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Review of Content Analysis of EU's Carbon Border Adjustment Mechanism Concerning Consistency with WTO

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ABSTRACT

This study contributes to the ongoing international scholarly discussion on the incorporation of environmental goals into the international trade law regime and offers critical policy lessons for policymakers and market members to consider. The European Union's Carbon Border Adjustment Mechanism is a new kind of trade policy to stop carbon leakage by imposing carbon tariffs on imported goods from countries that do not have effective climate policies; the aim of this review study is the integration of trade law and climate change by assessing the CBAM; in this research, CBAM is analyzed to determine its compliance with WTO principles. In this article, we have also discussed the merits and demerits of the CBAM proposal from the WTO and climate change law points of view.

Keywords*:* Carbon Border Adjustment Mechanism; Climate Change and Trade Policies; WTO Compliance; CBAM

1. Introduction

With the enhancement of global measures to attain low carbon status regarding the mitigation of Greenhouse Gas (GHG) Emissions, there has been a rise in the need to mainstream climate change goals in international trade law(Lamb et al., 2022; Viguié & Hallegatte, 2012). The EU's carbon border adjustment mechanism (CBAM) is one such change; its purpose is to curb carbon leakage by levying the equivalent carbon price on imports(Sun et al., 2024). It affects industries that have higher carbon footprints, such as steel, Aluminum, and cement industries. These are fundamental industries in the Chinese economy and thus, the matter of CBAM is somewhat more complicated in this regard; since China is an export market of the EU(L.-T. Zhao et al., 2024). This mechanism raises questions about the alteration of international trade relations given WTO legal principles such as non-discrimination and Most-Favoured-Nation (MFN) treatment. The European Green Deal, which serves as the EU's plan

for being a climate leader where the climate neutrality goal is set for 2050, is a plan that has the CBAM, which inherently affects trade. Thus, the current form of CBAM, as described in the report from China's Ministry of Commerce, has its economic risks and opportunities(Kardish et al., 2021). On the one hand, it may lead to intensifying the problem of the increase in production costs and the decreases in the competitiveness of Chinese export goods. The geopolitical aspect is important to the idea that the CBAM is 'green protectionism' and can skew the trade between China and the EU(Fakhri, 2025).

CBAM is an important tool to help preserve European industries from unfair competition by countries with weaker climate policies(Beccarello & Di Foggia, 2023). It establishes a carbon price on imports of certain goods from countries without a similar carbon price and puts particular focus on carbon-intensive industries, including steel, cement, and aluminium. Lan & Tao (2024) asked whether CBAM is compatible with the General Agreement on Tariffs and Trade (GATT) and other international trade laws(Lan & Tao, 2024). The EU insists CBAM is an environmental measure to reduce global carbon emissions, but critics fear it may be deemed trade protectionism. Ting et al,. (2024) used the GTAP model to estimate how the production costs of Chinese steelmakers will increase under CBAM(Xiang et al., 2024), thus potentially decreasing their market share in Europe. They also indicate that Chinese industries may require more efficient technologies to counteract these effects. According to Zhao et al. (2024), CBAM may speed up the use of greener technology, such as carbon capture and storage (CCS) in the steel sector of China(X. y. Zhao et al., 2024). Lu et al,. (2024) investigated how CBAM can affect other sectors, such as home appliance manufacturing, which is also a substantial carbon emitter(Lu et al., 2024). In addition, they say these industries will have to innovate to meet stricter environmental standards in Europe or see the loss of their biggest market. Another area of study of CBAM is its geopolitical dimension; according to Shi et al. (2024), China may consider CBAM as a "green protectionism," and be viewed as a spark to a trade war between China and the EU(Shi et al., 2024). In return, China could challenge CBAM under WTO structures or conclude exemptions for certain sectors. Wang et al. (2023) claim that CBAM may 'lead to a race to the top' in environmental standards, whereby countries seek to avoid loss of competitiveness in the EU market; because the CBAM may lead to costly green transitions, this dynamic may drive a wedge between developed and developing countries(Wang et al., 2023; Zhang & Sovacool).

