-08-1176>
- Durán, G.M., Scott, J., 2024. Global EU Climate Action and the Principle of Common but Differentiated Responsibilities and Respective Capabilities (No. 2), LAW Working Paper. San Domenico di Fiesole (FI).
- Durán, G.M., Scott, J., 2021. Reducing The European Union's Global Deforestation Footprint Through Trade Regulation, LAW Working Paper 2021/14.
- Pongsuwan, P., 2023. Resumption of the EU-Thailand Free Trade Agreement: A Catalyst for Growth and Collaboration. European Institute for Asian Studies (EIAS).
- Eicke, L., Weko, S., Apergi, M., Marian, A., 2021. Pulling up the carbon ladder? Decarbonization, dependence, and third-country risks from the European carbon border adjustment mechanism. *Energy Res Soc Sci* 80, 102240. <https://doi.org/10.1016/j.erss.2021.102240>
- European Commission, 2023. EU and Thailand relaunch trade negotiations. https://ec.europa.eu/commission/presscorner/detail/en/ip_23_1628 (accessed 7.7.24).
- European Commission, 2022. Questions and Answers: Proposal for a Directive on corporate sustainability due diligence. https://ec.europa.eu/commission/presscorner/detail/en/qanda_22_1146 (accessed 8.30.24).
- European Commission, 2019. The European Green Deal Communication. Brussels.
- European Forest Institute, 2024. Briefing - Thailand's natural rubber producers are preparing for new market requirements. European Forest Institute.
- European Parliament, 2020. Resolution on the EU Trade Policy Review.
- European Union, 2024. Directive (EU) 2024/1760 of the European Parliament and of the Council of 13 June 2024 on corporate sustainability due diligence and amending Directive (EU) 2019/1937 and Regulation (EU) 2023/2859- Text with EEA relevance. Official Journal of the European Union L series, Luxembourg.
- European Union, 2023. Regulation (Eu) 2023/1115 of The European Parliament and pf The Council of 31 May 2023 on the making available on the Union market and the export from the Union of certain commodities and products associated with deforestation and forest degradation and repealing Regulation (EU) No 995/2010- Text with EEA relevance. Official Journal of the European Union L 150/206 - L 150/247.
- European Union, 2005. Council Regulation (EC) No 2173/2005 of 20 December 2005 on the establishment of a FLEGT licensing scheme for imports of timber into the European Community. Official Journal of the European Union.
- FAO, 2020. Global Forest Resources Assessment 2020: Main Report, Global Forest Resources Assessment 2020. FAO, Rome. <https://doi.org/10.4060/ca9825en>
- Food and Agriculture Organization, 2020. Global Forest Resources Assessment 2020 - Key Findings, Global Forest Resources Assessment 2020. FAO, Rome. <https://doi.org/10.4060/ca8753en>
- Fuchs, R., Brown, C., Rounsevell, M., 2020. Europe's Green Deal offshores environmental damage to other nations. *Nature* 586, 671–673.
- GAPKI, 2021. Palm Oil Has Irreplaceable Role In Indonesian Economy. <https://gapki.id/en/news/2021/09/22/palm-oil-has-irreplaceable-role-in-indonesian-economy/> (accessed 4.7.24).
- Garcia, B., Pauwels, L., 2022. The Promise of Cooperation in Latin America: Building Deforestation-Free Supply Chains, in: AJIL Unbound. Cambridge University Press, pp. 360–366. <https://doi.org/10.1017/aju.2022.53>
- Garin, A.A., 2023. Evolving Indo-Pacific Multilateralism: China Factor in Australia's Perspectives, in: Swaran, S., Marwah, R. (Eds.), *China and the Indo-Pacific*. Palgrave Macmillan, Singapore, pp. 121–144. https://doi.org/10.1007/978-981-19-7521-9_7
- Garrett, R.D., Lambin, E.F., Naylor, R.L., 2013. Land institutions and supply chain configurations as determinants of soybean planted area and yields in Brazil. *Land use policy* 31, 385–396. <https://doi.org/10.1016/j.landusepol.2012.08.002>
- Gonzalez, C.G., 2001. Beyond Eco-Imperialism: An Environmental Justice Critique of Free Trade. *Denver Law Review* 78, 979.
- Government of Vietnam, 2022. Potentials for Vietnamese coffee industry from UKVFTA. <https://moit.gov.vn/en/news/industry-and-trade/potentials-for-vietnamese-coffee-industry-from-ukvfta.html#:~:text=Coffee%20is%20one%20of%2013,for%20over%20600%2C000%20farming%20households> (accessed 7.7.24).
- Guan, Z., Xu, Y., Jiang, H., Jiang, G., 2019. International competitiveness of Chinese textile and clothing industry – a diamond model approach. *Journal of Chinese Economic and Foreign Trade Studies* 12, 2–19. <https://doi.org/10.1108/JCEFTS-01-2018-0003>
- Halleux, V., 2023. Towards deforestation-free commodities and products in the EU. PE 698.925.
- Haque, T., 2020. Securing Forest Rights and Livelihood of Tribals, Challenges and Way Forward. Hyderabad.
- Heflich, A., 2020. An EU legal framework to halt and reverse EU-driven global deforestation- European added value assessment, European Parliamentary Research Service. Brussels. <https://doi.org/10.2861/30417>
- Henn, E. V., 2021. Protecting forests or saving trees? The EU's regulatory approach to global deforestation. *Rev Eur Comp Int Environ Law* 30, 336–348. <https://doi.org/10.1111/reel.12413>

