Research Working Paper
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USING A TRADE VULNERABILITY INDEX TO DETERMINE ELIGIBILITY FOR DEVELOPING-COUNTRY STATUS AT THE WTO: A CONCEPTUAL RESPONSE TO THE ONGOING DEBATE

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Abstract

This working paper provides a response to the current debate taking place at the World Trade Organization (WTO) regarding which countries should be accorded developing country-status, and therefore be eligible for special and differential treatment (S&DT). It is our position that S&DT, which provides special rights, flexibilities and privileges to developing-country Members of the WTO, must remain available to those countries whose characteristics make them vulnerable to the vagaries of the global financial and trading system and to economic and environmental shocks. Ensuring that these countries are eligible for S&DT can be achieved by proposing S&DT eligibility criteria that take into account trade vulnerability as a basis for S&DT.

The paper is divided into two main parts. In the first section, we outline, and critique, the proposals on eligibility for S&DT that some WTO Members have put forward in the context of current WTO reform discussions. In particular, we highlight a US proposal that includes a country's GNI per capita as one criterion for determining eligibility for S&DT. If accepted, that criterion would exclude a number of current developing countries, including certain Caribbean states from S&DT eligibility.

In the second part, we propose an alternative framework which utilizes trade vulnerability as the basis for determining eligibility for S&DT at the WTO. We explain the conceptual framework and methodology for our proposed "Trade Vulnerability Index", and on that basis, engage in a preliminary "mapping" exercise that ties specific proxies for vulnerability to S&DT provisions.

Our work differs from previous work conducted at the WTO with respect to Small Vulnerable Economies (SVEs) in important respects. Using the TVI, a country's vulnerability – and therefore, its access to S&DT – could be determined based on its overall score using the TVI proxies. Therefore, the TVI will guide which countries could benefit from S&DT and does not create an *a priori* sub-category of developing countries. While it is contemplated that the majority of countries

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which will fall under the 'vulnerable' category would be small economies, it does not automatically preclude some similarly larger economies from being classified as vulnerable.

At the outset, we point out certain limitations of the paper. We are concerned here with the issue of eligibility for S&DT, and do not seek to explore the extent to which current S&DT provisions are effective, could be made more effective, and/or are currently being utilized. Moreover, as the paper is conceptual, it does not delve into an empirical analysis at this stage but rather recommends the TVI framework for consideration and possible future study.

I. Background to the Current WTO Debate on S&DT Eligibility

Special and differential treatment (S&DT) refers to the special rights, flexibilities and privileges granted to developing and Least Developed Countries (LDCs) under the agreements and decisions of the World Trade Organization (WTO). S&DT is a fundamental principle undergirding the rules-based multilateral trading system, and aims to assist the beneficial integration of developing countries into that system, recognizing that disparities in development levels mean that not all countries can liberalize trade at the same pace.

According to WTO Secretariat estimates, there are 155 S&DT provisions across the WTO's agreements and decisions. These can be classified into six main types[2]: provisions aimed at increasing the trade opportunities of developing country Members; provisions under which WTO Members should safeguard the interests of developing country Members; flexibility of commitments, of action and use of policy instruments; transitional time-periods; technical assistance and provisions relating to Least-Developed Countries (LDCs), a sub-grouping of developing countries.[3]

Currently, eligibility for S&DT is based on a WTO Member self-classifying as a "developing country". This means that at any WTO Member which self-declares as a developing country is entitled to S&DT under the WTO agreements and decisions. Today, more than two-thirds of the WTO's membership classify themselves as developing countries, including Member States of the Caribbean Community (CARICOM).[4] Unlike Least-Developed Countries (LDCs), whose categorization in the WTO is based on the classification scheme of the United Nations (UN)[5], there

[2]Special and Differential Treatment provisions in WTO Agreements and Decisions – Note by the WTO Secretariat dated 12 October 2018 (WT/COMTD/W239)
[3]Ibid
[4]Antigua & Barbuda, Barbados, Belize, Dominica, Grenada, Haiti, Jamaica, St. Lucia, St. Kitts & Nevis, St. Vincent & the Grenadines, Suriname and Trinidad & Tobago. The Bahamas is the only independent CARICOM Member State which is not a WTO-member and is currently in the accession process.
[5]As of December 2018, there are 47 countries listed as LDCs by the UN Committee for Development Policy. Haiti is the only CARICOM country currently listed as an LDC. The list may be accessed here: https://www.un.org/development/desa/dpad/wp-content/uploads/sites/45/publication/ldc_list.pdf.

are no criteria governing “developing country” status. Moreover, no legal definition in the GATT or WTO text exists for “developing” or “developed” Members.[6]