There is increasing concern in the United Nations and other international forums as to the interrelationship between trade and climate change policy. The EU Carbon Border Adjustment Mechanism (CBAM) is a novel approach aimed at combating carbon leakage by levelling the carbon costs on imported goods so that foreign industries also follow the standards of the EU. The CBAM is still insufficiently examined as regards its long-term economic, legal, and

geopolitical consequences, especially for non-EU economies such as China, which largely depend on carbon-intensity industries(Erdogdu, 2025). Previous research has given ample attention to the legal aspect of the CBAM, primarily addressing the question of its conformity with WTO rules. Interestingly, consider possible legal challenges under the WTO about considerations such as non-discrimination and most-favoured-nation treatment. However, while these legal analyses remain important and useful, they tend to obscure the more extensive economic consequences for some of the most important trade partners. Thus, there is a need for further research on this aspect because this paper has identified a lack of sufficient literature on the economic consequences for non-EU economies, especially China. The lack of non-EU views in the existing literature also points to the need for a broader analysis of the CBAM's effects on international relations(Erdogdu, 2025). While the studies explored how such technologies might alleviate the CBAM's impact, no study analyzed these technologies against dynamic data on global trade and changing policies.

This research aims to evaluate the WTO compliance of the CBAM, especially in the aspects of non-discrimination and MFN treatment, and identify legal issues that may be likely to arise. The focus of the study is;

- To explore the measures that can be adopted both internally and internationally to address the negative impacts of the CBAM while also serving the global climate change objectives.
- To evaluate an assessment of the CBAM's WTO compliance and the policy's effects on international trade and climate change.
- To comprehend the characteristics and nature of climate change policies in the world and the interactions of climate change policies with international trade.

2. GATT Agreements and Base of CBAM Framework

General Agreement on Tariffs and Trade (GATT) is an intergovernmental trade organization formed in 1947 to facilitate trade and help the world economy recover after World II(Irwin, 2017). Originally, the organisational membership was primarily composed of European nations and the United States. The GATT was designed to settle rules governing trade relations between member countries and lower import tariffs between the member countries. In 1947, GATT had 23 member countries while today WTO, which oversees GATT, has 164 members accounting for more than 97 percent of world trade(Felbermayr et al., 2024). The GATT was established in the form of a series of treaties that have been renegotiated through rounds to change or modify existing provisions or introduce new ones. When the GATT was first set up it did not have an organisational structure, it only had a small secretariat located in

Geneva with little manpower and resources to attend to member concerns. Although it was effective in her achievement of the treaty's goals of cutting tariffs, members realized the importance of having an enforcement agency. To counter this Uruguay Round of trade talks started in 1986 and yielded the Marrakesh Agreement which led to the formation of WTO. The WTO itself is the implementing organisation of the GATT, whose members are required to adhere to its provisions. For instance, the VAT of Mexico levies a tax of 16% on commodities, and imported products inclusive of it(Tanzi, 2000). By articles II and III, Mexico can enforce this 16% VAT on imported goods and the subsequent sale of imported goods. However, the normal rate of the VAT cannot be above sixteen percent or be levied on imports only to prevent favouring imported and local goods.

According to the GATT, Articles II and III provide the rules for border adjustment taxes depending on the event that gives rise to the charge(Trachtman, 2017). Article II.2(a) relates to charges of a like nature to internal taxes on similar domestic products while Article III relates to internal charges arising out of domestic occurrences such as resale or use of the imported goods(Maisto, 2022). For instance in China–Auto Parts the WTO held that border charges are incurred at the time of importation, while internal charges arise from events happening in the importing country. The use of the term "equivalent" in Article II restricts border charges to the content being levied. For example, perfumes contain alcohol and hence can be charged a tax based on alcohol but the tax cannot be a full price of the perfume. The other important consideration regarding BATs is "likeness." This was because, according to Article III.2, foreign and domestic products that are classified as "like" products must be treated alike. The WTO in Mexico–Soft Drinks found that sugar-sweetened and HFCS-sweetened beverages were 'like products' because they operated in the same market, even if they were not similar products(Larios, 2004). Mexico's tax for HFCS-sweetened imports was a violation of Article III because it discriminated against imported goods(Gayon, 2023).

Border adjustment taxes also vary with the nature of the tax whereby if it is a direct tax it will be eliminated. While certain taxes, including the common VAT, are available for border corrections, other taxes, including income taxes, are not. Another problem is whether the tax applies to inputs that are not embedded in the final product or Taxes Occultes. Some arguments relate adjustments only to physically embedded inputs referring to Article II.2 (a). But the United States–Superfund case also said that inputs incorporated in the final product during the manufacturing process were also acceptable to be subjected to border adjustments, meaning that such taxes were not in violation of the GATT.