- Hinkes, C., Peter, G., 2020. Traceability matters: A conceptual framework for deforestation-free supply chains applied to soy certification. *Sustainability Accounting, Management and Policy Journal* 11, 1159–1187. <https://doi.org/10.1108/SAMPJ-04-2019-0145>
- Huong, N., 2017. Profile of Vietnamese textile and apparel industry. Hanoi.
- IBEF, 2024. Coffee Industry and Exports. <https://www.ibef.org/exports/coffee-industry-in-india> (accessed 7.7.24).
- Indian Trade Portal, 2020. Coffee Industry in India. <https://www.indiantradeportal.in/vs.jsp?lang=0&id=0,31,24100,24106#:~:text=The%20industry%20provides%20direct%20employment,2%20million%20people%20in%20India> (accessed 7.7.24).
- Ingram, V., Behagel, J., Mammadova, A., Verschuur, X., 2020. The outcomes of deforestation-free commodity value chain approaches. Wageningen University & Research.
- Invest India, 2024a. Leather and Footwear. <https://www.investindia.gov.in/sector/leather-and-footwear> (accessed 7.7.24).
- Invest India, 2024b. Textiles & Apparel. <https://www.investindia.gov.in/sector/textiles-apparel#:~:text=The%20textiles%20and%20apparel%20industry,of%20PPE%20in%20the%20world> (accessed 7.7.24).
- ITC Trade Map, 2024. ITC Trade Map. <https://www.trademap.org/Index.aspx> (accessed 9.5.23).
- Kaplinsky, R., 2004. Competitions Policy and The Global Coffee and Cocoa Value Chains. United Nations Conference for Trade and Development (UNCTAD) 31.
- Kawano, M., 2019. Changing Resource-Based Manufacturing Industry: The Case of the Rubber Industry in Malaysia and Thailand, in: Tsunekawa, K., Todo, Y. (Eds.), *Emerging States at Crossroads*. Springer, Singapore. https://doi.org/https://doi.org/10.1007/978-981-13-2859-6_7
- Kinseng, R.A., Nasdian, F.T., Mardiyarningsih, D.I., Dharmawan, A.H., Hospes, O., Pramudya, E.P., Putri, E.I.K., Amalia, R., Yulian, B.E., Rahmadian, F., 2023. Unraveling disputes between Indonesia and the European Union on Indonesian palm oil: from environmental issues to national dignity. *Sustainability: Science, Practice, and Policy* 19, 1–13. <https://doi.org/10.1080/15487733.2022.2152626>
- Kruglak, G., 1989. Tripartitism and the ILO, in: *The United Nations in the World Political Economy*. Palgrave Macmillan UK, London, pp. 179–196. https://doi.org/10.1007/978-1-349-20196-9_12
- Kulkarni, V., 2024. Coffee exports rise as Europe braces for European Union Deforestation Regulation. *The Hindu*.
- LeBaron, Lister, 2016. Ethical audits and the supply chains of global corporations. Sheffield.
- M hamed, S.C., 2022. The European Green Deal-Perspectives for the EU-Asia Relationship. Berlin.
- Mag-Aso, J., Garcia, F.G., 2021. Productivity from the different rubber-based farming system models in Cotabato Province, Philippines, in: *IOP Conference Series: Earth and Environmental Science*. IOP Publishing Ltd. <https://doi.org/10.1088/1755-1315/892/1/012019>
- Malik, A., Lafortune, G., Carter, S., Li, M., Lenzen, M., Kroll, C., 2021. International spillover effects in the EU's textile supply chains: A global SDG assessment. *J Environ Manage* 295. <https://doi.org/10.1016/j.jenvman.2021.113037>
