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Exploring the Criteria for the Evaluation of Scientific Evidence in Free Trade Agreements

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ABSTRACT

Study Background: For a long period, the standards of the Sanitary and Phytosanitary (SPS) Agreement were the only scientific conditions incorporated in WTO agreements (WTO). Notwithstanding this, the use of science to international trade law extends far beyond the SPS Agreement. The argument between Australia and Plain Packaging has demonstrated that there may be subtle scientific factors involved in the evaluation of non-SPS solutions. Also, free trade agreements and other types of preferential trade should be discussed (PTAs).

Aim of the Study: With this context in mind, this study looks into the elements that may influence the necessity for scientific proof in PTAs.

Methodology: This study uses a standard textual analysis approach, together with some noteworthy methodological considerations, to locate and interpret PTA clauses. Keywords search was done to make sure everything is mentioned in trade agreements. Each possibility has been explored in this exhaustive investigation.

Findings: In light of these recent developments, it appears that the scientifically based SPS rules may be applied to a broader variety of TBT sections. Others merely introduced additional scientific proof criteria in the WTO-X on regulatory cooperation, the environment, and labour.

Conclusion: To summarise, the author believes that the function of scientific evidence canons in PTAs deserves far more attention than it now receives.To achieve the objective qualitative method by utilizing international agreement, convention and protocols has been used.

Keywords: WTO, GATT, Scientific Evidence, SPS Agreement, Technical Barriers to Trade.

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Introduction

The Sanitary and Phytosanitary (SPS) Agreement of the World Trade Organization is the only aspect of international trade law that has maintained a consistent interest in science. This interest was sparked by a number of high-profile court cases that have exposed the contrasts in approach to science-based regulation and precaution between the EU and the USA. Some examples of these cases are EC, Hormones and EC. Approval and Marketing of Biotech Products. Science plays an important part in international trade law, and the SPS Agreement is only one example. The argument between Australia and Plain

Packaging demonstrates that difficult scientific challenges may be needed in analysing non-SPS provisions as well. With the goal of determining whether Australia's action breached Article 2.2 of the Technical Barriers to Trade (TBT) Agreement, the panels in that case carefully examined the measures' contribution to the objective, as well as the availability of less restrictive alternatives. choices that make it difficult to do business. There was also a 150-page technical appendix that accompanied the report. Whether or not Australia Plain Packaging is the first WTO dispute to need such a challenging review is debatable. (Bin-Nun et al.,2022)

The World Trade Organization alone cannot be the exclusive focus of the topic of science's role in international trade law (WTO). Nowadays, there is a huge system of preferential trade agreements, and one of its duties is to regulate (PTAs). PTAs may require members to provide scientific data in support of the execution of regulatory measures when renewing or enhancing WTO commitments. PTAs are becoming more and more popular, yet little is known about them. Most of the scholarly discussion around PTAs in the early 2000s was focused on their dispute resolution clauses and how they linked to the WTO dispute settlement. Over the last decade, there has been an uptick in qualitative and text-as-data-based studies aiming to better understand the nature and scope of PTAs. Researches use the disparity between WTO-X and WTO+ canons to conclude whether PTAs add to or detract from current WTO obligations (WTO+) or introduce new issues (WTO-X). Within this body of literature, several studies have started to look at regulatory collaboration in particular, as well as the TBT and SPS needs of PTAs (Borlini 2020).

WTO and PTA principles that promote or even require the use of science in the implementation of regulatory measures may have a significant influence on the regulatory space of states. Not only did conflicts like Australia-Plain Packaging and EC-Hormones involve complex scientific studies, but it was also necessary that these analyses demonstrate the soundness of measures made in the public interest. Therefore, the primary question at stake in these debates is whether or not it is feasible and acceptable to use science as a regulatory yardstick. While many continue to equate scientific evidence with truth and universality, investigations in the social sciences have revealed that this is seldom the case. In deliberations on the role of science in the SPS Agreement, the WTO has taken these ideas into account. To evaluate all the regulations that support the use of scientific evidence for the adoption of regulatory actions, however, this conversation must now go beyond the WTO and the SPS Agreement (Abramowitz & McCoy 2019).

