



The European Union-Mercosur Free Trade Agreement as a tool for environmentally sustainable land use governance

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ABSTRACT

After twenty years of arduous negotiations, in 2019 the European Union (EU) and the Common Market of the South (Mercosur) announced the conclusion of a landmark trade agreement. Celebratory fireworks, however, were soon replaced by less desirable signs of smoke: the burning of the Amazon and Cerrado biomes, which has placed the bi-regional partnership under close public scrutiny. Since then, a lively debate among scholars, policymakers, activists, and private sector stakeholders has unfolded in an effort to assess the economic, social, and environmental implications of the agreement. To contribute to this debate, we use the EU-Mercosur Trade Agreement (EMTA) as a case study to discuss the complexities of transitioning to a global green trade policy paradigm, questioning whether free trade agreements could effectively promote sustainable land use governance. Bearing in mind the current environmental footprint of EU imports of Brazilian commodities, we illustrate the challenges inherent to decoupling international agri-food trade and land conversion, examining the current estimates and projections regarding the EMTA's potential impact on land-use change in Brazil. We also investigate the sustainable development provisions in the EU-Mercosur agreement, reviewing its land conversion-related clauses. While the EMTA has limitations common to other free trade agreements, it could be a useful additional tool for improving sustainability governance in the existing trade between the two regions by establishing a structured and legally stable platform for cooperation and implementing joint initiatives. The EMTA could set a positive benchmark for future free trade agreements that Mercosur might negotiate with other countries that are larger importers of agricultural commodities.

1. Introduction

There is vast literature investigating the interactions between international trade and pressures on the environment. Potential positive and negative effects have been linked to economic activity and trade (Grossman and Krueger, 1991; Copeland and Taylor, 2004; Yamarik and Ghosh, 2011; Baghdadi, Martínez-Zarzoso and Zitouna, 2013; Kastner et al., 2021), resulting in a lack of consensus regarding the impact of trade liberalisation on the environment (Martínez-Zarzoso and Oueslati, 2018). Various studies have specifically investigated the effects of trade

on habitat loss (Barbier and Rauscher, 1994; Sohngen et al., 1999; Hannesson, 2000; Barbier and Burgess, 2001; López and Galinato, 2005; Leblais et al., 2017; Abman and Lundberg, 2020). In parallel, global land displacement, virtual land trade and the land and biodiversity footprint of international food trade have also been studied (Green et al., 2019; Qiang et al., 2020; Liu et al., 2021; Molotoks et al., 2023).

On the other hand, only a few studies have specifically analysed the overall impact of free trade agreements (FTAs) on the environment (Abman, Lundberg and Ruta, 2021). To manage sustainable development outcomes in the land-use–biodiversity–climate–food nexus an

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improved understanding of the interactions between trade and environmental policies and their impacts on agricultural land use is still necessary (OECD, 2020). Building upon the existing literature, we contribute to this discussion providing a novel assessment on the European Union-Mercosur² Trade Agreement (EMTA) potential effects on land use change and the institutional governance framework it provides.

The EMTA is a new-generation free trade agreement covering various policy areas and behind-the-border regulations. It aims to establish a more unrestricted movement of goods, services, capital, and ideas between the two regions. The EMTA was initially praised in some quarters for creating one of the largest free trade areas in the world, composed of a market of more than 780 million people and a Gross Domestic Product (GDP) of approximately US\$ 20 trillion, accounting for roughly 25 % of the global economy (Brasil, 2019).

However, from its conclusion 'in principle' in 2019 onwards, public opinion support for the trade deal has faded, particularly in the EU, and it has become an iconic representation of an 'environmentally high-risk commercial tool' that should be avoided (Client Earth, 2020; Cremers et al., 2021; FERN, 2020; Guiotto and Echaide, 2019; Kehoe et al., 2020; Deutsch and Fletcher, 2022). Some EU member countries have also expressed their opposition to the agreement. The French government, for instance, has affirmed that the agreement can only be signed after assurance that it will not increase imported deforestation and that public policies of Mercosur countries comply with their commitments under the Paris Agreement (France, 2020). More recently, at the United Nations Framework Convention on Climate Change (UNFCCC) 28th Conference of the Parties (COP 28), French President Emmanuel Macron reiterated that he does not favour the EMTA agreement (O Globo, 2023). Furthermore, the Dutch and Irish parliaments have voted on motions opposing the agreement (Cremers et al., 2021). On the other hand, the EU's insistence on stringent environmental provisions is perceived by Mercosur as veiled protectionism and redundancy, giving their domestic environmental laws and commitments in international multilateral agreements (Müller, 2023).

The EMTA negotiations illustrate the argument that it is easier to mobilize potential losers of free trade agreements than to obtain support from the winners of trade liberalization (Nolte and Ribeiro, 2021; Tähtinen, 2024) and demonstrates that it is increasingly difficult to achieve domestic support for FTAs, particularly in high-income countries (Laurens et al., 2024). The lack of political coherence and alignment among diverse stakeholders in Europe in support of the agreement has been a constant feature during these two decades of negotiations. Following the decision to conclude the deal in 2019, the fragile political coherence around the deal once again eroded, due to a combination of factors (Lehman, 2024). One of them is the reduced public opinion support for the agreement, due to an increased importance attached by European citizens to environmental, labor and health standards along with stronger civil society engagement in EU trade agreements. Protectionist stances from the most sensitive sectors directly affected by the agreement (e.g. agricultural producers) have also played a role in domestic politics, particularly in France (e.g. Messad, 2024), along with views that the agreement would perpetuate structural economic inequalities of the European-South American trade (Greenpeace, 2023). The presidency of Jair Bolsonaro in Brazil and his low level of commitment to enforcing local environmental legislations to protect the Amazon forest also provided political fuel to opponents of the agreement (Nolte, 2021).

While the prospects for signing and ratifying the EMTA are still uncertain, the inauguration of a new government in Brazil in 2023 generated new momentum, partially assuaging European environmental concerns. Nonetheless, Brazilian President Lula's focus on re-

industrialization and prioritization of local business have added complexity to the scenario for the deal (Máximo, 2024). In March 2023, the EU Commission presented a draft proposal for a joint instrument³ to Mercosur, providing clarifications regarding the interpretation of various commitments in the TSDC. In September 2023 Mercosur reportedly delivered a counterproposal to the EU. However, these two documents are still texts under negotiation and were thus not included in this analysis. In early 2024, the European Commission provided reassurance that talks were ongoing and that the EU 'continues to fulfil its objective of achieving an agreement' (Reuters, 2024). Although this paper cannot dig into the multiple layers of this political economy puzzle around the agreement, it is important to recognize that domestic and foreign politics have an important stake on the decision to ratify or not the agreement, perhaps having even greater influence than the actual estimated environmental risks of the agreement and the trade liberalization it entails.