However, if a BAT breaks the obligations of Articles I, II or III of GATT, it can still be justified under one of the reasons allowed by GATT. Article XX gives examples of situations

or products through which the WTO members may be relieved from the provisions of GATT(Gu, 2012). To qualify for an Article XX exemption, a member must meet a two-tier test: First, it has to meet the criteria of one of the Article XX exceptions and second, it has to meet the conditions of the Article XX chapeau. Article XX allows WTO members to apply measures for several national interests. Paragraph (b) permits measures 'necessary to protect human, animal, or plant life or health'; paragraph (g) allows measures 'related to the conservation of exhaustible natural resources' if carried out subject to restrictions on domestic production or consumption. Carbon border adjustment mechanisms are found in paragraphs (b) and (g) according to scholars. WTO jurisprudence requires measures to meet two conditions to qualify under Article XX exceptions: they must also resonate with the language of the exception, and they have to be essential to accomplish the policy goal. The necessity test requires a "least trade-restrictive test", meaning whether the measure is the least restrictive possible.

Secondly, the measure must be necessary to secure the objectives of the covered agreement; and satisfy the chapeau of Article XX; The chapeau prohibits measures from being applied to accord less favourable treatment to the like products originating in the other country or countries or to afford protection to domestic producers to the detriment of other producers in other countries having similar conditions. It is required that both conditions have to be fulfilled to bring the measure under Article XX exceptions. It establishes three standards: unilateral discrimination, unreasonable discrimination and measures which have been disguised in the form of restrictions on trade. The WTO applies a two-part test to the chapeau: and whether or not the measure results in unjustified discrimination and whether it is a disguised restriction on trade(Ghei, 2007). Discriminatory justice entails analysing the provisions of the measure and how they are being implemented. Legal discrimination may be defined as an unfair distinction that is foreseen and preventable.

WTO jurisprudence highlights two criteria for determining unjustifiable discrimination: a member's attempt to reach accommodations about the policy objective and the openness and elasticity of the measure. In the United States–Shrimp, the WTO Appellate Body made a point that serious negotiation must be made with all trading partners and that members must be able to adapt due to the situation in each country(Ni, 2004). This paper argues that the rigidity of the US shrimp certification process made it to be categorized as unjustifiable discrimination and an inflexible policy. Further, it is unjustifiable discrimination for an exporting country to be required to have a system that is the same as that of the importing country. A measure discriminates arbitrarily if its implementation is haphazard, erratic or whimsical. Something that is too set or fixed in its approach may also be considered arbitrary

here; something that is too general or very ambiguous in its method also belongs to this category.

The second, and the last, segment of the chapeau test focuses on the question of whether a measure is a disguised restriction on trade. It is not the existence of the restriction but whether the real purpose of the restriction is masked. For instance, if a measure seems to meet the requirements of one of the exceptions in Article XX, namely, paragraph (b) or (g), but, has been designed to shield domestic industries from certain exporters, it is inoperable under the chapeau. The WTO uses three criteria to identify disguised restrictions: the advertising of the measure, whether it is arbitrary or discriminative, and the nature and architecture of the measure. The publicity test is performed by the enforcing country whereby it has to announce the policy to the public in a manner it follows while notifying its trade policies. Nevertheless, not satisfying this requirement by itself means that the policy is a disguised trade restriction.

The second criterion that asks the question of whether the policy constitutes arbitrary and unjustifiable discrimination is repeating the first Chapeau test in essence. Therefore if a policy does not pass the first part of the Chapeau test it will automatically not pass this criterion. The third aspect will therefore be to assess whether the application of the restrictive measure shows an intention to shield domestic industries at the expense of imported ones. One example of this can be witnessed in the Soft Drinks case. Here, Mexico endeavoured to justify its ban on HFCS-sweetened beverages under the provision of paragraph (d) of Article XX –The obligation to ensure compliance with domestic legislation. But unlike in the case of sugar cane, Mexico at least admitted that the real purpose of the policy was to shield local sugar cane producers from foreign competition. This disguised intent led to the violation of the restriction under Article XX's Chapeau.