Against this context, this article examines the origins and potential outcomes of PTAs' built-in scientific evidence criteria. In Section II, we present the question by defining the article's methodology and all the essential terminology, including the WTO agreements applicable to the investigation (the GATT, SPS Agreement, and TBT Agreement). In Section III, we begin with a brief review of the provisions of these treaties that mandate the use of scientific evidence. Use this case study as a starting point for a discussion on the scientific proof requirements of PTAs. In Section IV, we examine the modifications to, and extensions of, the PTAs that the EU and the USA have signed, which contain the criteria of scientific proof. These changes can be divided into three categories: procedural changes, substantive changes, and extending the canons of scientific evidence. The trends that surfaced during the research are described in Section V. It demonstrates that in more recent PTAs, the EU and the US have demanded greater levels of scientific proof. Several of the changes appear to expand the areas of the TBT to which the SPS's science-based canons are applicable. Cooperation in regulatory matters, environmental protection, and labour canons are only a few of the issues covered in WTO-X. What is the underlying justification for the inclusion of these provisions? is the final question in this section. It tries to construct a boundary between these clauses' objectives in order to do this. What is the underlying justification for the inclusion of these provisions? is the final question in this section. It tries to construct a boundary between these clauses' objectives in order to do this. The study argues that we should give scientific evidence canons far more weight in PTAs, and it ends with an analysis of the evidence (Cennamo & Santaló 2019).

Methodology

After the execution of the WTO agreement, EU and the US signed PTAs, and it looks scientific evidence canons contained in both agreements (1995). Many factors had a role in deciding to focus on the EU and the US. Although China's rise has diminished the EU's and the US' share of global commerce, they continue to be among the top three countries for both imports and exports of products, and they are crucial to the success of deep PTAs. Second, since the precautionary principle and scientific evidence have historically clashed in both of them, they are excellent case studies for the canons of scientific proof. Attachments 1 and 2 include a complete list of all applicable agreements.

According to this article's definition, "canons of scientific evidence" are guidelines outlining the level of scientific expertise necessary to implement regulations.

Therefore, research that is presented in this article is applicable to all provisions whose language either directly or indirectly suggests, regulatory actions based on scientific acquaintance. For example, "based on scientific evidence." As a result, the investigation does not take into account any rules that relate to evidence or scientific data that is used for dispute settlement as an evidence in the court.

This should be observed that social sciences, such as economics, are included in the broad definition of scientific acquaintance used in thiswork. UNESCO defines science, knowledge, fact, and hypothesis together, where the theoretical component may be proved in the short or long term. which in part includes the social sciences. The scope of this article would include things like conducting impact evaluations and determining the effectiveness of a policy.

This article, in keeping with previous writers' work, categorises WTO+ and WTO-X duties as either procedural or substantive, respectively. With such perspective, pledges to promote the adoption of regulatory acts with a given degree and quality of scientific acquaintance are considered as meeting a utilitarian requirement of scientific evidences. On other-side, contracts to formally perform a scientific examination and transmit its conclusions to the trading partners are seen as part of the formal procedural criteria for scientific evidence. Substantive and procedural requirements of scientific evidence are conceptually separate; However, this may have the unintended consequence of increasing the standard of proof that must be shown in order for a regulatory policy to be accepted.

This research's analysis goes above the scope of the SPS, consider relevant provisions from the regulatory cooperation, the trade in goods, with it’s annexe, as mentioned in the introduction and elaborated upon in further detail below. Before citing an example of such a clause, it is essential to emphasise that this article does not differentiate between terms that are enforceable and ones that are not enforceable. According to the findings of research conducted on PTAs, the WTO+ and WTO-X canons are often disregarded. It is essential to keep in mind that only a limited portion of international law is actually construed by various international tribunals and courts. despite the vast number of international obligations that exist. In all likelihood, psychological and sociological considerations more than the real application of international law are to blame for the apprehension of international lawyers over the adjudication process. While there may not be a central authority to enforce international law, this is not to say that it is not nevertheless successful thanks to a number of other explanations. Both international relations theory and international law theory provide some of the perspectives represented here. It is of the utmost importance to bear in mind that only a small percentage of international law is actually interpreted by the myriad of international tribunals and courts. Therefore, if the article's scope were limited to legally enforceable terms, the knowledge of how PTA duties are brought to take effect would be severely hampered.