To contribute to the debate on whether trade liberalisation leads to increased land use change and habitat loss, we use the EMTA as a case study to discuss the complexities of transitioning to a green trade policy paradigm that adequately addresses the risks linked to land conversion.⁴ We outline the existing estimates and projections regarding the potential of the EMTA to increase land conversion in Mercosur, which are related to biodiversity loss and reduced contributions from nature to people. While we acknowledge the risks in this agreement, we argue that some stakeholders have overstated the potential environmental damage of the deal. Furthermore, we consider that implementing the European Union Deforestation Free Regulation (EUDR) could potentially prevent some of the negative impacts of the EMTA. We also investigate to what extent environmental concerns are embedded in the agreement and point out existing gaps and possible paths towards mainstreaming sustainable land use planning in trade-related decision-making.

Finally, we analyse to what extent the EMTA could provide an additional political framework for improving sustainable land use governance in Mercosur. We discuss whether the provision of rules, cooperation mechanisms and incentives for sustainable development in the agreement offsets the potential adverse environmental impacts linked to increased commodity trade envisioned by the EMTA.

2. Materials and methods

This paper is concerned with the potential adverse impacts of the European Union-Mercosur Trade Agreement on Mercosur's environment, mainly related to increased pressures for land-use change derived from exports of forest-risk commodities. The analysis triangulates different sources of data to address the following research objectives: a) review estimated projections of land conversion and biodiversity loss resulting from the agreement; b) analyse the environmental provisions included in the agreement and their potential to offset these adverse impacts; c) investigate whether these environmental provisions are aligned with other trade agreements already implemented; d) Given the current rate of land conversion linked to the Brazil-EU commodity trade and the results of the analysis conducted in the paper, discuss the

³ Available at <https://circabc.europa.eu/ui/group/09242a36-a438-40fd-a7af-fe32e36cbd0e/library/da997440-4edb-437d-aa4a-3cb9a5e77930-details?download=true>

⁴ Considering a total of 990 Mha of natural remnants of all ecosystems in Brazil, the definition of 'forest' by FAO (2018) only includes 719.4 Mha (Azevedo et al., 2022). Thus, the hypothetical loss of 27.4 % of the Brazilian natural habitats would not be considered 'deforestation'. This analysis omits relevant areas under intense pressure from large-scale agriculture expansion (e.g. the highest recent conversion rates in the Cerrado savanna) (Brasil, 2023). The assessment of the agricultural expansion resulting from the EMTA needs to include, in addition to 'forests', natural and primary 'other wooded lands'. Therefore, we use the term 'land conversion' in this manuscript.

² Mercosur (acronym for Common Market of the South) is a regional integration process established in 1991 through the Asunción Treaty signed between Argentina, Brazil, Paraguay, and Uruguay

potential role the EMTA could play as a land-use governance tool towards the target of transitioning to deforestation-free foreign trade.

In the first research stage we collected quantitative and qualitative data. In this process, we organised a two-day workshop in Brazil in February 2021 to obtain initial perceptions and recommendations from a select group of public and private stakeholders regarding the environmental impacts of the EMTA.⁵ These preliminary discussions were helpful for informing the next steps of the research when we prioritised the analysis of existing impact assessment studies commissioned by the EU Commission and governments of participating countries. In addition to these reports, we inspected the central scientific repositories for articles with quantitative estimates of land conversion resulting from the EMTA. Only two papers matched our search criteria (Arima et al., 2021; Cordova and Koo, 2023), indicating the need for further quantitative analysis. We also relied on the projections of economic impact available in the Sustainability Impact Assessment (SIA) of the EMTA, commissioned by the European Commission (Mendez-Parra et al., 2020). We extended our search to the grey literature and found qualitative analyses of the agreement's potential impact on land-use change and habitat loss, but no further modelling or projections.

During the second stage of the research process, we analysed the official text of the EMTA agreement in principle, specifically its Trade and Sustainable Development Chapter (TSDCs). We compared its provisions with the ones found in other free trade agreements that the EU had negotiated in the last decade (we selected the agreements with Canada, Mexico, Vietnam, Japan, Singapore and South Korea). The objective was to investigate whether the EMTA followed the EU model for negotiating (TSDCs) launched with the FTA that the EU concluded with South Korea in 2010. In addition, we analysed whether the critiques from non-governmental organisations, representatives of green parties and more protectionist sectors regarding the chapter's content, the missing provisions or mechanisms, were a recurring problem in EU trade agreements and not a peculiarity of the EMTA. We also assessed whether the agreements had TSDCs with similar levels of strength. Finally, we analysed *ex post* assessments conducted for the EU-Mexico, the EU-Colombia, Ecuador and Peru agreement, and the EU-Central America agreement to check how these agreements had impacted land use in other Latin American countries.

3. Results and discussion

3.1. EU and Mercosur: partners in trade and land conversion

The EU is the second-largest global importer of emissions from tropical land conversion and associated activities, surpassed only by China. Between 2005 and 2017, it is estimated that EU global imports caused 3.5 million hectares of deforestation abroad - accounting for 21 % of the total conversion associated with the international trade in commodities (Pendrill et al., 2020; WWF, 2021). During this period, more than 80 % of tropical deforestation embedded in EU imports was concentrated in soy (31 %), palm oil (24 %), beef (10 %), wood products (8 %), cocoa (6 %), and coffee (5 %) (WWF, 2021).

The EU is Mercosur's second-largest trade partner (European Commission, 2021a), surpassed only by China, accounting for 16.2 % of the bloc total trade of goods in 2021. Brazil is the single largest exporter of agricultural products to the EU (European Commission, 2021b). Imports from Brazil accounted for 30 % of the EU's total embedded deforestation in the 2005–2017 period (WWF, 2021). In 2022, Brazilian agri-food exports to the EU reached US\$25.5 billion, and the top five exported products were soy (34.5 %), coffee (17.5 %), forest products (12.7 %),

⁵ The workshop was a virtual event due to Covid 19 pandemic safety rules and it was designed according to Chatham House rules to promote open space for debate among participants. Further information regarding the workshop is available at (website will be included after anonymized peer review).

cereals (9.1 %), and meat (5.5 %). In the same year, China was the largest importer of Brazilian agribusiness products, accounting for 31.9 % of Brazilian exports, followed by the EU (16.1 %) and the US (6.6 %) (Brasil, 2023(b)).

Greater awareness that the EU's commodity consumption may have fostered the expansion of agricultural lands in other countries at the expense of native vegetation and biodiversity has resonated with public opinion in the EU regarding trade policy initiatives, including negotiation of the EMTA. The conclusion of the EMTA has been perceived as an environmental challenge (e.g. Greenpeace, 2023) due to the possible additional increase in the already large trade flows between the two regions and in the resulting ecological footprint. In this vein, some quarters have argued that the conclusion of an 'emblematic' free trade agreement with Mercosur could undermine the EU's role in promoting better global governance linked to climate change and sustainable development since it would endorse economic incentives which may promote more habitat loss (Guiotto and Echaide, 2019).