The UN Agenda 2030 for Sustainable Development, comprising the 17 Sustainable Development Goals (SDG) and their 169 targets, recognizes the importance of S&DT. In fact, implementing “the principle of special and differential treatment for developing countries, in particular least developed countries, in accordance with World Trade Organization agreements”, is one of the targets under SDG 10, which aims at reducing inequalities.[7]

The topic of S&DT has always been controversial. Developing countries have long questioned the *effectiveness* of S&DT provisions, many of which are couched in hortatory, non-binding language, making them difficult to enforce. As such, as part of the Doha Development mandate, WTO Members agreed to review S&DT provisions “with a view to strengthening them and making them more precise, effective and operational”. A Work Programme on Special and Differential Treatment set out in the Decision on Implementation-Related Issues and Concerns was also endorsed.[8]

In more recent times, it is the *eligibility* issue – that is, *which* countries should be entitled to S&DT – that has also garnered considerable attention. Developed countries have expressed growing dissatisfaction with the binary categorization of WTO Members as either developed or developing, and the continued self-classification by some larger emerging economies as “developing”. Indeed, China, which is the world’s largest economy, with a 2018 gross domestic product (GDP) of $13.6 trillion according to World Bank data[9], refers to itself as the ‘world’s largest developing country’.[10] China has resisted calls by developed countries, particularly the United States (US), to no longer self-classify as a “developing country”.

Much of the current eligibility debate has been shaped by proposals advanced by the US, the European Union (EU), Canada, Norway, and to a lesser extent, developing countries (among which there were no “small” developing states).[11] CARICOM WTO Members are yet to table any proposals in the current context.

[6]Article XVIII of the GATT 1994 provides what might be the closest definition of a developing country when it states that “a Contracting Party the economy of which can only support low standards of living and is in the early stages of development” may be free to deviate temporarily from the provisions of the other articles of the GATT 1994.
[7] https://sustainabledevelopment.un.org/sdg10
[8]Paragraph 44 of the Doha Ministerial Statement: https://www.wto.org/english/thewto_e/minist_e/min01_e/mindecl_e.htm
[9] World Bank database: https://data.worldbank.org/indicator/ny.gdp.mktp.cd
[10]See http://www.chinadaily.com.cn/a/201804/16/WS5ad4343fa3105cdcf65187d6.html
[11]Cuba, which was one of the contributors to the developing country rebuttal paper, is not a CARICOM Member State and also does not fall under the Commonwealth Secretariat’s definition of a “small state”.

This paper offers a critique of the eligibility proposals – in particular the one by the US – from a Caribbean perspective, that is, by considering how they stand to affect Caribbean countries if adopted. There is some urgency to this discussion since the US has indicated that its eligibility criteria will form the basis of US law and policy in the near future.

The paper then proposes an alternative basis for determining eligibility to what has been put on the table so far. Our proposal is conceptual in nature, and not an empirical analysis which can be the subject of future study. Here, we consider the inherent characteristics of countries that make them vulnerable to trade and natural disaster shocks, and then suggest trade-related responses to these vulnerabilities. We explain the rationale, definitions and methodology for our proposed Trade Vulnerability Index (TVI), and conduct a preliminary "mapping" between the proxies used in the Index and WTO S&DT provisions.

Our work differs from previous work conducted with respect to Small Vulnerable Economies (SVEs) at the WTO, in several ways. Using the TVI, a country's vulnerability – and therefore, its access to S&DT – could be determined by overall scores attained using the proxies used in the TVI. Therefore, the TVI will guide which countries could benefit from S&DT and does not create an a priori sub-category of developing countries. While it is contemplated that the majority of countries which will fall under the 'vulnerable' category would be small economies, it does not preclude some similarly larger economies from being classified as vulnerable.

The paper is confined to the issue of eligibility, and while effectiveness is linked to the eligibility discussion, the paper does not explore the extent to which current S&DT provisions could be made more effective, or are currently being utilized.

II. Proposals on S&DT Eligibility by Different Countries/Country Groups

In the context of WTO reform, there are two main approaches to eligibility for S&DT being proposed: (1) a case-by-case, more "nuanced" approach that is based on the particular needs of the country in the context of a specific agreement/s (2) the formulation of "objective" criteria, conformity with which qualifies a country for S&DT under all agreements.