This study uses a standard textual analysis approach, together with some noteworthy methodological considerations, to locate and interpret PTA clauses. keywords search was done to make sure everything is mentioned in trade agreements. Each possibility has been explored in this exhaustive investigation. However, the PTA no longer includes the provisions that just restate WTO criteria or those contained elsewhere in the agreement.

Results & Discussion

Canons of Scientific Evidence in Support of Easy-going Opinions

The SPS Agreement's key requirements are supported by scientific knowledge. According to Article 2.2, Members should ensure that any sanitary or phytosanitary measures are only carried out to the extent required to preserve the lives or health of persons, animals, or plants. Moreover, these actions must be guided by scientific principles and cannot be sustained without sufficient scientific backing. Any SPS measures must be backed by a risk assessment that considers the broadest scientific information presently available, as well as other technical, factual, and economic issues as indicated in Article 5.

Sanitary and phytosanitary measures (SPS) must also take into account technological and economic feasibility and not be "more trade-restrictive than necessary to maintain an appropriate degree of sanitary or phytosanitary fortification." According to Article 5.8 of the WTO Agreement on Trade-Related Aspects of Intellectual Property Rights, a WTO member has the right to request and receive "an explanation of the reasons" if they believe that an SPS policy is unjustifiably restricting imports. The article's next paragraphs go into further detail on how these regulations, which allow WTO members to impose trade restrictions, contribute to the fortification of both humans and animals. However, in order to demonstrate that the policy was accepted for real purposes and not as a cover for fortifications, the members' justification for its adoption must be based on scientific evidence (Bin-Nun et al.,2022).

In accordance with the provisions of Article 5.7 of the SPS Agreement, a member may provisionally adopt sanitary or phytosanitary measures on the basis of relevant information that is currently available, taking into consideration the fact that scientific data is not always simple to obtain and that certain risks and hazards may have a time-sensitive quality to them. Predictably, there have been a few disagreements over the exact interpretation of these terms, with each side trying to pin down just how much shortfall would trigger this provision's limited applicability (Abramowitz & McCoy 2019).

According to Article 3, the SPS measures "must be based on international canons, recommendations, or suggestions," and the measures that are in accordance with these canons are "presumed to be compatible" with WTO regulations. States may implement SPS measures that result in a greater degree of sanitary or phytosanitary fortification only where there is a scientific basis for doing so or when the actions are required to reach the degree of fortification that a member deems appropriate. The ambiguity of these provisions has been a source of contention in more than a few legal disputes. The phrase suggests that science continues to play an important role in this provision. The originally thought, SPS Agreements are not an only place where scientific evidence canons may be found. When it comes to other WTO agreements, countries are either explicitly or implicitly required to make use of research in order to justify the use of trade-restrictive measures. There is currently a substantial corpus of case law that pertains to some of these clauses. Consider the first applicable example, which is Article XX of the GATT, which exempts states from adhering to some GATT regulations if they can demonstrate that they are acting in the public interest (Borlini 2020).

In practise, this may come up as part of the review of whether the measures are essential to fulfil a given aim, despite the fact that this paragraph does not explicitly define the scientific evidence requirements that must be met before public interest regulatory measures can be implemented. To be more precise, the WTO judges use a least restrictive means test," which is a simplified form of a proportionality test. Considerations like substitute that attain equivalent status of fortification while being less trade restrictive During this "weighing and balancing" process, it is required to conduct an evaluation "and a qualitative or quantitative assessment of the amount to which the measure contributes to the extent to which the aim sought" (Druckman & McGrath, 2019).

A proportionality test is included in the TBT Agreement, just as it is in the GATT, and it is often understood to entail a look at the feasibility of the defied proposal. Article 2.2 states that the technical requirements shall not be more trade obstructive than essential to achieve justifiable goal, taking into view

the consequences that non-accomplishment would entail." This provision, in contrast to Article XX of the GATT, is worded as mutual duty on the part of the parties involved. It is thus the burden of the complainant, and not the respondent (the Member who authorised the conduct), to establish that there was a violation of this Article (Cennamo & Santaló, 2019).