In addition, upward trends of land conversion in Brazil and the perceived dismantling of the environmental protection legislation during the government of former president Jair Bolsonaro (2018–2022) have cast doubts on whether Mercosur could meet the expanded European demand for commodities without generating further adverse impacts on nature – particularly illegal deforestation (Rajão et al., 2020). In 2021, deforestation rates in the Brazilian Amazon increased by 21 % compared to the previous year, reaching 13,235 km², the highest rate since 2006, according to PRODES data⁶ (Brasil, 2021). In 2022, deforestation rates in the Amazon decreased by 11 %, to 11,594 km² (Brasil, 2023c). However, land conversion in the Cerrado (the Brazilian Tropical Savanna) biome increased by 7.9 % in 2021, reaching 8531 km² and 25.9 % in 2022, reaching 10,688 km² (Brasil, 2023d). Despite a smaller increase (3.02 % in relation to 2022), land conversion increased to 11,011 km² in 2023 (Brasil, 2023). In Argentina, the area of greatest concern is formed by four provinces in the North of the country (Chaco, Salta, Santiago del Estero and Formosa). In 2023, native vegetation conversion reached 1261 km² (Greenpeace, 2024). The main causes of deforestation in the region are attributed to agriculture, livestock production and fires. In Paraguay, the officially available data accounts for the 2020–2022 period, during which forest conversion reached 4124 km² (Instituto Forestal Nacional (INFONA), 2023).

3.2. Potential economic, land conversion, and biodiversity impact of the EMTA on Mercosur

According to the projections of the Sustainability Impact Assessment (SIA) of the EMTA, commissioned by the European Commission (Mendez-Parra et al., 2020), by 2032, the European GDP would expand by 0.1 %, and in Mercosur all countries would have an increase in GDP: 0.3 % in Brazil, 0.7 % in Argentina, 0.4 % in Uruguay and 0.1 % in Paraguay (in the most ambitious scenario) compared to the scenario without the agreement (baseline scenario). EU imports of agri-food products from Mercosur would increase by 30.7 %, while imports of industrial goods and services would increase by 9.7 % and 6.4 %. On the other hand, Mercosur imports of agri-food products from the EU would increase by 44.9 %, industrial goods by 94.1 %, and services by 2.1 % (all figures in the most ambitious scenario).

The EMTA is expected to increase the volume of some Mercosur agricultural exports to the EU via better access to its markets. Mercosur

⁶ Official deforestation rates for the Brazilian Amazon were obtained from the Brazilian Amazon Deforestation Monitoring Programme (PRODES) of the National Institute for Space Research (INPE). Further information can be found at: <http://terrabrasilis.dpi.inpe.br>

will remove or reduce trade barriers to 96 % of the trade volume and 94 % of tariff lines⁷ for imports from the EU in agricultural trade. On the other hand, the EU will liberalise 82 % of the trade volume and 77 % of tariff lines for importing agri-food products from Mercosur (Brasil, 2019).

Through an analysis of the available texts of the agreement and its annexes on tariff concessions, it is possible to summarize the main modifications in market access conditions. Mercosur's exports of agricultural products to the EU will fall within one of the three following categories, depending on the concessions agreed for each product in the EMTA:

i) No change in market access: free trade is already ongoing (e.g. soy), or trade protection is maintained; meaning that the same trade flows would in general be expected;

ii) Improvement in market access: the reduction in import tariffs may increase trade flows (e.g., avocados, lemons, grapes, soluble coffee, fish);

iii) Controlled improvement in market access: certain products will continue to face tariff rate quotas. The expansion in the trade volumes allowed within the quotas and reduction of in-quota tariffs will allow for a limited increase in EU imports (e.g. in the following product categories: beef, poultry, pork, sugar, ethanol, rice and sweetcorn).

Examining Mercosur's concessions in the agreement, it is possible to identify that import tariffs for agricultural inputs (i.e. fertilizers, machinery, etc.) will be reduced. Therefore, they could have effects in agricultural intensification and potential increases in productivity. The impacts of these overall changes in import tariffs in various sectors that may be connected to agriculture resulting from the agreement are partially captured by the quantitative modelling simulations performed in the impact assessments of the EMTA.

Based on these market-access changes resulting from the EMTA, the EU-commissioned Sustainability Impact Assessment (SIA) analyses various channels through which trade policy and international trade can affect the environment (i.e. the so called 'scale effect, the technique effect and the composition effect', as defined by Grossman and Krueger, 1991 and Antweiler et al., 2001). An additional effect, which is the focus of our concern in this paper and is not fully captured in the previous mentioned channels, is the change in land use generated by the geographical expansion of economic activity. In this regard, the CGE modelling in the SIA projects only a slight increase in the volume of animal production, sugar cane, and other agricultural products in Mercosur. Consequently, the report derives the conclusion that 'no significant expansion of the agricultural frontier would be expected due to the agreement' (Mendez-Parra et al., 2020, p.13). It is important to note, furthermore, that these relationships between international trade and environmental impacts are sensitive to the presence of regulatory frameworks (Bellmann et al., 2019; Campos et al., 2022).

An independent study conducted by Arima et al. (2021) projected total additional land conversion⁸ in Brazil resulting from the EMTA at from 560 km² to 1730 km², depending on the level of governance, use of double cropping techniques, and trade elasticity parameters.⁹ This

⁷ A product as defined in lists of tariff rates. Products can be subdivided, with the level of detail reflected in the number of digits in the Harmonized System (HS) code used to identify the product.

⁸ The authors applied a static version of the GTAP-BIO model to this empirical study. The GTAP-BIO is an advanced version of a Computable General Equilibrium (CGE) model, that represents the structure of the global economy and traces the production, consumption, and trade of all types of goods and services (including but not limited to crops, livestock products, vegetable oils and meals, sugar, processed rice, and processed food items) at the global scale. Because it is static, it does not identify over how many years the area would be deforested (Arima et al., 2021).

⁹ This reflects the possibility of the importing countries shifting more easily from domestic to imported options and among source countries (Arima et al., 2021).

number is relatively small, considering that in 2021 alone, land conversion in the Brazilian Amazon reached 13,235 km². According to their projections, soy will be the second driver of land use change, with gains of up to 41.6 k ha, primarily to supply Brazil's domestic market (Arima et al., 2021). This study also projects a reduction in forest cover ranging from 665 km² to 875 km² in other South American Countries (the model used in the analysis does not have a category for Mercosur only).

In line with the results found in Arima et al. (2021), a subsequent analysis conducted by Cordova and Koo (2023) of the potential impact of the EU-Mercosur agreement estimated that a 'net loss of 54,286 ha (542 km²) of forestland in accessible land was necessary to allow for increments in cropland' (p.12). On the other hand, they observed 'net decreases in the land use for pasture, which were compensated by more intensive cattle activities'. It is also important to note that these modelling exercise do not consider the approval of the EUDR. Therefore, implementing the EUDR could somewhat offset this projected additional land conversion.