3. WTO Agreements and Base of CBAM Framework

At present, the WTO's enforcement branch cannot properly apply GATT law enforcement(Charnovitz, 2003). GATT is enforced through a dispute settlement body (DSB) of the WTO which works through panels of three or five members. Decisions made on the panels may be appealed to the WTO's Appellate Body the WTO has also provided its members with several specific panels(Marceau, 2015). Although final reports issued by the Appellate Body are authoritative, the Appellate Body must be composed of a minimum number of members to make such reports. The Obama and Trump administrations have both refused to appoint members to the Appellate Body stating that the DSM is flawed. This led to the absence of quorum – something that has been perpetuated by the Biden administration. Therefore, the current process of the settlement of the dispute is in crisis and the WTO cannot enforce GATT

properly. In case of a disagreement, a DSB resolution may be rendered ineffective until the Appellate Body has dealt with it. In the absence of a quorum, no final report can be made, and hence unresolved issues and WTO law are being applied unilaterally by the members.

In its fight against climate change, the EU and each of its member states have pledged to implement the principle of CBDR(Voigt & Ferreira, 2016). This principle takes into consideration, the ability of nations in combating climate change and their contribution to it. The CBDR principle as enshrined in Principle 7 of the Rio Declaration suggests that developed nations are more culpable because they contribute more to greenhouse emissions and are in a position to afford technology to reduce their emissions. On the other hand, developing nations have been emitting small amounts of greenhouse gases throughout the years and therefore have less to spend in combating climatic change. The CBDR principle has been the backbone of the international environmental law. CBDR principle is reflected in Article 3 of the 1992 United Nations Framework Convention on Climate Change (UNFCCC) that was adopted by 197 nations(Voigt & Ferreira, 2016). The author of this article focuses on the role played by developed countries in fighting climate change. The UNFCCC also created the Conference of the Parties (COP) as the treaty's operating authority. In 1997, the Kyoto Protocol was signed that set the legally binding target for industrialized countries, including EU members, on emissions reduction(Maamoun, 2019). The EU agreed to a target of an 8% reduction of greenhouse gas emissions under the Protocol. Another principle that is evident in the Kyoto Protocol is the CBDR; Article 10 of the protocol divides responsibility following capability and contribution to global emissions. At the COP 21 in Paris in 2015, 196 countries signed the Paris Agreement(Dröge, 2016). It seeks to ensure the global average temperature rise does not exceed 2 degrees Celsius while it seeks to ensure that the rise does not exceed 1.5 degrees. The Agreement also envisages the provision of financial and technical assistance to the most affected nations for mitigation and building of resilience to climate change. The CBDR principle is included in the Paris Agreement in Article 2.2, just like in its previous agreements(Singh, 2022). However, the Paris Agreement does not have an implementation committee like the Kyoto Protocol has, instead, it is based on the honour system. Parties to the UNFCCC, Kyoto Protocol and the Paris Agreement including the EU and its member states have pledged to cut global emissions in line with the CBDR principle. They have committed to promoting the respect of the capacities of developing countries, accepting their fair share of the burden of the climate emergency, and providing support to the initiatives by developing countries to address and adapt to climate change under the Paris Agreement.

4. Content Analysis

The GATT has obligations that are put on its members; the obligations are not to engage in discrimination through tariffs or equivalent charges between its members and to treat the exporters of the foreign country in the same way as it treats domestic industries selling like products. The EU and its member states are parties to the GATT and the CBAM is an important measure that has to be GATT compatible(Bellora & Fontagné, 2022). Nevertheless, because of the long-standing crisis in the enforcement of WTO rules, a finding of violation would not nullify CBAM legislation but could invite retaliatory tariffs from other WTO members, which could cause a trade war. The CBAM may also run counter to the general but another special principle, namely, the principle of CBDR as provided under the UNFCCC(Durán, 2023). Whether it will conform to both WTO and UNFCCC rules will depend on the EU's acceptance of foreign policies to cut emissions and assistance to developing states on climate change issues.