WTO members are obligated to consider a planned action in light of any potential alternative measures that might accomplish the same goals. The reason for the stringent requirements of this clause is that it helps avoid the issue of using a sledgehammer to shatter a nut. On the other hand, according to Article 2.2 of the TBT Agreement, members of WTO are exempt from need to carry out official reviews of the efficacy of measures. The one and only exception to this rule is that a member of the WTO is required to offer an explanation for a technical constraint if it is requested by another member of the organisation. In the event that a measure is contested in accordance with this clause in practise, the WTO panels will conduct an official investigation (Gómez-Mera & Varela, 2021).

The TBT Agreement imposes two more essential obligations in addition to the promise to carry out technically restrictive measures that are designed to be as restrictive to trade as is reasonably practical. To begin, Article 2.3 of WTO Agreement specifies that members are not allowed to retain in place technical restrictions after circumstances have changed and alternatives that are less trade-restrictive are practicable or available. This provision was added in 1995. In accordance with Article 2.4 of the WTO Agreement, unless implementing such international norms or related components would be inefficient or inappropriate for achieving the legitimate aims sought, members of the WTO are required to use international canons as the foundation for their technical rules. Again, WTO Members only have a need to explain the rationale for the rule if they are asked to do so; there is no requirement for a comprehensive analysis of the reasons why a measure would not be effective or suitable. In the event that there was a dispute over a potential violation of these conditions, it is quite probable that a fine would be imposed (Druckman & McGrath, 2019).

Canons of Scientific Evidence

Following on from the previous consideration of the requirements for scientific evidence that are outlined by the WTO, this part examines the canons for scientific evidence that are outlined under the PTAs between the EU and the US. There are three distinct types of provisions:

1. those that modify the canons of scientific evidence established by WTO agreements;
2. those that supplement the substantive provisions of the WTO agreements with procedural requirements
3. those who broaden the scope of how these canons are applied to problems not covered by the WTO accords. Here is a more thorough description of each of these three categories of provisions (Hofmann et.al., 2019).

1. Significant Modifications in Acceptance Criteria

As an example, the SPS chapter of the USMCA, a few GATT-like exclusions in EU agreements, and the TBT sectoral annexes to several other EU and US agreements all include provisions that deviate from the substantive scientific proof standards outlined in WTO agreements. It seems that many of the most major additions to the USMSCA's SPS chapter were taken straight from the acceptable wording of the TPP.

As the first phase in their separate procedures, the TPP and the USMSCA both begin by distinguishing between risk assessment and risk management. This is the first step in both procedures. It is possible to differentiate between the phase of risk assessment and the phase of risk management, with the latter focusing more on policy choices regarding whether or not to take steps and what kind of measures such decisions should include. The former phase, risk assessment, is the phase that is currently being discussed. On the other hand, the SPS Agreement does not generate this distinction, and the WTO Appellate Board has rejected it because of this. In addition, this distinction has been the target of

considerable pushback from a variety of different individuals. The establishment of a clear line of demarcation between risk assessment and risk management, as has been suggested by a number of experts in the field, may be misleading due to the fact that it suggests an overly stringent barrier between science and policy. This is one of the main arguments that has been presented by these researchers. In practise, there is often little distinction to be drawn between scientific inquiry and the formulation of public policy. At any point throughout the scientific review process, policy issues might emerge, and scientists could take such issues into consideration during their discussions (Duong, 2022).

On the other hand, once one gets beyond the more theoretical concerns, it is not apparent what exactly this difference contributes (or takes away) from the USMSCA SPS chapter. While a confirmation that SPS metrics include value judgements regarding policies in addition to scientific facts, the inclusion of an explicit statement of risk management would be welcomed. On the other hand, if risk management and risk assessment are kept apart, there is a greater chance that the scientific and policy phases will be too far apart. If this is the case, then the risk assessment may need to be based entirely on scientific data. WTO case law has recognised that risk assessments may include things like the possibility of human error when it comes to adhering to safety canons, thus this would be a major departure from that (Gómez-Mera & Varela 2021).