Both papers use Computable General Equilibrium (CGE) simulations, a model which is comparative static, representing changes from one equilibrium to a new one. Therefore, the model cannot predict the timeframe for the impact. As stated in Arima et al. (2021), 'can take only a few years or may take longer, depending on how quickly companies, producers, and consumers adjust to new market conditions'. Arima et al. (2021) also simulated the effect of good governance through changes in the elasticity between agricultural production and deforestation. They used deforestation rates from a period considered of 'good governance' (2016) compared to a 'low governance scenario' (between 2000 and 2006), when deforestation increases sharply following an increase in agricultural production). They consider this relevant to the Brazilian case 'because environmental enforcement efforts have varied substantially between administrations over the past two decades'.

In this context, we argue that the governance framework established through the commitments and provisions of the Mercosur-EU agreement could be an additional and legitimate source of pressure on the Brazilian government to increase environmental enforcement efforts in the application of domestic legislation, such as the Forest Code, as well as international commitments (e.g. the Paris Agreement). The governance framework established by the agreement could be a tool to delay or even reverse the forecasted land use change resulting from the increased market access to the EU. Without the agreement, the EU loses the opportunity to establish formal bilateral mechanisms of cooperation, transfer of technology and political influence.

There are also other quantitative studies analyzing the effect of the agreement, but they focus on other aspects, not land use change and deforestation. Early impact assessments on the economic and distributive effects of the agreement were conducted by Doctor (2007), UNIVERSITY OF MANCHESTER (2009), Boyern et al. (2010), Burrell, (2011), Estrades, (2012), CASTRO et al., (2013). More recent analysis of welfare impacts in participating countries were developed by Carrico et al. (2020), Sinabell et al. (2020) and Bethmann and Gracia (2022).

3.2.1. Potential impacts on specific commodities' trade

The EMTA is not expected to increase Mercosur's soy trade as it already enters the EU with a zero-import tariff.¹⁰ Brazilian soy exports may decrease once the Argentinean export taxes are withdrawn after the EMTA, and they increase exports to the EU. Similarly, the estimated increase in Mercosur annual beef exports to the EU is low, representing only 0.2 % of the total production in Brazil (Hovmand et al., 2021). The Beef trade is already highly regulated by the EU through a scheme of high import tariffs (around 40–45 %) and limited quotas, in addition to a

¹⁰ Tariff schedules are available in the Trade Part of the EU-Mercosur Association Agreement text: Appendix on Tariff Elimination Schedule for the European Union. Annex 2-A. Available at https://trade.ec.europa.eu/doclib/docs/2021/july/tradoc_159729.1%20EU%20goods%20shedule.pdf

suite of non-tariff measures that include sanitary and technical requirements and the new EU Deforestation Free Regulation (EUDR) (Oliveira et al., 2024; Freitas and de Maria, 2023). Should the EMTA be implemented, the EU will provide a new quota with a 7.5 % quota tariff but will maintain other existing beef import quotas (gradually reducing the in-quota tariffs to zero) and will keep the high out-of-quota tariffs measures (40–45 % tariff) (European Commission, 2021c). This means that there will not be free trade in the beef sector, keeping the EU market protected from Mercosur beef imports. Consequently, the expansion of pasturelands for cattle raising resulting from the EU-Mercosur agreement will not be an essential driver of land conversion in Brazil (Arima et al., 2021).

The EU's reduction of in-quota tariffs for ethanol may foster an increase in Brazilian exports. Nevertheless, the total volume predicted to be exported (ca. 100 million litres) accounts for less than 1 % of Brazil's ethanol annual production. This small volume in ethanol production explains its relatively limited impact on land change. According to Arima et al. (2021) projections the EMTA can increase Brazilian sugar exports since the EU will withdraw the in-quota tariff up to the quota level (which does not change). The out-of-quota tariff remains at baseline. As a result, sugarcane may become the most critical driver of land-use change in Brazil under the high trade elasticity scenarios (Arima et al., 2021). Brazil's most significant sugarcane production is in the Southeast States, followed by the Central-West and Northeast.

3.3. Environmental provisions in the EMTA: comparison with other FTAs

The EU has traditionally used free trade agreements as platforms for enhanced cooperation to pursue EU values and interests (European Commission, n.d.). On the Mercosur side, its officials consider the EMTA to be the most complex and important agreement the bloc has ever negotiated. While the EU has more than 50 Free Trade Agreements (FTAs), MERCOSUR has concluded the negotiations of extra-regional free trade agreements only with Israel (2007), Egypt (2010), and Palestine (2011) and, more recently, with the European Free Trade Association - EFTA (2019). Mercosur also signed limited preferential trade agreements with India (2004) and the South African Customs Union - SACU (2009). These agreements, except the ones with the EU and the EFTA, are considered previous-generation trade agreements since their liberalisation applied only to goods and did not include services or investments.

Currently, most of the environmental provisions in trade agreements are found within a dedicated chapter dealing with sustainable development issues, which usually includes provisions related to labour and other social issues. This does not mean, however, that the different chapters are less relevant from an environmental perspective. The impact of a trade agreement can only be assessed as a 'package' involving the analysis of provisions in all chapters. Nevertheless, the inclusion of trade and sustainable development chapters (TSDCs) in free trade agreements has constituted a governmental response to civil society concerns regarding the potential adverse effects of these instruments on the environmental quality of the participating countries (Nolte, 2021).

In Europe, efforts to implement and enforce sustainable development commitments of EU agreements and use trade policy to support the EU's ecological transition have also been strengthened in connection with the European Green Deal (European Commission, 2019). The discussions around the impacts of the EMTA can also be placed in the historical context of EU deforestation concerns and related policies. The EU has formally endorsed Sustainable Forest Management (SFM) and its principles since the adoption — at the Earth Summit in Rio in 1992 — of the *non-legally binding authoritative statement of principles for a global consensus on the management, conservation and sustainable development of all types of forests* (A/CONF.151/PC/DEC/4/7). According to Hede-mann-Robinson (2024), it is over 10 years later, with the 2003 *EU Forest Law Enforcement, Governance and Trade (FLEGT) Action Plan*, that the

foundations of the legal system tackling illegal logging at the EU level are set (European Commission, 2003). At this stage, the EU approach on forest management was following two parallel routes: and internal one, concerned with setting the legal foundations of SFM across the Union and with the reception of measures by individual member states, and an external one, mainly composed of bilateral agreements — known as Voluntary Partnership Agreements (VPAs) — with non-EU countries exporting timber from tropical forests to the EU. Given the difficulties and the time- and resource-consuming process required to build individual VPAs, in 2010 the EU reinforced its efforts against deforestation by introducing an internal regulation — the EU Timber Regulation (EUTR) — posing a ban on illegal timber trade and requiring operators and traders to perform due diligence operations: Gradually realizing the illegal timber logging and trade is only part of the wider spectrum of issues that affect SFM, the EU started to scrutinize more closely the displacement of footprint and impacts generated by internal consumption in ecosystems and territories beyond its borders. While it is too early to discuss the actual impacts of the EUDR, this regulation has been seen as marking a new phase, introducing a new tighter approach to deforestation, where the EU explicitly acknowledges and addresses the displacement of environmental impacts on climate, forests and biodiversity reverberating from its internal economic activities and consumption (*Ibid.*).