- To establish whether CBAM complies with WTO rules, the nature of the said charge and rules relating to that kind of charge must be established together with an analysis of whether CBAM meets those rules. While CBAM is supposed to mimic ETS, it is a distinct policy aimed at carbon emissions from foreign processes excluded from EU ETS. The application of CBAM is initiated by the importation of goods, and the carbon allowances are determined by emissions at the production stage. This design makes CBAM more akin to a border measure chargeable under Article II.2. According to Article II.2, CBAM has to be imposed on like products. A difficulty is encountered when comparable products like aluminium and low-carbon aluminium have variations in their process and air pollution. CBAM may be viewed as unlawful favouring a domestic product preference as low-carbon aluminium competes directly with regular aluminium which is also an imported product. The other issue is the handling of foreign goods compared to domestic goods. The EU allows EU producers to receive free allowances to balance competitive losses arising from more stringent EU rules, which may be perceived as favouring certain producers. The EU intends to eliminate these allowances throughout CBAM's application and the nature of this elimination will be crucial for compliance with the non-discrimination principle of GATT.
- According to GATT, BATs are allowed only if they are aimed at products and not producers. CBAM must be recognized as an indirect tax on imported goods rather than a tax on manufacturers to meet the requirements of the GATT law. Haters say that CBAM focuses on producers' emissions while under the given proposal CBAM addresses the emissions that can be directly associated with specific production of the product. Such framing makes it qualify as an indirect tax and therefore could be border-adjusted in line with GATT.

- CBAM may fit into Article II.2 which provides for adjustments for taxes on articles that are used in production. However, a tax on emissions – as a discharge of production as opposed to a tangible input – raises questions. Interestingly, in the Superfund case, the WTO did not discuss if the above adjustments are allowed in the case of non-physical inputs such as emissions. Thus, Article II.2 compliance with CBAM is contingent upon whether emissions are considered equivalent to inputs in production.
- CBAM may violate GATT Articles I, II and III in certain aspects. But it might be exempted under Article XX if it meets the requirements for specific exceptions as well as the chapeau.
- Article XX(b) allows measures that are required to protect human, animal or plant life or health. The CBAM is in line with this goal because the decrease in carbon emissions is critical in managing health risks occasioned by climate change. United States' emission reduction policies are consistent with WTO jurisprudence such as in the United States – Gasoline which affirms that emission reduction policies come under Article XX(b). The EU must show that the instrument of CBAM helps achieve these goals and is the least trade-restrictive measure.
- In Brazil–Tyres, the WTO supported Brazil's ban on retreaded tires even if the EU offered several remedial substitutes arguing that the ban was intended to prevent pollution rather than its effects. Similarly, the fact that CBAM looks more at emissions that have to be cut than pollution as seen in the necessity test in Article XX(b).
- Article XX(g) permits measures connected with the conservation of exhaustible natural resources under the condition that they are applied in conjunction with like restrictions within the territory. The CBAM is designed to protect the environment and limit emissions, which are defined as exhaustible natural resources. As WTO decisions in the United States–Shrimp make clear, such measures must be primarily directed at conservation and cannot be arbitrary. Due to an unclear method of how it measures emissions and potential leverage on the policies of trading partners, CBAM could be considered as a measure that might raise compliance issues under Article XX(g).
- CBAM must also satisfy two requirements in the light of Article XX chapeau, that it does not amount to mean or unjustifiable discrimination, or a disguised restriction to trade. Through the Kyoto Protocol and Paris Agreement the EU's endeavours to negotiate climate agreements contribute to compliance with chapeau. However, there is continued controversy regarding CBAM's approach to estimating emissions and policy recognition of non-EU. These issues can be met by flexible application of the measures and individual contracts with the trading partners.

5. CBAM's Impact on Major Exporters i.e. China

The recently proposed European Union's Carbon Border Adjustment Mechanism (CBAM) is a landmark shift in the trade policy that aims to end carbon leakage by placing a carbon tariff on imported goods. Many producers or consumers, particularly China, the largest exporter of carbon-intensive products, are vulnerable to CBAM. This paper aims to discuss the special effects of CBAM on Chinese industries and talks about the policy measures that are required for dealing with these effects based on current research articles and policy papers to ensure the robustness of the discussion. The CBAM measures bear the greatest impact on industries that emit high levels of carbon, such as steel, aluminium, cement, and fertilizer(Chang, 2025). This is a clear problem because China is the world's largest exporter in these sectors; thus, it is most susceptible to the economic effects of CBAM. For example, the steel industry will experience a decline of about 6 percent in the export value to the EU because of the additional costs incurred in purchasing carbon credits. In the same way, the cement industry might face a reduction of export volumes to as low as 40% as the CBAM is implemented. The CBAM may cause changes in the Chinese industrial structure since industries in carbon-intensive sectors may need to reduce their scale or adjust their strategies to offset the costs, which may cause the loss of jobs and the shifting of supply chains that may be disadvantageous to Chinese exporters. It is believed that the application of CBAM will undermine the price advantage of Chinese exports in the EU market. This erosion could be worst felt in companies operating in sectors such as aluminium and cement where there is usually very little margin for profit. Such an outcome may force these industries to cut production, look for new export destinations, or invest in carbon offset technologies to offset the effects of CBAM. However, the shift to environmentally friendly manufacturing techniques is not without its difficulties, and costs and technology that most Chinese companies might find hard to afford are among the challenges identified. Probably the greatest obstacle since the integration of CBAM for Chinese industries is the technological difference in green manufacturing. Although some of the large Chinese corporations have started investing in Carbon Capture, Utilisation, and Storage (CCUS) technologies, most of the small and medium-sized enterprises (SMEs) are in a financial and technological position not to fully capture these solutions. Such a pause in technological advancement may intensify the harm resulting from CBAM, especially for industries that are deeply carbonised and export a considerable amount of goods to the EU.