It seems that the USMSCA's writers were cognizant of the potential drawbacks associated with separating risk assessment from risk management and portraying risk assessment as a solely scientific procedure. Risk assessments may in fact depend upon quantitative and qualitative facts and data, as stated in the USMSCA's SPS. With this terminology, policymakers will have greater leeway to assess risk in a way that takes into consideration aspects beyond those grounded in science. In addition, the USMSCA stipulates that SPS measures should not only be grounded on scientific ideologies and also take in consideration the germane circumstances, as well as, where applicable, varied regional situations." The USMSCA may be aiming to mitigate the negative effects of a narrow scientific definition in this manner. As was said before, Article 2.2 of the WTO SPS Agreement simply specifies that SPS measures shall be based on scientific grounds (Howse 2000).

As some academics have pointed out, as emergency measures only apply to urgent problems rather than less urgent ones, they presumably have a narrower scope of applicability than Article 5.7. where proof may still be missing. Again, the USMSCA partially makes up for this by noting that parties have the authority to apply temporary SPS measures under WTO rules if proof is insufficient. Although the USMSCA seems to want to adopt a tighter degree of scientific verification with respect to SPS substantive canons (McNamara et.al., 2021).

Despite not citing the actual wording of the GATT exclusions, these agreements all have a wide exception clause that is quite similar to Article XX. The scope of the exemption is broadened by these clauses since they just stipulate that trade-restrictive measures must be braced of public policy, health preservation, etc. This is a crucial clause because it removes the need requirement that had previously been applied before the effectiveness examination of Section III measures could begin. As a result, a state may not be required to demonstrate that its policies are successful in accordance with these rules; hence, the standard of scientific proof under these PTAs is much lower in comparison to that of GATT Article XX. Yet, these idioms have very limited use in everyday life. The actual provisions are ones that are "WTO-minus," which means that they enhance the number of trade barriers that a party may put in place. Even if a measure might be reasonable under this provision under EU PTAs, the GATT's Article XX will still be understood in the same way that it is presently. It is possible that the proposal would be determined to be in breach of the rules of the WTO, despite the fact that it would not be prohibited under the PTA (Kilian et.al., 2021).

The third and most important example of updated WTO canons for scientific proof may be found in the many TBT sectoral annexes to deals between the EU and the US. It is recommended in the sectoral annexes of the USMSCA for pharmaceuticals, medical devices, and cosmetic items that interested parties

take into consideration data that was developed via international collaboration as a first step. in addition to evidence that has been developed in similar fashion on a regional scale. An obligation to regulate cosmetics and medical equipment according to a risk-based approach is also included in the appendices. There is a greater need for a risk assessment under TBT canons, and these annexes seem to bring the TBT level of scientific evidence closer to the stricter requirement of the SPS Agreement. Many sectoral annexes of EU PTAs include similar prohibitions on acts that might block or limit market access, with the exception of procedures desired for security, protecting the environment or human health, as well as avoiding deceptive activities (Pyšek, et.al., 2020).

The proviso that "such activities based on verifiable scientific or technical knowledge" is main difference between this language and the exclusions in Article XX. An additional duty to not "prevent or unnecessarily delay" product marketing clauses stating "on the basis that it incorporates new technology or a new feature which has not yet been regulated" have been added to this agreement. This assumption is correct unless it can be shown, via the application of scientific or technical knowledge, that the unique feature or technology in question presents a danger to either the health of humans or the environment, or both. As a direct result of the EU signing the appropriate PTAs, it has been decided that the EU will abstain from outright prohibiting new products within a certain sector unless it can provide evidence that the new technology those products include constitutes a threat. The precautionary principle that has been established by the EU is virtually overturned by this mandate. It would seem that both the European Union and the United States of America are prepared to improve the standards of scientific evidence that are used to define TBT limits, even if it is just with a limited number of trade partners and in relation to a limited number of businesses (Kreps & Kriner, 2020).