- Malladi, P., 2015. A Granger Causality Analyses on Production and Export of Coffee Industry in India. *International Journal of Advanced Research in Impact Factor*: 5 313.
- Marín Durán, G., Scott, J., 2022. Regulating Trade in Forest-Risk Commodities: Two Cheers for the European Union. *Journal of Environmental Law* 34, 245–267. <https://doi.org/10.1093/jel/eqac002>
- Ministry of Textiles, G. of I., 2022. India's Textile and Apparel exports to EU-27 Countries. DGCI&S. https://www.texmin.nic.in/sites/default/files/EU-27_EXPORTS_TA.pdf (accessed 9.6.24).
- Mitchell, D., Antonio, D., Storey, D., CheeHai, T., Rosales-Kawasaki, L., 2016. Land Tenure in Asia and the Pacific: Challenges, Opportunities and Way Forward. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.2737103>
- Nájera, J., 2017. Integration of Small Farmers Into Global Value Chains: Challenges and opportunities inside the current global demand. Integración de pequeños agricultores en cadenas globales de valor: Desafíos y oportunidades dentro de la demanda global actual. *TEC Empresarial* 11, 7. <https://doi.org/10.18845/te.v11i2.3229>
- Neumann, R.P., Hirsch, E., Center for International Forestry Research., Food and Agriculture Organization of the United Nations., 2000. Commercialisation of non-timber forest products: review and analysis of research. Center for International Forestry Research.
- Observatory of Economic Complexity, 2024. Australia - Exports, Imports and Trade Partners. <https://oec.world/en/profile/country/aus?yearlyTradeFlowSelector=flow1> (accessed 9.4.24).
- Palm Oil Analytics, n.d. Exploring Palm Oil: Economic and Environmental Concerns in Indonesia. 2024. <https://www.palmoilanalytics.com/palm-oil-economic-and-environmental-concerns-in-indonesia/#:~:text=The%20palm%20oil%20industry%20is,impact%20on%20the%20Indonesian%20economy> (accessed 7.7.24).
- Partzsch, L., Müller, L.M., Sacherer, A.K., 2023. Can supply chain laws prevent deforestation in the Democratic Republic of the Congo and Indonesia? *For Policy Econ* 148. <https://doi.org/10.1016/j.forpol.2022.102903>
- Partzsch, L., Vlaskamp, M.C., 2016. Mandatory due diligence for 'conflict minerals' and illegally logged timber: Emergence and cascade of a new norm on foreign accountability. *Extractive Industries and Society* 3, 978–986. <https://doi.org/10.1016/j.exis.2016.07.003>
- Patz, C., 2022. The EU's Draft Corporate Sustainability Due Diligence Directive: A First Assessment. *Business and Human Rights Journal* 7, 291–297. <https://doi.org/10.1017/bhj.2022.19>
- Pendrill, F., Persson, U.M., Godar, J., Kastner, T., Moran, D., Schmidt, S., Wood, R., 2019. Agricultural and forestry trade drives large share of tropical deforestation emissions. *Global Environmental Change* 56, 1–10. <https://doi.org/10.1016/j.gloenvcha.2019.03.002>
- Permatasari, A., Fauziah, D., Naufal, F.A., Afian, S., Nisa, S., Fetra, T., 2024. Strengthening Indonesia's Readiness to Navigate the European Union Deforestation-free Regulation through Improved Governance and Inclusive Partnership. Jakarta.