Even the existing Emission Trading System (ETS) of China does not include a major part of the total carbon emissions(Cao et al., 2019). To avoid too high a carbon cost after the implementation of CBAM, China needs to expand the coverage of ETS and raise the carbon price to reflect the cost of environmental pollution. Aligning China's carbon pricing more closely to the EU's level could help designated domestic industries get used to the cost of

carbon emissions and so manage the impact of CBAM tariffs less of a surprise to them. This alignment would also give better long-term signals to the industries and hence encourage them to invest in green technologies. Therefore, there is a need for the government to provide strong policy measures that would enable Chinese industries to adopt green technologies. This comprises grants to facilitate the deployment of low-carbon technologies, and tax credits to organizations that minimize their emission of greenhouse gases. Such incentives are essential to ensure the green technologies' cost-effectiveness and affordability for the SMEs that may bear the brunt of the CBAM's economic impact. The support from green financing by the Chinese government, which includes low-interest loans and grants for projects that will decrease carbon emissions, could be vital to helping industries that are part of China meet the strict measures of CBAM necessary for them to continue accessing the EU market accordingly. China should also address the CBAM as a trade barrier through diplomatic negotiation in the WTO, the GATT, and other international trade forums. China could urge the WTO to accept its assertion that it is a developing country, which would mean that it ought to be accorded a different treatment under the CBAM. This approach would be in line with the Paris Agreement, where developed and developing countries are sensitive to climate change in line with their level of development. In addition, it is also possible for China to directly negotiate with the EU to come to an agreement where some of the sectors that are heavily affected by the CBAM can be given exemptions or their implementation can be modified. These negotiations can be aimed at a deeper reduction of CBAM inequities, especially in those sectors that have made considerable efforts toward lowering carbon outputs. Thus, to solve this problem, China should strive to improve cooperation with other countries in the field of the creation and application of environmentally friendly technologies. Access to the new technologies and the best practices that are necessary to meet the requirements of the CBAM could be provided with the help of collaboration with the European Union and other leaders in the world in this field. It could also help Chinese firms sign technology transfer agreements/joint ventures to increase their use of advanced technologies and decrease their emissions(Sorsa, 2025).

In the long run, China may have to turn to rebalancing the industry structure to contain dependence on carbon-consumption business types. This could mean raising funds in sectors like renewable power, biotechnology, and hi-tech production, which are not as vulnerable to carbon tariffs. That kind of diversification strategy would not only help China minimize the impacts of CBAM but also put the country at the forefront of the global shift to a low-carbon economy. This diversification should also be backed by policies that will foster investment in these new growth sectors, such as investment in infrastructure, more emphasis on education and training, and inspire growth in innovations and enterprises. Thus, by creating the necessary conditions for the formation of a strong and competitive industrial platform, China will be able

to cope with the adverse effects of CBAM and comparable tools in the future. The EU's Carbon Border Adjustment Mechanism can be considered problematic for Chinese industries, especially for those that are highly dependent on carbon-consuming production lines. Though these challenges present a major concern, they also present a chance for China to fasten the shift towards a sustainable economy and enhance its position as a leader in sustainable development goals. Although CBAM is considered to have negative impacts on China's economic growth, there are ways for the country to adapt to the change: Firstly, China should expand its carbon pricing mechanisms; secondly, it should encourage technological advancement; thirdly, the country should focus on strategic diplomacy; fourthly, the international cooperation should be stepped up; and last but not least, China should aim at long-term industrial transformation.