Third and utmost substantial example of reformed WTO canons for scientific evidence is seen in many of the TBT sectoral annexes of EU and US accords. As a first step, the USMSCA's sectoral annexes for pharmaceuticals, medical devices, and cosmetic products recommend that interested parties consider data "generated through international collaborative efforts" in addition to evidence that has been developed in similar fashion on a regional scale. An obligation to regulate cosmetics and medical equipment according to a risk-based approach is also included in the appendices. There is a greater need for a risk assessment under TBT canons, and these annexes seem to bring the TBT level of scientific evidence nearer to stricter requirement of SPS Agreements. Many sectoral annexes of EU PTAs include similar prohibitions on acts that might block or limit market access, with the exception of "measures needed for protection, preservation of environment or human health and avoidance of illusory practises." (McNamara et.al., 2021).

The proviso that, such activities depend upon verifiable scientific or technical knowledge is main difference between this language and the exclusions in Article XX. An additional duty to not "prevent or unnecessarily delay" product marketing This sentence includes the phrase "on the basis that it incorporates new technology or a new feature which has not yet been regulated." This assertion is true unless it can be shown, using scientific or technical knowledge, that this novel feature or technology poses a risk to the environment, human health, or both. The EU has agreed to refrain from banning new goods in a particular industry unless it can prove that the new technology, they include poses a danger as a consequence of signing the proper PTAs. This mandate effectively overturns the precautionary principle adopted by the EU. It seems that the EU and the USA are both willing to enhance the standards of scientific evidence used to determine TBT limits, even if just with a select few trading partners and in regard to a small number of industries.

2. Procedurally Consistent Standardisation of Scientific Evidence

The practise of adding WTO procedural requirements to the WTO canons for scientific evidence is referred to as proceduralist above. The SPS and TBT of the EU and US PTAs, as well as other GATT-like exclusions in EU agreements, are examples of this formalisation. To start, parties to the EU-Canada, EU-UK, and EU-Colombia/Peru treaties have committed to make the scientific data supporting SPS policies

available upon request. In this regard, it is useful to note that the agreements between the EU and Canada and the EU and the UK both include clauses mandating the ongoing expert committees to evaluate the scientific foundation of the SPS policies of the parties. The processes aren't just for show; they're designed to increase regulators' understanding of trading partners' SPS measures. Similar rules for procedural transparency regarding the dissemination of "relevant information" or "documented and objective scientific evidence related to the measure, such as risk assessments, relevant studies, and expert opinions" with regard to their SPS measures are also introduced by the USMSCA SPS (Nakagawa, 2016).

These requirements for procedure seem to be much more important for the TBT. A formal evaluation of any material technical rules the parties seek to impose is required, for instance, by the USMSCA. In order to provide the parties with some leeway, the definition of a "important" technical regulation is left open. The USMSCA also permits private parties to petition their authorities for adoption of less trade-restrictive alternatives and mandates periodic evaluations of technical rules by all parties. A party that "has not used an international standard as a foundation for a technical rule" is required to respond to a request for explanation of "why the standard has been considered unsuitable or ineffective for the purpose sought, and identifies the scientific or technical evidence on which this evaluation is based." These evidentiary canons are not included in the WTO TBT Agreement, as shown in Section III (Pe'er, et.al., 2020).

Procedural restrictions in recent EU PTAs demand a strategy quite similar to the USMSCA's, which we described above. While the wording used to communicate it differs, the clauses nonetheless have an urgent tone. As an introduction, the language used to include procedural requirements in Article 2.2 of the TBT Agreement ranges from merely aspirational ('considering' the impact of the proposed measure and their alternatives) to a mix of commitments and aspirational language ('undertakes to assess' the regulatory alternatives, but only endeavours to carry out impact assessments) to the strict requirement of the EU-UK agreement that parties carry out impact assessments. Second, the EU-Japan and EU-UK agreements on the adoption of international canons require parties to provide each other with a justification that includes the "scientific or technical evidence" that formed the basis of their decision to not use an international standard as the foundation for their technical regulations. The EU-UK agreement, like the USMSCA, must include regular rule reviews to reduce number of trade-restrictive provisions contained within agreement (South, 2016).