The Trade and Sustainable Development Chapter in the EMTA follows the template used in EU negotiations since the 2010 EU-Korea agreement, the first EU trade deal to incorporate a chapter dedicated to Sustainable Development Issues. As outlined in Mattoo, Rocha and Ruta (2020), the largest trading countries tend to negotiate FTAs based on a template they offer to third countries, reflecting their experience in previous negotiations. Empirical evidence from their recent research has shown, for instance, a high level of similarity in the texts negotiated by the European Union, reaching a 0.8 index (on a 0–1 scale, with 1 being 'perfect similarity') in the EU-Moldova/EU-Ukraine agreement. This high level of similarity is also found in US agreements (up to 0.89) and Japan's (up to 0.75 in the case of the Japan-Indonesia/Japan-Mongolia agreements).

Inspired by the Mattoo, Rocha and Ruta (2020) exercise and by Velut et al. (2022), we have compared the text of the Sustainable Development Chapter of the EMTA with six other recent EU agreements that are already in force (EU-Canada, EU-Mexico, EU-Vietnam, EU-Japan, EU-Singapore, and EU-Korea agreements). Table 1 illustrates the consistency of the issues included in the various EU agreements analysed.

This comparative exercise demonstrates that the Sustainable Development Chapter in the EU-Mercosur agreement is very similar to other EU agreements already in force. We found that most of the provisions and issues covered in the TSDC articles of these agreements have very similar language and dispositions that potentially provide for equivalent levels of comprehensiveness and stringency among all these agreements.

Overall, as is the case with the six other EU trade agreements analysed, the EMTA TSD Chapter adopts a 'cooperative' approach based on shared values and interests that promotes avenues for developing trade and economic relations to contribute towards achieving the Sustainable Development Goals. The EU cooperative approach in the TSD chapter is different from those of other large trading countries, such as the United States 'competitive' approach, which is primarily aimed at levelling the playing field with trade partners so that the higher American standards on environmental protection do not put domestic companies at a disadvantage (Velut et al., 2022).

The dispute settlement process for the Chapter (Art. 15,16 and 17) is very similar to the other trade agreements analysed. It includes consultations between the parties and the possibility of establishing a panel of experts to produce a report and recommendations on a matter of interest. Considering these recommendations, the parties discuss appropriate actions or measures to implement to settle the dispute. The use of a dispute settlement mechanism in an FTA is not very frequent, but it has occurred under the EU-South Korea FTA. The EU requested

Table 1
Environmental issues in Trade and Sustainable Development Chapters in EU agreements.

Provisions	EU-Mercosur	EU-Canada	EU-Mexico	EU-Vietnam	EU-Japan	EU-Singapore	EU-Korea
Multilateral Environmental Agreements	✓	✓	Multilateral governance and agreements	✓	✓	✓	✓
Trade and Climate Change	✓	✓	✓	✓	✓	✓	✓
Trade and Biodiversity	✓	✓	✓	✓	✓	No	Annex on Cooperation
Trade and Sustainable Management of Forests	✓	Trade in forest products	✓	✓	✓	Trade in timber products	Annex on Cooperation
Trade and Responsible Management of Supply Chains	✓	Encourages corporate social responsibility, bilateral dialogue on raw materials	✓	Encourages corporate social responsibility	Encourages corporate social responsibility	Encourages corporate social responsibility	Annex on Cooperation - corporate social responsibility
Trade and Sustainable Management of Fisheries and Aquaculture	✓	Trade in fisheries and aquaculture products	Trade and sustainable management of marine biological resources and aquaculture	✓	✓	✓	Annex on Cooperation

consultations with South Korea in 2018, following the lack of progress by South Korea in implementing its commitments related to the ratification of outstanding International Labour Organization treaties and internalization of various ILO principles in domestic regulations. In 2019, the EU requested the establishment of a panel of experts, which ruled that South Korea should adjust its labor laws to be consistent with the TSD Chapter. Following this result, South Korea ratified three fundamental ILO conventions and reported to the EU progress in implementing the other recommendations from the panel (Velut et al., 2022). This case demonstrates that even without the provision of enforcement mechanisms such as trade sanctions or remedies for non-compliant practices in these TSD Chapters, partner countries tend to cooperate in a demonstration of good-will and to strengthen the mutually beneficial relationship.

The objectives of the EMTA TSDC are spelt out in Article 1 and are meant to enhance the integration of sustainable development in the Mercosur-EU trade and investment relationship, recognising that the economic, social, and environmental dimensions are interdependent and mutually reinforcing dimensions of sustainable development. By stressing these three pillars, the agreement implicitly recognises that forest and biodiversity protection are not priorities over the other two dimensions and reinforces the required balance among them to deliver the objectives of 'generating welfare to present and future generations'. Therefore, this introductory article clarifies that this chapter is not solely focused on forests or environment protection but rather on the multiple aspects embodied in sustainable development. In this connection an analysis of whether the chapter is 'fit for purpose' (e.g. Client Earth, 2020) would require assessing it considering comprehensive sustainable development goals, rather than focusing solely on environmental protection.

The chapter has been criticised for lacking the strength required to fully harmonise the environment or labour standards of all the parties, following the allegedly higher EU standards. However, the chapter recognises the differences in the level of development among Mercosur and EU member countries and ensures the right of each party to regulate and establish the levels of domestic environmental and labour protection it considers appropriate (Article 2). Therefore, it is considered that developing countries may need a transition period to reach and implement standards like those of developed countries.

Although it commits to providing a 'policy space' for the participating countries, the agreement does assign some duties to them, such as to 'not weaken the levels of protection afforded in domestic environmental or labour law' or 'not waive or derogate from' and 'not fail to effectively enforce' its environmental or labour laws to encourage trade or investment. These non-regression commitments are essential to

ensure that both sides will not dismantle existing regulations and institutions in charge of implementing, enforcing and monitoring actions related to environmental protection, such as halting land conversion and promoting restoration. On the other hand, the parties commit to not using environmental and labour laws as a disguised restriction on trade or unjustifiable or arbitrary discrimination. It is worth mentioning that these provisions related to environmental regulatory sovereignty are limited by the non-regression clauses, which are a way to ensure that countries will not back-pedal on existing commitments (Velut et al., 2022).

Table 2 summarises the full content of the chapter and the scope of each of its 18 articles, which are all (except Art. 9) directly or indirectly related to sustainable land use governance.