- Pirlot, P., Delreux, T., Farcy, C., 2018. Forests: A Multi-sectoral and Multi-level Approach to Sustainable Forest Management, in: European Union External Environmental Policy. Springer International Publishing, Cham, pp. 167–187. https://doi.org/10.1007/978-3-319-60931-7_9
- Ponte, S., 2019. Business, Power and Sustainability in a World of Global Value Chains. Bloomsbury Publishing, London.
- Prakash, N.S., Devasia, J., Jayarama, Aggarwal, R.K., 2015. Coffee Industry in India: Production to Consumption-A Sustainable Enterprise, in: Coffee in Health and Disease Prevention. Elsevier Inc., pp. 61–70. <https://doi.org/10.1016/B978-0-12-409517-5.00008-5>
- Pye, O., 2019. Commodifying sustainability: Development, nature and politics in the palm oil industry. *World Dev* 121, 218–228. <https://doi.org/10.1016/j.worlddev.2018.02.014>
- Rahman, S., 2020. Malaysian Independent Oil Palm Smallholders and their Struggle to Survive 2020. ISEAS Yusof Ishak Institute.
- Raza, W., Tröster, B., Wolfslehner, B., Krajewski, M., European Parliament. Directorate-General for External Policies of the Union. Policy Department, European Parliament. Committee on International Trade, 2020. How can international trade contribute to sustainable forestry and the preservation of the world's forests through the Green Deal? : in-depth analysis.
- RECOFTC, 2021. Thailand's Community Forest Act: Analysis of the legal framework and recommendations. Bangkok.
- Scott, J., Rajamani, L., 2012. EU climate change unilateralism. *European Journal of International Law* 23, 469–494. <https://doi.org/10.1093/ejil/chs020>
- Setiyanto, A., 2024. Assessing the implications of implementing European Union countries' anti-deforestation regulations on Indonesia's palm oil industry, in: IOP Conference Series: Earth and Environmental Science. Institute of Physics. <https://doi.org/10.1088/1755-1315/1308/1/012066>
- Shepherd, A.W., 2018. Addressing the aggregation and coordination problems in smallholder-based value chains. Washington D.C.
- Shi, X., Tsun, A., Cheong, S., Zhou, M., 2021. Economic and Emission Impact of Australia-China Trade Disruption: Implication for Regional Economic Integration. ERIA Discussion Paper Series.
- Shift Project Ltd., 2022. The EU Commission's Proposal for a Corporate Sustainability Due Diligence Directive - SHIFT'S ANALYSIS.
- Siegel, D.S., 2009. Green Management Matters Only If It Yields More Green: An Economic/Strategic Perspective Executive Overview. *Academy of Management Perspectives* 23. <https://doi.org/10.5465/amp.2009.43479260>
- Sotirov, M., Azevedo-Ramos, C., Rattis, L., Berning, L., 2022. Policy options to regulate timber and agricultural supply-chains for legality and sustainability: The case of the EU and Brazil. *For Policy Econ* 144, 102818. <https://doi.org/10.1016/J.FORPOL.2022.102818>
- Standen, T., Medina, A., 2022. Opportunities for Foreign Investors in Vietnam's Coffee Industry. ASEAN Briefing.
- Statista, 2024. Palm oil industry in Thailand - statistics & facts. <https://www.statista.com/topics/12224/palm-oil-industry-in-thailand/> (accessed 7.7.24).
- Statista, 2023. Contribution of the palm oil industry to the gross domestic product (GDP) of Malaysia from 2015 to 2022. <https://www.statista.com/statistics/952996/malaysia-palm-oil-share-of-gdp/#:~:text=Importance%20of%20palm%20oil%20to%20the%20Malaysian%20economy&text=In%202022%2C%20it%20exported%20around,Malaysia's%20total%20gross%20domestic%20product>. (accessed 9.2.24).
- Taylor, R., Streck, C., 2018. The elusive impact of the deforestation-free supply chain movement. Washington D.C.
- The White House, 2022. Indo-Pacific Strategy Of The United States. Washington D.C.
- United Nations Framework Convention on Climate Change, 2015. Paris Agreement, T.I.A.S. No. 16-1104.
- van der Ven, H., Rothacker, C., Cashore, B., 2018. Do eco-labels prevent deforestation? Lessons from non-state market driven governance in the soy, palm oil, and cocoa sectors. *Global Environmental Change* 52, 141–151. <https://doi.org/10.1016/j.gloenvcha.2018.07.002>
- van der Ven, H., Sun, Y., Cashore, B., 2021. Sustainable commodity governance and the global south. *Ecological Economics* 186, 107062. <https://doi.org/10.1016/j.ecolecon.2021.107062>
- Van Ommen, P.A., 2009. MAINSTREAMING RESPONSIBLE TRADE IN TROPICAL AGRICULTURAL GLOBAL SUPPLY CHAINS Obstacles and Opportunities for Scaling up Responsible Trading Linkages between Transnational Corporations and (Smallholder) Farmers in Cocoa, Coffee and Tea. London School of Economics and Political Science, London.
- VietnamPlus, 2024. Vietnam – EU's second biggest coffee supplier in 2023. VietnamPlus Business.
- World Wide Fund for Nature, 2018. Textile and Garment Sector in Vietnam: Water Risks and Solution. WWF News.
- Yang, J., 2022. Understanding China's changing engagement in global climate governance: a struggle for identity. *Asia Eur J* 20, 357–376. <https://doi.org/10.1007/s10308-021-00643-1>
- Zhunusova, E., Ahimbisibwe, V., Sen, L.T.H., Sadeghi, A., Toledo-Aceves, T., Kabwe, G., Günter, S., 2022. Potential impacts of the proposed EU regulation on deforestation-free supply chains on smallholders, indigenous peoples, and local communities in producer countries outside the EU. *For Policy Econ*. <https://doi.org/10.1016/j.forpol.2022.102817>