In sectoral annexes like those on pharmaceutical items and automobiles, these procedural standards are reemphasized or made more stringent. Similar to the aforementioned provisions, some sectoral annexes list the pertinent international standards for a particular industry (such as those established by UNECE or ISO) and direct the parties to rely on those standards "unless there are substantiated reasons, based on scientific or technical information," as to why they would not be applicable. Moreover, several sector annexes contain clauses that mandate periodic reviews of regulations that deviate from accepted international practises, as well as notification to the trade partner of the findings and any scientific and technical information employed. That's why there's been some formalisation of the scientific proof canons for GATT-like exclusions. Article XX GATT has been amended by many recent EU PTAs to add a procedural duty requiring advance notice to the opposite party "with all required information" before any action is taken (Rodrik, 2018).

Whether "relevant information" also includes the documents supporting the enactment of the law or just relates to its approval and implementation is unclear based on these sections. Paragraph two seems to hint, however, that proof of approval paperwork could be necessary. In truth, the clause states that the parties should negotiate "with a view to obtaining a solution acceptable to the Parties" after the notification. This provision seems to provide a procedure for non-judicially resolving disputes in which the parties discuss whether or not to use alternative measures now available and, if so, how to do so. Moreover, the rules let a state to take "precautionary measures" under specific conditions without first informing its trade partner. The insertion of this phrase puts the language of these sections even closer to the wording of the WTO SPS, even if there is no explicit requirement that precautionary measures be used in the event of inadequate evidence.

3. Widening the Scope of Acceptability

In conclusion, some of the PTA, especially WTO-X on environment, labour, or regulatory cooperation, incorporate requirements of scientific evidence. These sections cannot be considered WTO mandates because of their very nature. As a result, any scientific evidence in these demonstrates the application of current scientific information to new problem areas, as opposed to simply being tougher canons or procedural requirements. The inclusion of such sections in PTAs begs the question: why? The desire to lower trade costs by reducing "behind-the-border" trade restrictions is a justification for include a chapter on regulatory cooperation. The purpose of these may be seen as an attempt to apply the WTO+ measures like as ex ante and ex post impact assessments, as well as those included in the SPS and TBT, to other sectors. The potential advantages and drawbacks of regulatory cooperation have been hotly debated, while being only in a small number of PTA treaties like as the EU-Canada or the TPP. For the purposes of this article, one of the key issues of debate is whether or not regulatory cooperation provisions will unreasonably constrain regulatory liberty among States (Victor, 2001).

PTAs, on the other hand, have become increasingly likely to contain on "non-trade themes" including the environment and labour. There are a number of reasons why they should all be included. However, the stated argument is generally that these laws are an attempt to level the playing field in trade by eliminating the unfairness of competition brought on by (often weaker) labour and environmental regulatory regimes. Therefore, governments' promises to fulfil their responsibilities under international labour and environmental laws often take front stage in these sections. However, these sections are crucial to my research for a different reason. As will be discussed below, environmental and labour may be significant since they strive to minimise unnecessary and inefficient rules while also forcing countries to enhance their legal systems (Pyšek, et.al., 2020).

Keeping these considerations in mind, it is possible to start examining the canons for scientific evidence in WTO-X. There are provisions in a number of EU PTAs that require its members to implement environmental and other trade-affecting measures in light of scientific and technical data. The rules' different language suggests differing degrees of dedication. A few of the agreements simply "recognise the value of taking into account scientific and technical information," while others contain a need to do so. However, the precautionary principle is usually included explicitly to oppose this phrase. Though the hortatory nature may vary, current EU PTAs seem to be trending toward mandating canons of scientific evidence in the labour and environment.

Recent EU PTAs need just a general section in the transparency chapter on the benefits of "good regulatory practises" or "regulatory quality" when it comes to regulatory cooperation. To the contrary, the EU's cooperation with Canada, Japan, and the United Kingdom is the subject of a whole chapter. But despite this similarity, they are not the same in content. Data and information are the main types of trade between Canada and the EU. One of the goals of this chapter is "promote transparent, efficient, and effective regulatory systems." There are no recommendations or requirements for making the regulatory process more effective in this chapter. The agreements between the EU and Japan and the EU and the United Kingdom take a different tack inasmuch as they contain provisions on ex ante and ex post assessments comparable to those we have seen above (McNamara et.al., 2021).