The first approach seems to be reflected somewhat in proposals by the EU and Canada. In its Concept Note of September 2018, the **EU** advocated a move away from what it termed "open-ended block exemptions" towards "a needs-driven and evidence-based approach that will ensure that SDT will be as targeted as possible".[12] In its discussion paper on WTO reform, **Canada** also called for "a new approach" which "recognizes the need for flexibility for development purposes

[12] WTO Modernisation – Introduction to Future EU Proposals – Concept Note http://trade.ec.europa.eu/doclib/docs/2018/september/tradoc_157331.pdf

while acknowledging that not all countries need or should benefit from the same level of flexibility".[13]

The **US**, on the other hand, has proposed an "objective" approach that is binary: a country would either be developing or not based on whether it meets certain criteria. In a Communication published in January 2019 entitled "An Undifferentiated WTO: Self-Declared Development Status Risks Institutional Relevance", the US declared that the current S&DT model based on self-declaration as a "developing country" was no longer feasible and was to blame for the current deadlock in the WTO's negotiation function.[14] With reference to a plethora of mainly macroeconomic and trade indicators, the US argued there has been greater differentiation among developing countries since the WTO's creation in 1995, and some developing countries had attained levels of economic development which equal or surpass that of certain developed countries.

The US followed its Communication with a concrete proposal tabled for the WTO's General Council's consideration in February 2019 ("**US Communication of February 2019**").[15] It proposes to exclude – in current and future WTO negotiations – from the developing country category any country that satisfies any one of the four criteria, namely:

i. A WTO Member that is a Member of the Organization for Economic Cooperation and Development (OECD), or a WTO Member that has begun the accession process to the OECD;
ii. A WTO Member that is a member of the Group of 20 (G20);
iii. A WTO Member that is classified as a 'high income' country by the World Bank; or
iv. A WTO Member that accounts for no less than 0.5 per cent of global merchandise trade (imports and exports).

The US proposals were swiftly rebutted in a piece entitled "The Continued Relevance of Special and Differential Treatment in favour of developing Members to promote development" submitted by a consortium of developing countries comprising **China, India, South Africa, the Bolivarian Republic of Venezuela, Lao People's Democratic Republic, Plurinational State of Bolivia, Kenya, Cuba, Central African Republic and Pakistan**.[16] They reiterated that the self-declaration approach best serves the WTO's objectives and that there are still wide development

[13] Strengthening and Modernizing the WTO: Discussion Paper: Communication from Canada. https://bit.ly/2ZjiUcK
[14] An Undifferentiated WTO: Self-declared Development Status Risks Institutional Relevance: https://bit.ly/2OEjEEg
[15] Draft General Council Decision – Procedures to Strengthen the Negotiating Function of the WTO (Communication from the US) https://geneva.usmission.gov/wp-content/uploads/sites/290/190215-WT-GC-W-764-Draft-General-Council-Decision-Procedures-to-Strengthen-the-Negotiating-Function-of-the-WTO-U.S.-communication.pdf
[16] The Continued Relevance of Special and Differential Treatment in favour of developing Members to promote development (Communication from China, India, South Africa, the Bolivarian Republic of Venezuela, Lao People's Democratic Republic, Plurinational State of Bolivia, Kenya, Cuba, Central African Republic and Pakistan): https://bit.ly/2OEjEEg

gaps between developed and developing countries. The paper proposed that "per capita indicators" must be given top priority when assessing the development level of a country".[17]

Finally, **Norway** – whose approach is more like the EU and Canada's – argues that, while the current bifurcated classification is undesirable, the introduction of criteria for classification is also not ideal.[18] For Norway, the question to be decided is how S&DT can be designed to address development challenges. It is the negotiated result that matters, not the categorization of Members. Norway reiterated this position in its statement at the WTO General Council Meeting of May 7, 2019.[19]

Since these initial slate of proposals, the US has signaled that it is prepared to move the discussion forward from the theoretical to the practical. On 26 July 2019, US President Donald Trump issued a *Memorandum On Reforming Developing-Country Status In The World Trade Organization to The US Trade Representative (USTR)*(**the Memorandum**)[20] in which he mandated the USTR to use "all available means to secure changes at the WTO that would prevent self-declared developing countries from availing themselves of flexibilities in WTO rules and negotiations that are not justified by appropriate economic and other indicators". In the Memorandum, the President laid out in full the approach the US will be taking to the question of reform of developing country status at the WTO.

First, in section 1 of the Memorandum, the President outlined the problem, namely, that many of the wealthiest countries on a GDP per capita basis were claiming developing country status, refusing to "take on the full commitment associated with WTO membership", thereby harming those countries truly in need of help. Second, President Trump then proceeded to declare the intent of the US to "use all available means to secure changes at the WTO that would prevent self-declared developing countries from availing themselves of flexibilities in WTO rules and negotiations that are not justified by appropriate economic and other indicators" and that "where appropriate and consistent with law, the USTR is to pursue this action in cooperation with other like-minded WTO members". Within 60 days of the date of the Memorandum, the USTR is to update the President on his progress. Third, the President proclaimed that, if within 90 days of the Memorandum, the USTR determines that "substantial progress" has not been made, the USTR is to no longer treat as a developing country for purposes of the WTO any WTO Member that in the USTR's judgment is improperly declaring itself a developing country and inappropriately seeking the benefit of flexibilities in WTO rules and negotiations, and where relevant, not support that