According to George and Yamaguchi (2018), there are theoretically four different channels through which environmental provisions in FTAs could contribute to environmental quality: i) strengthening environmental regulations (new environmental laws or impact access frameworks); ii) introduction of new institutional arrangements (i.e. establishing Ministries, Environmental Audit Units); iii) Providing cooperation on improved environmental law and enforcement; and iv) improving environmental awareness and public participation processes.

In the TSDC of the EMTA, the link to commitments in multilateral environmental agreements can contribute to channels i and ii, while the agreement indirectly includes provisions (e.g. Articles 3, 13 and 14) that could lead to iii and iv. Furthermore, complementary to the TSDC, the political and cooperation portions of the EMTA also call for institutional mechanisms for enabling greater exchange and collaboration between the two regions through the establishment of an Association Council, a decision-making body, and an Association Committee, which assists the Council (Malamud, 2022).

In addition, environmental provisions in trade agreements have also been used in practice to ensure a level playing field among parties to the agreement to avoid a 'race to the bottom' regarding environmental regulations (Titievskaja, 2021). Furthermore, empirical research assessing all free trade agreements notified to the WTO from 1958 to 2018 has found that the inclusion of forest-related provisions in free trade agreements has mitigated forest and biodiversity loss resulting from trade liberalisation and has prevented agricultural land expansion (Abman, Lundberg and Ruta, 2021).

4. EMTA: neither a villain nor a complete solution for land conversion

Compared to the current status of the Brazil-EU trade relationship, the EMTA could provide an additional framework for advancing

Table 2
Content of the Trade and Sustainable Development Chapter.

Article	Title	Scope
1	Objectives and Scope	Sets the general approach of the agreement, based on cooperation; outlines the parties' understanding regarding the three pillars of sustainable development; emphasises the parties' multilateral commitments on environment and labour.
2	Right to regulate and levels of protection	Recognises the sovereignty of the parties in establishing their environmental and labour policies and legislation, as long as these are consistent with commitments in multilateral agreements; specifies that the parties shall not weaken their levels of protection.
3	Transparency	Calls for transparency and public participation in measures to protect the environment and in trade or investment measures that may affect the protection of the environment.
4	Multilateral Labour Standards and Agreements	Encourages promotion of the implementation of core labour standards set forth in ILO Declarations; Underlies the importance of ratifying and implementing ILO Declarations and Conventions.
5	Multilateral Environmental Agreements	The parties reaffirm their commitment to promote and effectively implement MEAs and to exchange information regarding their ratification of MEAs.
6	Trade and Climate Change	Determines that each party shall effectively implement the UNFCCC and the Paris Agreement.
7	Trade and Biodiversity	Encourages promotion of the use of CITES; provides that the parties shall implement effective measures to reduce the illegal trade in wildlife.
8	Trade and Sustainable Management of Forests	Recognises the importance of forest management and the role of trade in pursuing this objective and that of forest restoration. Encourages the parties to trade in products from sustainably managed forests; states that the parties shall implement measures to combat illegal logging.
9	Trade and Sustainable Management of Fisheries and Aquaculture	Recognises the importance of conserving and sustainably managing marine biological resources and marine ecosystems and sustainable aquaculture and encourages the parties to promote initiatives towards these ends. Highlights the importance of the parties to act consistent with the FAO Code of Conduct for responsible fisheries.
10	Scientific and Technical Information	Determines that the parties shall ensure that the scientific and technical evidence on which protective measures are based is from recognised technical and scientific bodies. Provides that a party may adopt measures based on the precautionary principle.
11	Trade and Responsible Management of Supply Chains	Recognises the importance of responsible management of supply chains through responsible business conduct and corporate

Table 2 (continued)

Article	Title	Scope
12	Other Trade and Investment-related Initiatives Favouring Sustainable Development	social responsibility practices based on internationally agreed guidance. The parties strive to enhance the contribution of trade and investment to the objective of sustainable development in its three dimensions and agree to promote the ILO Decent Work Agenda and encourage trade, investments in goods and services and exchange of technologies that contribute to enhanced social and environmental conditions.
13	Working together on trade and sustainable development	Sets issues for voluntary collaboration between the parties towards attaining the objectives of the Chapter.
14	Sub-Committee on Trade and Sustainable Development and Contact Points	Provides for the establishment of a Sub-Committee to facilitate and monitor the effective implementation of this chapter and carry out tasks related to dispute settlement.
15	Dispute Resolution	Provides that the parties shall make efforts through dialogue, consultation, exchange of information and cooperation to address disagreements regarding the interpretation or application of this Chapter.
16	Consultations	Establishes the procedures for requesting consultations between the parties on a specific matter.
17	Panel of Experts	Provides for the procedures of establishing a panel of experts to examine a matter for dispute resolution.
18	Review	Provides for the possibility of reviewing and amending the Chapter through discussions in the Sub-Committee.

sustainability goals and an improved venue for enhanced dialogue and cooperation. In our view, this would be the key benefit of signing the agreement. The EMTA could consolidate a strategic political and economic partnership and potentially ensure a legally stable relationship based on shared values between the two regions (European Parliament, 2024). In a business-as-usual scenario (no agreement is ratified), current levels of land conversion linked to European demand for Mercosur's commodities are likely to persist.

The potential increase in production and trade of agricultural commodities resulting from the EMTA is relatively small considering the current market-access conditions for Brazilian exports into the EU before the agreement and the post-agreement concessions negotiated. For instance, as has already been noted, Mercosur exports of commodities such as coffee and soya are already duty-free in the EU. Therefore, the estimated effect of the EMTA on land conversion in Mercosur appears limited in the existing projections compared to the area previously converted in Mercosur countries and recent land conversion trends. The land conversion induced by the EMTA may become more relevant if it occurs in ecologically important areas, especially in priority areas for biodiversity and nature's contributions to people. Therefore, additional research would be useful for further assessment of the potential for land use change and habitat loss arising from the EMTA.

Alternatively, the potential increase in demand for agricultural commodities resulting from the agreement could be met through other paths to increase agricultural productivity rather than expanding the area of production that causes land conversion. For instance, the technology applied to innovative farm practices such as drones, precision

agriculture, and vertical farming is likely to increase productivity gains. Furthermore, sustainable farming methods may make agricultural production less harmful to biodiversity and nature's contributions to people. Several methods such as agroforestry, integrated crop-animal farming, intercropping, crop rotation, cover crops, and biofertilisers improve the environment sustainably without reducing productivity.

Furthermore, *ex post* assessments of the implementation of EU agreements with other Latin American countries have demonstrated that their overall environmental impacts are 'very small', presenting mixed results across environmental impact areas. It is important to note, however, that these assessments were commissioned by the European Union and their conclusions have not been independently verified. The EU-Mexico FTA was the first agreement the EU signed with a Latin American country and entered into force in year 2000.¹¹ It pertained to a previous generation of free trade agreements that did not include sustainable development chapters with commitments to environmental protection and other sustainability-oriented provisions. The *ex-post* assessment did not directly analyze deforestation, but it estimated a 'very small' impact on ecosystem and biodiversity, considering the size of the change in output (European Commission, 2017, p. 187). Notably, there was a decline in agricultural activity resulting from the FTA, reducing pressures on the environment.