Only the USMSCA provides the scientific proof necessary to satisfy the WTO-X provisions. According to the environment chapter, each project that might have a significant adverse effect on the environment shall undergo an impact assessment, and the results should be made accessible to the public. A measure restricting fish trade must also be depend upon the greatest scientific acquaintance available, if relevant, then demonstrates link between goods pretentious by taking measures to protect or maintain all kinds (Yao et.al., 2019).

In a similar vein, the USMSCA's "Regulation" chapter lays out regulatory mechanisms that might improve regulation overall. "Finest, reasonably attainable knowledge, including scientific, technical, economic, or other information," as the chapter puts it, is encouraged. This generalisation is accompanied

by a number of more narrow recommendations for data collection and analysis. The chapter first describes the steps that parties should take to perform statistical evaluations of the consequences of rules. The chapter mandates that the parties minimise needless costs on persons being surveyed and that they apply good statistical procedures before reaching broad conclusions. Second, parties are advised by this chapter to take into account the advantages and disadvantages of the chosen and other workable alternatives when performing impact assessments, as well as any pertinent consequences, risks, and distributional effects over time. In a similar vein, this chapter encourages everybody involved to do ex post assessments of the activity and factor in any newly relevant information. Despite the lack of exhortatory language, these recommendations as a whole establish a rigorous standard of scientific evidence (Victor, 2001).

The USMSCA's regulatory cooperation provision has both procedural and substantive responsibilities. For instance, the parties are obligated to disseminate regulatory impact analyses that deals a description of the data, other information, and technical studies that the regulatory authority relied upon to support the rule, including any risk assessment, as well as publicly available data, other information, and such studies. A report and the regulation's language must be published, just like the final effect regulatory assessment, but so must the relationship between the regulation and the important data points, statistics, and other materials that the regulatory body reviewed before finishing its work on the regulation (Alola, 2019).

The document specifies a number of requirements for expert advisory groups, One of them is that the parties shall support the publishing of the expert advisory group's members, its activities, and, where appropriate, any documents provided to, provided by, or created for the expert group or specific person. At the end of the day, one of the most forward-thinking aspects of the USMSCA is that it allows any concerned individual to make input to the regulatory authorities on the rules already in place. This input might be in the form of complaints that a rule has unproductive, its more onerous than obligatory to achieve its persistence, flops to take into account new situations, or trusts on specious or archaic evidence. This clause outlines a regulatory approach in which the basis for both the regulatory process and any objection to it should be science (Abramowitz & McCoy, 2019).

Conclusion

As this article demonstrates, recent EU and US PTAs have adopted more stringent criteria of scientific proof. The same holds true for the strengthening of existing WTO rules via procedural innovations, the expansion of their application to WTO-X , and the adoption of additional criteria in TBT sector annexes. This article has proposed that after the patterns have been evaluated, we may go on to investigating the motivations for this choice. To do this, it has started to draw a line between the substantive requirements in the WTO-X and in specific TBT technical annexes and the procedural requirements in the TBT and SPS. This article argues that procedural norms may stand in for legitimate regulations by promoting debate about the empirical evidence behind them. However, the substantive scientific evidence canons included in a number of TBT technical annexes and WTO-X seem to have a different goal in mind: boosting regulation in order to facilitate trade. The essay acknowledges that both goals may be legitimate, but that there may be drawbacks to the rules on acceptable regulatory canons. In particular, those who need ex-ante or ex-post effect assessments. The old age argument we've had about the SPS Agreement. Whether it is indeed desirable to use science as the standard between legitimate and unlawful regulatory activities, is also reopened by every paragraph demanding scientific verification. This article argues that greater weight should be given to the scientific evidence criterion for PTAs. It is tough to keep up with all of the PTAs' information the swift pace at which they are ending. However, these provisions have a genuine opportunity to alter how rules are applied, and as such, they deserve additional investigation.

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