[17] Ibid p.2
[18] https://bit.ly/2jYOE3h
[19] https://www.norway.no/en/missions/wto-un/nig/latest-news/general-council-statement/
[20]Memorandum on Reforming Developing Country Status at the World Trade Organization. See https://www.whitehouse.gov/presidential-actions/memorandum-reforming-developing-country-status-world-trade-organization/

country's membership of the OECD. The USTR would consult relevant domestic Councils, and consider that member's involvement in trade; and publish a list of countries it does not consider deserving of developing country status on its website.

In a statement agreeing with the President's directive, USTR Robert Lighthizer noted that "for far too long, wealthy countries have abused the WTO by exempting themselves from its rules through the use of special and differential treatment." He further noted that "[t]his unfairness disadvantages Americans who play by the rules, undermines negotiations at the WTO, and creates an uneven playing field. I applaud the President's leadership in demanding fairness and accountability at the WTO, and I look forward to implementing the President's directive."[21]

III. Response to the US Communication of February 2019

President Trump's decision to unilaterally decide which countries qualify for developing-country status, as a matter of US law and policy, presents a number of legal questions. Should the US proceed to formalize the Memorandum, it would jeopardize the current multilateral approach to determining this question, and make homogenous characterization across the entire WTO membership impossible. Moreover, such a move could possibly also provoke legal challenge under the WTO dispute settlement mechanism.

Despite this grim possibility, there does appear to be at least a window of opportunity to influence the discussion. The USTR has been given 2 months from 26 July 2019 to make progress on the concerns raised in the President's Memorandum. During that time, in order for a multilateral decision to be taken, the USTR will have to try to achieve some level of agreement among all WTO members, which is unlikely, given the strong resistance already shown by some developing countries to its previous communications. Moreover, even if the wider WTO membership were minded to acquiesce to the US' demands, a General Council decision is unlikely to occur before the US President's stated deadline for progress. Nonetheless, WTO Members have until 26 October to engage in discussions with the US about what might be better criteria for determining eligibility.

While it is not clearly stated in the Memorandum the basis on which the US will decide developing country status – other than that it will be justified "by appropriate economic and other indicators" – a fairly good place to start is the US Communication of February 2019 which sets out the US criteria for determining which countries should be excluded from S&DT.

a. "Objective" criteria as a basis for deciding S&DT eligibility

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[21] USTR Robert Lighthizer Statement on the President's Memorandum on Reforming Developing-Country Status at the WTO – July 26, 2019 https://ustr.gov/about-us/policy-offices/press-office/press-releases/2019/july/ustr-robert-lighthizer-statement

The position taken by the US in its Communication of February 2019 is problematic from the point of view of CARICOM states. While the Communication appears to be aimed at providing a measure of "objectivity" in the determination of which countries should qualify for S&DT, the US' choice of criteria raises some serious concerns for CARICOM countries because at least one of the criteria would automatically rid at least four CARICOM countries of developing country status in current and future negotiations.

An "objective-criteria" approach may not be objectionable *per se*; indeed, as explained below, CARICOM states have pursued their own strategy of using "objective" criteria to justify special treatment of a sub-set of WTO Members of which they are part. Rather, it is the particular choice of criteria that is problematic since, as currently formulated, they do not clearly speak to *trade related* reasons why some countries have a greater claim to special treatment at the WTO that others

For their part, Caribbean states have always felt the need for greater differentiation among developing countries at the WTO to take into account the realities of their smallness and "vulnerabilities" which affect their trade performance. Among these realities include: (a) remoteness from global markets; (b) lack of diversification and adequate market access opportunities for few export products; (c) dependence on external financing; (d) susceptibility to natural disasters; (f) small internal markets and lack of economies of scale; (e) dependence on non-renewable sources of energy; (f) openness of their economies.

Small states comprise multi-island micro-states and small islands which are located far from major markets which tends to increase transportation costs and reduce the price competitiveness of their exports. Because of their narrow resource base and small domestic markets, many small states are necessarily relatively undiversified in their production and exports. Capacity in the private sector is also limited, posing difficulties when faced with a need to respond to changing external circumstances. Access to global capital markets is important for small states, and is one way to compensate for adverse shocks and income volatility. But the evidence is that private markets tend to see small states as riskier than larger states, so that spreads are higher and market access more difficult.