8. Annexure

Table 1: India's sectoral exports of products covered under deforestation regulation and due diligence directive (US\$ million)

Products	2019	2020	2021	2022	2023
Wood, Wood Products & Furnishings	764.7	737.8	1072.1	1015.8	955.5
Textiles and Clothing	6868.3	5492.0	7046.7	7620.7	6688.7
Rubber and articles thereof	788.8	812.1	1255.5	1251.7	1199.3
Products of plant origin	1481.8	1466.5	1826.6	1873.6	1964.3
Mineral Products	6610.7	2627.2	6871.8	13572.7	19346.2
Leather Products	1296.5	1022.2	1188.5	1372.7	1242.1
Footwear Products	1173.0	926.5	1015.6	1282.8	1199.3
Construction	448.2	392.6	603.8	794.5	484.9
Coffee, Cocoa & Other Beverages	551.0	509.8	623.5	670.1	675.8
Chemicals	3955.9	4181.6	5244.3	6141.3	5393.8
Animal Products including Dairy & Fisheries	780.8	682.3	938.1	1170.9	955.4
Animal & Vegetable Oil	596.0	528.4	554.1	599.6	610.1
Other Commodities	3.1	3.2	1.1	1.8	4.9
Total Exports	25318.8	19382.1	28241.8	37368.2	40720.5

Source: ITC Trade Map, 2024

Table 2: China's sectoral exports of products covered under deforestation regulation and due diligence directive (US\$ million)