Likewise, an *ex post* impact assessment on the EU agreement with Colombia, Peru and Ecuador¹² has concluded that 'no effect on deforestation is found in Ecuador and Peru, and a small contribution to deforestation arising from agricultural activity in Colombia (about 0.5 % of total deforestation arising from agricultural activity in the country)' (European Commission, 2022a, p.16). Another interesting case is the EU-Central America agreement, which entered into force in 2013 and that included a chapter on Trade and Sustainable development. The assessment on the EU agreement with six Central American countries (Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, and Panama) has found similar results, concluding that 'the Agreement had an overall marginal negative impact on biodiversity and ecosystems'. They estimated that the Agreement's tariff reductions for agricultural crops triggered 4000 ha of land use change in Costa Rica, 3000 ha in Panama and for the other CA countries are a factor of 10 lower. Thus, the research outlines that 'the estimated tariff reduction-induced land use change is more likely to have led to deforestation in Panama than in Costa Rica, as the share of cropland expansion resulting in permanent deforestation is significantly higher in the former (during the implementation period of the Agreement). No conclusions can be drawn on deforestation effects in the other CA partner countries'. The study also concluded that the agreement had a marginal positive impact on 'greening the economy', due to an increase of EU exports of environmental goods and increased production of sustainable agricultural goods in the Central American countries (European Commission, 2022b, p. 3–4).

The EMTA, however, is not fully effective in addressing all trade-related habitat conversion risks. It is not a sufficient mechanism for ruling out the possibility of land conversion resulting from the Brazil-EU agricultural trade relationship. It has limitations common to other EU Free Trade Agreements (FTAs) regarding implementation and enforcement mechanisms. In this respect, some analysts have argued that none of the existing EU FTAs ensure fully adequate provisions for protecting the environment, either in terms of mitigating the negative impacts of trade or of using trade to boost environmental sustainability (Blot and Kettunen, 2021).

¹¹ The EU-Mexico General Agreement entered into force in 2000. In 2016, EU and Mexico initiated the negotiations for modernizing the trade agreement. In 2018 both countries reached an agreement "in principle" on the trade part of the agreement. The new agreement, however, has not been signed yet.

¹² The EU has an agreement in place with Colombia and Peru since 2013. Ecuador joined the agreement in 2017.

In addition, the EMTA does not provide innovative incentives for biodiversity protection and native vegetation preservation, such as payments for ecosystem services. Further mechanisms and policies of land use planning would be necessary to more effectively address all these risks and the multiple challenges to governing environmental land-use problems (Van den Ende et al., 2023).

Therefore, the agreement needs to be analysed in a broader landscape of initiatives related to governance of trade impacts on the environment and to promoting sustainable land use. Table 3 illustrates this institutional framework aimed at avoiding trade-related land conversion into which the EMTA would be embedded. It provides examples of rules, commitments, and initiatives in place, with EU and Brazilian participation, in various arenas.

The EU-Mercosur agreement could play a vital role in this policy mix as it establishes a relevant set of bidding commitments based on common principles and values and shared objectives linked to the other arenas of governance (particularly MEAs). In addition, the various committees established by the agreement provide platforms for more structured dialogue, cooperation and dispute resolution between the two regions compared to what currently exists. Through this framework, governments from both regions could increase the governance and

Table 3

Examples of multilevel initiatives for sustainable land use applicable to the EU-Brazil trade relationship.

Governance Mechanism	European Union	Brazil
World Trade Organisation (WTO)	- Trade and Environmental Sustainability Structured Discussions (TEESD)	
Multilateralism	- Committee on Trade and Environment	
	- Marrakesh Agreement (sustainable development principle)	
Multilateral Environmental Agreements (MEAs)	- Convention on Biological Diversity	
	- UN Framework on Climate Change and the Paris Agreement	
Multilateral Arrangements/ Initiatives	- Glasgow Leaders Declaration on Forests and Land Use	
Domestic Regulations/ Programmes	- The European Green Deal	- Forest Code Federal Law 12.651/2012 (Brazil, 2012))
	- European Union Deforestation Regulation (EUDR)	- Commitment to achieving zero deforestation by 2030, in line with the Action Plan for the Prevention and Control of Deforestation in the Legal Amazon (PPCDAm)
	- Carbon Border Adjustment Mechanism (CBAM)	- Sectoral Adaptation Plan for a Low Carbon Agriculture for Sustainable Development (Plan ABC+)
Multi-stakeholders Initiatives	- New York Declaration on Forests	- New York Declaration on Forests (Subnational governments)
		- Roundtable on Responsible Soy (RTRS)
		- Amazon Soy Moratorium
Financial/ investments Regulations	- European Union's Central Bank 2020 Guide on climate-related and environmental risks	- Brazilian Central Bank Resolution 5081, which prohibits rural credit concessions for properties under environmental embargoes linked to land conversion
Commitments by Firms	- Glasgow Financial Alliance for Net-Zero	- ADM Policy to Protect Forests, Biodiversity and Communities
		- JBS Commitment to become Net Zero by 2040
Global Value Chains Standards	- Agri-Commodity Sector Roadmap to 1.5 to reduce emissions from land use change (COP26)	

coordination among these existing multi-level tools already in place to fight land conversion.

Under the EMTA a Sub-Committee on Trade and Sustainable Development would be established to facilitate and monitor the implementation of the provisions of the Chapter (Art. 14). The TSDC in other EU agreements also establishes similar institutional mechanisms (Committees or Subcommittees), providing for regular meetings. In the EU-Vietnam trade agreement, for instance, meetings of the TSD Committee have taken place once a year, as well as the meetings of the Domestic Advisory Group, which is composed by representatives of business organizations, trade unions, environmental and other civil society organizations.¹³

In addition, the TSDC rules out the possibility of new back-peddaling by governments on existing regulations, which will avoid a 'race to the bottom' on environmental and labour standards. Furthermore, in all its three pillars (trade, political dialogue and cooperation) and due to its binding nature, the EMTA can increase European geopolitical influence in the region and also secure its position as a preferred market for Mercosur exports in the face of competition from other countries such as China.

While several studies (e.g. Client Earth, 2020; Fern, 2020; Fern, IPAM and ISA, 2023) have questioned the EU-Mercosur trade agreement based on its environmental credentials, the comparative analysis has demonstrated that the Sustainable Development Chapter in the EU-Mercosur agreement is very similar to the ones found in many EU agreements already in force. This similarity may suggest that the EMTA is not the only agreement that may fail in fully supporting sustainable development. In the case of the EMTA, however, there may be higher stakes in terms of land conversion as compared to agreements between countries that do not have levels of forest coverage and biodiversity like those in Brazil. The alleged gaps, lack of enforcement mechanisms or inadequacies in the agreement may reflect flaws in the EU model of negotiating FTAs.