Most small states are in regions which are frequently affected by adverse climatic and other natural events which, typically, affect the entire population and economy. They may also be susceptible to severe environmental and ecological threats. Small economies tend to rely heavily on external trade and foreign investment to overcome their inherent scale and resource limitations. While this can prove beneficial in exposing them to outside competition and ideas, it leaves them vulnerable to external economic and environmental shocks, especially where the domestic economy is undiversified. Also, there is some evidence that poverty levels are higher, and income distribution more uneven, in smaller economies than in larger economies. These factors combine to make small economies vulnerable, which affect income volatility, access to external capital and ultimately, trade performance.

The success of the "Small Vulnerable Economy" (SVE) differentiated strategy has been limited. When they proposed a SVE sub-category[22] of developing States[23], Caribbean countries encountered pushback from other developing countries and some developed countries which objected to the creation of a new sub-category of developing countries. As a result, no official SVE sub-category was formed, although there has been some traction in pursuing their interests in the context of some ongoing negotiations at the WTO.[24] (See the attached Annex).

b. Criteria (i), (ii) and (iv) in the US Communication of February 2019

To recall, the first two criteria proposed in the US Communication of February 2019 would disqualify from developing country status those WTO Members that are current, or acceding, Members to the OECD; and Members of the G20.

Membership in these "clubs" may well be US proxies for some other measure of developmental status or share of world trade, but this is not specified in the proposal. Mere participation in a club, without more, may not provide a clear basis for disqualification, absent further explanation as to what features of membership – whether criteria for entry, or some defined programme or requirements that members must comply with – speaks to an indicator that is relevant in a trade context. While it is likely that all members of these organizations account for large shares of world trade, it is curious that the US does not articulate that more clearly.

It may be that criterion (iv) of the Communication, which provides that a WTO Member that accounts for at least 0.5 per cent of global merchandise trade is not a developing country, gets closer to mark. But the issue here is the choice of 0.5% as the cut off for which countries fall within or outside the developing country cohort. The US has provided no empirical rationale for why the 0.5% share of world merchandise trade (imports and exports) was chosen as the threshold. One could reasonably ask for instance why the US did not choose 0.2% or 1.0% of world trade. It is likely that the 0.5% figure was chosen to ensure that as many emerging economies as possible

[22]The main proponents of the SVE group include, but are not exhausted by, CARICOM Members (emboldened): **Antigua and Barbuda**, **Barbados**, Bolivia, Cuba, **Dominica**, Dominican Republic, El Salvador, Fiji, **Grenada**, Guatemala, Honduras, **Jamaica**, Mauritius, Mongolia, Nicaragua, Papua New Guinea, Paraguay, Solomon Islands, **St. Kitts and Nevis**, **St. Lucia**, **St. Vincent and the Grenadines**, and **Trinidad and Tobago**. WTO Members first agreed to "examine issues relating to the trade of small economies … and frame responses to the trade-related issues identified for the fuller integration of small, vulnerable economies into the multilateral trading system, and not to create a sub-category of WTO Members" in paragraph 35 of the Doha Ministerial Declaration. They then agreed to a Work Programme on SVEs in accordance with the Doha Declaration of 2001 which was agreed in the Hong Kong Ministerial Declaration of 2005 (see paragraph 41 https://www.wto.org/english/thewto_e/minist_e/min05_e/final_text_e.htm#small_eco)

[23]The term small, vulnerable economies "applies to Members with economies that, in the period 1999 to 2004, had an average share of (a) world merchandise trade of no more than 0.16 per cent or less, and (b) world trade in non-agricultural products of no more than 0.1 per cent and (c) world trade in agricultural products of no more than 0.4 per cent (TN/AG/W/4/Rev.4/ paragraph. 157).

[24]See CUTS CITEE Working Paper No, 1/2009, "Development Effects of the Doha Round on Small and Vulnerable Economies (SVEs)" by Rashid Kaukab.

could be excluded from the "developing country" category.[25] The US does not explain why it focuses exclusively on the share of world merchandise trade as opposed to services trade, for instance.

c. US criterion (iii) in the US Communication of February 2019

It is the third criterion that is most problematic for Caribbean states. Under that criterion, a WTO Member would be excluded from developing country status if it is classified as a "high income" country by the World Bank Based primarily on their GNI per capita. Share of GNI per capita reflects average national income and has proven to be a useful and easily available indicator that is closely correlated with other non-monetary measures of quality of life, such as life expectancy at birth, mortality rates of children and enrollment rates in school. However, while income is a means to human development, it is not an end in itself and is not a complete measure of a country's level of development. A large number of researchers and commentators (Kharas et al. (2014); Sumner 2012; Ravallion 2012; Alonso, Glennie and Sumner 2014; Kenny 2014, among others) have highlighted the shortcomings of development classification by income levels. These shortcomings[26] stem from the fact that GNI per capita does not, by itself, constitute or measure welfare or success in development, or how income is distributed. Notably, while several Caribbean countries have "high" GNI per capita, they are also beset by volatile growth rates, high debt overhangs, large infrastructure deficits - including the need for the urgent modernization in maritime ports[27] and declining trade competitiveness. It is also not a great measure of trade performance.