Products	2019	2020	2021	2022	2023
Wood, Wood Products & Furnishings	22832.8	23234.9	31784.1	28266.8	24927.9
Textile and Clothing	38953.3	51712.3	45513.3	46519.3	38169.1
Rubber and articles thereof	3023.2	3156.6	4590.4	4247.9	4501.9
Products of plant origin	3350.2	3256.3	3717.6	5226.6	5905.0
Mineral products	2028.9	1405.1	1855.5	5871.7	4904.5
Leather products	6434.5	4796.8	6317.5	7622.3	6937.5
Footwear Products	9761.6	7490.7	10011.0	12754.9	9727.4
Construction	2053.5	1759.7	2220.7	1929.5	1484.5
Coffee, Cocoa & Other Beverages	623.1	640.7	647.3	684.7	709.2
Chemicals	12496.3	12563.6	17869.0	25056.3	17986.5
Animal Products including Dairy & Fisheries	3082.5	2406.0	2452.7	2908.6	2711.7
Animal & Vegetable Oil	779.2	1012.7	1766.8	2392.9	1518.9
Other Commodities	3020.9	4689.7	7508.9	9015.7	12779.0
Total Exports	108440.2	118125.0	136254.7	152497.1	132263.1

Source: ITC Trade Map, 2024

Table 3: Indonesia's sectoral exports of products covered under deforestation regulation and due diligence directive (US\$ million)

Products	2019	2020	2021	2022	2023
Wood, Wood Products & Furnishings	298.9	271.9	302.3	329.6	310.8
Textiles and Clothing	580.6	621.8	922.0	1071.0	963.4
Rubber and articles thereof	518.8	564.5	524.4	568.5	396.6
Products of plant origin	2163.7	2575.0	3430.0	3169.7	2391.2
Mineral Products	941.1	828.4	1049.3	932.3	623.0
Leather Products	993.8	979.8	1093.0	1211.2	970.0
Footwear Products	1465.5	1251.7	1349.5	1569.0	1216.6
Construction	1141.5	1314.9	1550.0	2027.0	1660.2
Coffee, Cocoa & Other Beverages	232.8	87.7	124.6	1334.6	606.2
Chemicals	296.8	373.0	518.5	780.6	428.4
Animal Products including Dairy & Fisheries	133.3	132.3	175.9	232.0	210.5
Animal & Vegetable Oil	8.2	4.5	0.0	1.7	2.5
Other Commodities	110.9	353.3	578.9	1086.5	1576.5
Total Exports	8885.9	9358.7	11618.4	14313.8	11355.9

Source: ITC Trade Map, 2024

Table 4: Malaysia's sectoral exports of products covered under deforestation regulation and due diligence directive (US\$ million)

Products	2019	2020	2021	2022	2023
Wood, Wood Products & Furnishings	24.6	15.8	18.4	23.8	25.6
Textile and Clothing	109.0	125.8	138.2	126.9	170.8
Rubber and articles thereof	1402.3	1794.0	2447.7	2702.3	1672.3
Products of plant origin	1333.2	2379.8	3321.2	1287.5	785.2
Mineral products	267.7	239.1	226.8	279.5	227.5
Leather products	14.7	13.3	11.9	16.2	13.8
Footwear Products	89.7	77.5	101.1	86.8	122.7
Construction	16.1	18.2	15.3	17.1	13.7
Coffee, Cocoa & Other Beverages	326.8	256.1	541.5	1960.8	1026.0
Chemicals	250.1	296.7	463.8	586.4	320.4
Animal Products including Dairy & Fisheries	13.3	5.5	8.9	9.5	11.8
Animal & Vegetable Oil	35.3	26.3	42.3	54.3	37.1
Other Commodities	437.5	400.1	419.0	483.4	461.8
Total Exports	4320.3	5648.1	7756.1	7634.6	4888.9

Source: ITC Trade Map, 2024

Table 5: Thailand's sectoral exports of products covered under deforestation regulation and due diligence directive (US\$ million)