In response to this kind of critics, the EU Commission launched in 2018 a review process on improving the implementation and enforcement of TSDC in all EU trade agreements. This review was concluded in 2022 with an EC Communication that has reaffirmed 'the soundness' of the EU model (p.4), 'a comprehensive TSD approach, anchored in multilateral agreements and cooperation'¹⁴(p.5). However, the Communication has also identified scope for improvements, such as greater proactiveness in cooperation with partners, mainstreaming sustainability beyond the TSD chapters, increasing the monitoring of implementation of TSD commitments, reinforcing the role of civil society and enhancing enforcement through the possibility of a sanctions-based mechanism of last resort. The outcome of the TSD review will be proposed for all EU future trade negotiations and will be reflected in ongoing negotiations 'as appropriate' (p.12). For the agreements already in force, several of the identified action points could be immediately deployed.

In line with this review of the EU model of TSD Chapters, a growing body of literature offers recommendations on how the EU could reform its FTAs to reconcile the historical EU approach with propositions to 'green' the agreements. Voituriez and Laurans (2020) comprehensively review the main propositions in the literature, highlighting their common goal of designing a performance-based agreement that puts the 'environment first' and outperforms current FTAs on environmental criteria. The argument put forth by the authors emphasises the necessity

¹³ Reports, agendas and lists of participants of these committees and DAGs can be found at the European Commission Trade website: https://policy.trade.ec.europa.eu/eu-trade-relationships-country-and-region/transparency-eu-trade-negotiations/domestic-advisory-groups_en#:~:text=The%20DAGs%20seek%20to%20advise,improve%20implementation%20of%20the%20agreements.

¹⁴ Available at: <:///Users/susanoliveira/Downloads/Communication%20on%20the%20Review.pdf>

of shifting trade and production toward deforestation-free, low-carbon technologies, and energy-priced products. The complementary role of behind-the-border mechanisms, such as standards, regulations, subsidies, and government procurement specifications, would support this shift.

Although the EU has made significant strides in transitioning toward a green economy, its template for negotiating free trade agreements has not yet incorporated the adjustments necessary for evolving towards sustainability. Mercosur, on the other hand, as a bloc with less experience in concluding trade agreements largely followed the EU negotiating template.

Despite the inclusion of the TSDC, this FTA is still primarily built under the assumption that society, nature, and the economy are fundamentally distinct systems that can be regulated by different authorities, in various fora, and with other (and sometimes conflicting) rules and goals. Therefore, a deeper re-conceptualisation of trade agreements through sustainable development lenses would be recommended to appropriately balance the potential environmental risks and benefits of these agreements. Greener trade agreements should embed biodiversity safeguards and climate action principles throughout their chapters and include provisions aligned with the transition to a circular economy and sustainable food systems (Blot, 2023). In addition, they should contain innovative mechanisms for coordination and compliance with MEAs.

These suggestions provide a roadmap for governments, the private sector, and civil society to explore and work together to accelerate the green transition of foreign trade policies. However, for curbing trade-related land conversion and other associated environmental impacts in Mercosur, Brazil and other countries, there is no 'gold standard' free trade agreement that would be able to address alone all the environmental risks involved in large-scale production, transport, trade, and consumption (Commission Services, 2017). Therefore, the multi-level initiatives established for sustainable land use applicable to the EU-Brazil trade relationship complement the advances in land use governance the EMTA provides.

5. Conclusion

This analysis of the EMTA has contributed towards advancing understanding regarding the complex challenges of sustainability and international agri-food trade, as facilitated (or otherwise) via the provisions set out in FTAs. The EMTA is a significant case study in the deforestation-free trade policy debate since it is a new generation North-South agreement involving essential players in agricultural international trade and parties with enormous biodiversity and tropical forest endowments. Moreover, even without the ratification of the EMTA, the environmental footprint of the Mercosur-EU trade relationship deserves particular attention.

In this context, the main contributions of the paper can be summarized as follows: a) it builds upon the existing literature, systematizing the quantitative evidence and providing a novel critical assessment regarding the potential land use change and deforestation in Mercosur countries generated by the EMTA; b) it analyses the institutional framework of cooperation, political dialogue, and commitments established through the Trade and Sustainable Development chapter of the agreement and existing related regulations; c) it provides added value to the debate regarding the risks and benefits of the agreement by combining aspects of political economy, trade policy analysis, and a sustainability perspective, dialoguing with the literature in a trans-disciplinary way; d) beyond quantitative measures of potential environmental impacts resulting from the intensification of economic activity and trade, the paper innovates in proposing a positive stance towards the agreement, arguing that the potential for increased political governance and cooperation among the two blocs could offset the land use change risks.

Surprisingly, our research has found little empirical evidence in the

literature on the potential direct and indirect effect of the EMTA on land conversion, which highlights the need for further studies. Only two papers (Arima et al., 2021; Cordova and Koo, 2023) have modelled and quantified potential land use impact, suggesting some additional land conversion in Mercosur associated with the EMTA. The official Impact Assessment of the Agreement (Mendez-Parra et al., 2020) has concluded that no further agricultural frontier expansion is expected due to the agreement. Although the potential land conversion of the EMTA seems small compared to Mercosur (particularly Brazil's) annual land use and land cover change rates driven by other factors, it can be relevant in priority areas regarding biodiversity and nature's contributions to people.

The inclusion of environmental provisions in trade agreements is expected to help mitigate the risks of forest loss and native vegetation conversion resulting from trade liberalisation. We have sought to demonstrate that the EMTA can be a valuable tool in a package of multi-level policies and mechanisms for land use governance in Mercosur and particularly in Brazil, and can strengthen the institutional framework supporting the current and future Mercosur-EU trade flows. Within this framework, it is important to note that the new EUDR addresses some of the main environmental concerns that were raised regarding the EMTA.

The role that the EMTA will play also depends on how its provisions are implemented and enforced and is thus dependent on the level of engagement of governments, the private sector and civil society. Furthermore, the EMTA provisions still need to be aligned with the broader backdrop of supply chain and environmental mechanisms that constitute the multi-level framework of deforestation-free trade governance.

CRedit authorship contribution statement

Bruna F. Pavani: Writing – review & editing, Project administration. **Jaqueline C. Visentin:** Writing – original draft, Investigation, Conceptualization. **Susan Elizabeth Martins Cesar de Oliveira:** Writing – review & editing, Writing – original draft, Methodology, Investigation, Formal analysis, Conceptualization. **Rafael Loyola:** Writing – review & editing, Supervision, Funding acquisition. **Marcello de Maria:** Writing – review & editing. **Paulo D. Branco:** Writing – review & editing, Project administration, Funding acquisition.

Declaration of Competing Interest

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

Data Availability

Data will be made available on request.

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Declarations of interest

none.

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