It can be further argued that GNI per capita is not by itself an adequate measure of the development of Caribbean countries which are disproportionately vulnerable to external and natural disaster shocks. Natural disaster and climate change shocks have in the past destroyed key infrastructure, caused widespread human, social and economic loss and damage equivalent to more than the Caribbean country's GDP.

Within the past two decades, damage and loss due to natural disasters in the Caribbean region has exceeded USD 27 billion. That number is likely to rise with the devastation wreaked on The Bahamas by Hurricane Dorian. Among the most devastating were the 2010 Great Earthquake in Haiti, estimates of damage and loss equivalent to USD 8.1 billion (114% of Haiti's GDP); Tropical Storm Erica in 2015 resulted in loss and damage equivalent to USD 483 million (90% of

[25]Table A.7 of the World Statistical Review 2019 shows that 28 countries have shares of world merchandise trade (imports) and 27 have shares of world merchandise trade (exports) of 0.5% or higher. These include of course China and India, but also for example South Africa, Chile and Kuwait. https://www.wto.org/english/res_e/statis_e/wts2019_e/wts19_toc_e.htm.

[26]GNI per capita does not consider the extent of poverty and inequality, and access to quality healthcare and education services, which are also critical to measuring development.

[27]Transforming the Caribbean Port Services Industry: Towards the Efficiency Frontier, Caribbean Development Bank, 2016.

Dominica's GDP) and Hurricane Maria in 2017 resulted in loss and damage equivalent to USD 1.3 billion (225% of Dominica's GDP). These disasters have eroded several years of development progress in Caribbean countries, and in some cases have completely decimated entire sectors and island economies. They are increasing in intensity and frequency due to the adverse effects of climate change on weather patterns, precipitation and sea level rise.

IV. A Conceptual Framework for a Trade Vulnerability Index

This paper argues that one possible approach for designating certain countries as deserving of S&DT is through the use of a vulnerability index specifically adapted to a trade context. Several organizations[28] have formulated vulnerability indices, including the Caribbean Development Bank's current work.[29] What we propose to add to that body of work is a trade-specific vulnerability index that can be used for purposes of designating which countries qualify for S&DT based on their trade performance.

This paper proposes a Trade Vulnerability Index (TVI) designed to quantify the vulnerability of countries and thereby provide a means for the WTO to identify vulnerable states, and on that basis, propose S&DT that is responsive to those needs. The TVI steers the focus away from income-based criteria for development that influence the determination of broad country groupings, such as developed and developing, to structural characteristics of an economy which can impact its development outcomes. This paper argues that these inherent permanent or quasi-permanent characteristics of vulnerability cause impediments to development, particularly when economies with these characteristics are exposed to trade or natural hazard shocks and therefore should be considered in the approach taken to trade flexibilities. The existing demand for blanket flexibilities of two thirds of the WTO's membership dilutes the call from those countries that have evident needs for development assistance.

The assessment of country vulnerability using the TVI will be based on the composite index score relative to a threshold, rather than country size. While it is anticipated a priori that small economies may be assessed as being 'vulnerable', they may not be the only qualifying countries.

[28]These include, for example, the Commonwealth Secretariat, the United Nations Committee for Development Policy (UNCDP), the United Nations Development Programme (UNDP), the United Nations Department of Economic and Social Affairs (UNDESA), the Economic Commission for Latin America and the Caribbean (ECLAC) and the Caribbean Development Bank (CDB).

[29]CDB (2019). A Multidimensional Vulnerability Index for the Caribbean. https://issuu.com/caribank/docs/measuring_vulnerability-a_multidime/38

a. The rationale for a Trade Vulnerability Index

The relationship between trade and vulnerability has already been well articulated in the WTO Work Programme on Small Vulnerable Economies (SVEs).[30] (See Annex). Notwithstanding the (political) challenges[31] with this Programme, it provided a solid platform for SVEs to articulate their interests and concerns in various areas of negotiations. The programme was successful in highlighting the specific characteristics of SVEs and explaining how they translate into trade-related problems and may require targeted solutions.

Critics argue there is weak statistical relationship between the characteristics of SVEs and trade performance. However, studies by the International Center for Trade and Sustainable Development (ICTSD) showed that the statistical relationship is significant when it is measured between the combination of characteristics (as opposed to individual characteristics) on the one hand and trade performance. The Commonwealth Secretariat (2018) in an econometric exercise noted that country openness (measured by the share of exports of goods and services in GDP) and lack of economic diversification (measured by UNCTAD's diversification index) are statistically significant trade related explanatory variables that explain GDP per capita volatility.