Products	2019	2020	2021	2022	2023
Wood, Wood Products & Furnishings	189.9	150.7	134.3	151.9	170.2
Textiles	809.2	657.8	694.9	726.8	602.1
Rubber	1427.1	1355.1	2004.9	1868.9	1436.8
Products of plant origin	1146.5	1142.1	1306.1	1409.9	1298.6
Mineral Products	10.5	6.7	15.4	21.4	17.4
Leather	104.3	54.2	58.3	83.8	92.6
Footwear, Headgear	146.0	110.9	141.0	176.0	153.5
Construction	35.4	27.9	34.2	42.7	31.5
Coffee, Cocoa & Other Beverages	43.1	30.4	36.4	54.0	77.3
Chemicals	143.3	135.5	228.7	302.9	208.6
Animal Products including Dairy & Fisheries	739.0	576.5	578.8	788.0	665.8
Animal & Vegetable Oil	54.2	52.3	42.4	73.3	80.6
Total Exports	4848.3	4300.2	5275.6	5699.4	4834.8

Source: ITC Trade Map, 2024

Table 6: Vietnam's sectoral exports of products covered under deforestation regulation and due diligence directive (US\$ million)

Products	2019	2020	2021	2022
Wood, Wood Products & Furnishings	1070.2	980.8	1104.3	1377.3
Textiles	1216.9	1106.2	1238.0	1703.1
Rubber	24.4	19.9	41.8	154.2
Products of plant origin	431.7	449.3	601.2	567.8
Mineral Products	3952.1	3870.0	3830.2	5077.3
Leather	4653.6	3999.5	4250.0	6270.1
Footwear, Headgear	1170.1	1223.6	1312.3	1335.3
Construction	107.0	119.8	130.8	104.1
Coffee, Cocoa & Other Beverages	0.2	0.3	2.1	13.3
Chemicals	114.7	121.9	168.0	265.2
Animal Products including Dairy & Fisheries	882.9	743.0	684.1	920.0
Animal & Vegetable Oil	2.5	2.7	2.9	28.2
Other Commodities	1025.3	924.1	1129.2	1202.4
Total Exports	14651.6	13561.2	14494.9	19018.1

Source: ITC Trade Map, 2024; 2023 data for Vietnam was not available at the time of writing this paper

Table 7: Philippines' sectoral exports of products covered under deforestation regulation and due diligence directive (US\$ million)

Products	2019	2020	2021	2022	2023
Wood, Wood Products & Furnishings	211.1	251.8	210.3	209.1	210.6
Textiles	10.5	6.7	12.8	10.5	13.9
Rubber	427.7	379.2	674.6	977.6	614.9
Products of plant origin	45.0	40.5	46.4	51.9	32.0
Mineral Products	162.6	164.9	169.0	132.8	114.1
Leather	114.5	76.8	64.5	61.3	52.3
Footwear, Headgear	58.2	46.5	33.7	39.8	23.7
Construction	294.3	268.3	375.8	399.2	331.8
Coffee, Cocoa & Other Beverages	2.5	3.1	2.4	4.5	1.6
Chemicals	0.0	0.0	0.0	0.0	0.0
Animal Products including Dairy & Fisheries	71.9	55.9	68.5	76.6	54.2
Animal & Vegetable Oil	93.5	41.0	45.4	63.5	51.0
Total Exports	1491.8	1334.6	1703.5	2026.8	1500.0

Source: ITC Trade Map, 2024

Further enquiries

The University of Adelaide SA 5005 Australia

enquiries future.ask.adelaide.edu.au

phone +61 8 8313 7335

free-call 1800 407 527

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Kaurna acknowledgement

We acknowledge and pay our respects to the Kaurna people, the original custodians of the Adelaide Plains and the land on which the University of Adelaide's campuses at North Terrace, Waite, and Roseworthy are built. We acknowledge the deep feelings of attachment and relationship of the Kaurna people to country and we respect and value their past, present and ongoing connection to the land and cultural beliefs. The University continues to develop respectful and reciprocal relationships with all Indigenous peoples in Australia, and with other Indigenous peoples throughout the world.