Based on such a literature review of the most recent academic and policy writing on CBAM, this analysis provides a clear guide for China to operate with CBAM and assist in global efforts towards dealing with climate change. As has been stated above, the strategic recommendations provided herein are not only significant and applicable for the Chinese policymakers and industry leaders but also can enlighten the global community while it is struggling to balance the free trade policies and environmental protection in the world economy.

6. Implications

The results indicate that the CBAM proposed by the European Commission is a multifaceted and uncertain instrument that was foreseen not so long ago. Looking at the legal implications, its expected effects and the consistency with its aim to tackle carbon leakage, the previous discussion outlines the former's advantages and disadvantages before concluding that it is premature to define this instrument as fully compatible with the WTO and climate change law. As a result, the following major reflections can be made.

- First, the current design aims to comply with WTO rules on non-discrimination, assuming that the requirement to surrender CBAM certificates qualifies as an internal regulation under Article III:4 GATT. Such things as actual embedded emissions preferred to default values, EU ETS mirror in pricing and certificate quantities, crediting the explicit carbon pricing policies of other countries to help shape this alignment. These choices attempt to justify the CBAM under the equalization logic of WTO rules, particularly Article III:4 which is less restrictive than Article III: 2 or Article II: 1 GATT. Further, applying the CBAM across all imported goods from all countries except those that are linked to the ETS system of the EU ETS is also consistent with this equalization logic. Nonetheless, the question arises as to whether

the CBAM as it is currently designed will be able to meet the WTO non-discrimination requirements.

- Second, the CBAM makes it clear that the equalization logic is associated with its overall climate targets. This means that certain decisions should be avoided because they are not conducive to the environmental goals, for instance including export rebates or retaining free allocation under the EU ETS. Although free allocation together with correction mechanisms avoids overcompensation of EU industries, it may reduce the effectiveness of the CBAM's climate change effects. Relaxing the rules on imports from countries with a connection to the EU ETS may violate most-favoured nation provisions but is consistent with the carbon leakage story. It is unclear whether the proposal provides the right degree of features essential for equalization, that is, for the non-discrimination argument, and features that would help to argue for a defence under Article XX GATT.
- Third, some of the design features important for meeting the two-tier Article XX GATT test are also relevant for compliance with the Paris Agreement, the UNFCCC, and the CBDR-RC principle. These are the elimination of free allowances, actual plus default values for emission, origin-based exemption based on responsibility, carbon prices in third countries and usage of revenues. While enhancing the link between CBAM and the carbon leakage objective may aggravate the risk of violation of the non-discrimination rule of GATT, it would enhance the defence under Article XX and, accordingly, the compatibility of CBAM with the international climate agreements.

The problem of implementation may also affect consistency with the GATT and the Paris Agreement. Experience from the state-level BCA in California, though, reveals that it is challenging to map the emissions accurately to individual trade flows. High compliance and evidentiary costs may be another problem for firms, which use default rates extensively to avoid having to decrease emissions. In the same way, upstream leakage risks may hamper the possibility of achieving the objectives set by the measure.

7. Conclusion

Carbon leakage occurs when industries relocate from regions with stringent carbon regulations, such as the EU, to areas with lenient policies, resulting in unchanged global emissions and unfair competition for EU industries. A CBAM, extending the ETS system to imports, could be an effective solution to address these challenges, level the playing field between EU and non-EU industries, reduce global emissions, and encourage exporting nations to adopt environmental policies. However, CBAM risks being perceived as violating WTO trade principles, potentially sparking trade wars amidst the WTO's current dispute resolution

crisis. Moreover, it could be criticized as a unilateral action that shifts the burden of combating climate change onto developing nations, undermining the global cooperation needed to tackle this issue. The CBAM Proposal was designed with WTO compliance in mind and could be justified under GATT's Article XX exceptions as a policy aimed at protecting humanity and the environment. The success of this justification, however, lies in the specifics of its implementation. The CBAM must account for the efforts of non-EU countries to reduce emissions and incorporate these into carbon pricing mechanisms. Furthermore, it should phase out anti-carbon leakage measures, such as free ETS allowances, to ensure fair trade practices. Additionally, the EU should engage in negotiations with developing nations to provide support through knowledge sharing, technology transfers, and other forms of assistance. These efforts would help these nations achieve sustainable emissions reductions and ensure the EU remains compliant with its CBDR obligations. By adopting these measures, the CBAM can mitigate potential conflicts, promote international cooperation, and advance global climate goals.

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