In addition to the empirical evidence establishing the relationship between trade and vulnerability and particularly in small developing economies, Kaukab (2009) provided concrete practical examples linking the specific characteristics of SVEs to trade related problems. These examples include:

(i) Tariff escalation affects SVEs by effectively punishing diversification into exportation of higher value products. Tariff peaks usually affect products in which developing countries have comparative advantage, such as textiles and agriculture.
(ii) The agricultural and fisheries sector in SVEs play key roles in the attainment of their economic development goals, in particular with regard to food security, rural development, exports and employment Therefore the volatility of international prices for agricultural and fisheries products exported by SVEs constitutes an important factor of high vulnerability.
(iii) The very limited participation of SVEs in international trade negotiations prevents them also from effectively defending their export interests in cases of modification of tariff concessions, which under current arrangements recognize only substantial interests defined narrowly.

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[30]The WTO keeps track of progress on the Small Economies work programme. The latest compilation document may be accessed here: https://www.wto.org/english/tratop_e/devel_e/dev_wkprog_smalleco_e.htm.
[31]SVEs are not a recognized sub-category of developing States; critics of the argument argue that a weakness of the SVEs argument is that their trade related problems are not necessarily unique and may be common to all developing countries.

(iv) The high transaction costs, the isolation of island countries and the environment surrounding land-locked countries, are basic problems of these small developing economies.

(v) SMEs in SVEs principally comprise "micro" or very small enterprises which face particular challenges in terms of human resources, market development and financial constraints.

(vi) The WTO Agreement on Subsidies and Countervailing Measures (ASCM) contains provisions resulting in the low cost incentives granted by the SVEs, which are essential for the development of export oriented industries, being unfairly treated as prohibited subsidies.

(vii) In SVEs, employment options are few and hence in general, they face high levels of unemployment. SVEs have an interest in developing their services sector as a means of enhancing employment both on-shore as well as off-shore.

The proposed TVI seeks to build on the work completed on SVEs. The SVE research was successful in emphasizing the challenges that SVEs face when linking into global value chains and made recommendations to overcome these challenges. More importantly, the point being made by the SVEs was implicitly recognized in that at least one of these characteristics (i.e. low share in international trade) has been used to identify the affected SVEs in sectoral negotiations (e.g. in agriculture and NAMA). The TVI goes one step further as it seeks to provide objective evidence of the sector and issue-specific criteria that can be used as part of trade negotiations to substantiate a country's claims of vulnerability. In this regard, it provides flexibility in the approach for specific S&DT provisions.

The TVI is unique and must be distinguished from other vulnerability indices[32] that include a trade component, as espoused by Briguglio et al. (2009). Firstly, the objective of the TVI is narrower than other vulnerability indices. It focuses on estimating vulnerability at the sector level rather than ranking relative macroeconomic performance and understanding and diagnosing performance. More specifically, the TVI concentrates on the structural and institutional characteristics of countries that impedes their ability to seamlessly integrate into the international trading system. The estimation of the TVI is made within the specific context of (i) enhancing market access for developing countries; (ii) creating balanced rules and (iii) ensuring trade related technical assistance and capacity building[33], which, together, collectively define the needs and interests of developing countries in international trade negotiations.

The call for enhanced market access is based on the fact that SVEs are currently losing market access opportunities by protectionism and subsidies in developed countries. Also, the adjustment costs from liberalization will be much higher in SVEs. These adjustment costs can be described as

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[32]The most prominent type of vulnerability index in the academic literature is the Economic Vulnerability Index.
[33]See Kaukab (supra), p.8.

the losses that accrue to domestic economies of developing countries due to trade liberalization and include: reduced production and closure of their domestic productive facilities either in agriculture, manufacturing or services, loss of employment and revenue, lower, returns, etc. This can occur due to the opening of their own markets or of their main trading partners or both. Second, the need for balanced rules speaks to idea of re-balancing the old rules so that they address the specific needs of developing countries. Thirdly, a major constraint in SVEs is their lack of capacity in almost all areas related to trade including: the limited number of mission staff in Geneva or in government agencies to analyze the implications of the trade agenda and negotiate and to take advantage of new or emerging opportunities.

While the proxy indicators in the TVI may be similar to other vulnerability indices, the TVI goes a step further and makes the link between the proxy indicators and specific S&DT provisions and the main areas of international trade negotiations. This is important because it makes the TVI a practical tool that can be used as part of the evidence and negotiations to guide eligibility for S&DT. The TVI proposes that assignment of S&DT benefits should be based on objective criteria that is linked to the trade related needs of the respective country.

It is proposed that the TVI be used either as a stand-alone criterion or as additional criterion to augment indicators such as per capita income, which are considered when reaching decisions on the treatment of certain developing countries by international organizations, including the WTO. Another benefit of the proposed TVI is that it is flexible and can be used to provide objective evidence of the sector- as well as issue-specific criteria that can be used as part of trade negotiations.

Providing countries with flexibility to S&DT should also involve developing their human and institutional capacity, which helps to build resilience and the integration of developing economies into the multilateral trading system. The building resilience argument implicitly recognizes that the development needs of certain countries justifies transitional implementation but not necessarily that the long-term objective is convergence and full implementation of all obligations by all members. As a result, the TVI gives consideration not only to structural causes of trade vulnerability but also institutional and governance constraints which hinders the achievement of development objectives.

b. Definitions and concepts

The concept of vulnerability is complex but critical for development. The term is multidimensional in nature, which contributes to the challenges in defining and measuring it. In 2011, the Economic Commission for Latin America and the Caribbean (ECLAC 2011) noted that the concept of vulnerability has several dimensions.[34] These dimensions begin with vulnerability as an internal or intrinsic risk factor (which is universally accepted) and can be broadened to a multidimensional approach which includes the physical, economic, social, environmental and institutional characteristics of the grouping being assessed.

In this paper, the term "vulnerability" is conceived as a dualistic approach of internal risk factors (intrinsic vulnerability) and coping capacity. As a result, trade vulnerability can be the result of the inherent structural features of an economy, as well as its ability to recover (coping capacity) from the harmful effects of shocks e.g. international crisis, commodity price volatility, supply constraints, etc. In the case of the latter, the coping capacity of an economy is associated with the flexibility of an economy, enabling it to recover after being adversely affected by a shock. This coping capacity will be severely limited if, for example, there are weak national institutions and market rigidities or failures related to the globalization of markets. Unilateral measures by individual governments can have only limited impacts on trade-driven market failures.[35] As a result, multilateral initiatives are necessary to address the potential market failures.

c. A Trade Vulnerability Index methodology

The methodological approach for the TVI will be guided by the seminal work of Briguglio (1997). The TVI as proposed is a simple composite index calculated from various sub-indices. There are four simple steps in constructing the index. Step 1 involves determining the causes of vulnerability; Step 2 selects and compiles proxy indicators; Step 3 applies normalization methodology to data; and Step 4 computes sub-indices and aggregates the index.

After scaling the variables and applying a normalisation transformation, an appropriate weighting methodology must be selected. A number of studies have recommended and embraced the assignment of equal weighting (Brigiglio, 1995; Crowards and Coulter, 1998; and Commonwealth, 2014), in the absence of objective weighting found within the literature. The composite index is estimated as the simple arithmetic average of the sub-indices. The basic criteria that guides the development of the indexes are: simplicity – the index should not be too complicated to construct;

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[34]Birkmann (2005) highlights the various dimensions of vulnerability, which begins with vulnerability as an internal risk factor (intrinsic vulnerability); which can gradually be widened to vulnerability as the likelihood to experience harm (human centered); vulnerability could also be conceived as a dualistic approach of susceptibility and coping capacity; it can be further widened as a multiple structure that considers susceptibility, coping capacity and exposure, adaptive capacity and, ultimately, vulnerability can be considered in a multidimensional context encompassing, physical, social, economic, environmental and institutional features.

[35]Trade driven market failures can occur in instances where the globalization of the market results in social losses that exceeds its gains. For example, if country A produces corn more cheaply than country B, but in so doing generates more pollution. In the absence of countervailing policies, trade liberalization will cause production to shift from country B to country A, with a corresponding increase in pollution and its external costs. Similarly, if producers in country B generate higher positive externalities than those in country A - for example, via the conservation of crop genetic diversity - trade liberalization will erode the supply of these benefits. This assessment of the net trade effect usually requires an empirical investigation.

ease of comprehension – the overall composite index must have an intuitive meaning; and suitability of international comparison – the index should lend itself to international comparisons. The score of the overall composite TVI relative to a predetermined threshold will influence the justification of the grouping of countries as developed.

The research will also conduct sensitivity analysis on the proxy indicators in the vulnerability index to gauge the robustness of the results. A correlation matrix will be prepared and used to assess the extent of the relationship between the proxy indicators that were included in the vulnerability index. In instances where there was evidence of correlation, the proxy indicator was either deleted from the index or combined with another proxy indicator. Further, the selection of weights for proxy indicators is another important consideration in the quantification[36] of the vulnerability index. As a result, alternative weighting scenarios will be evaluated to assess how it affects the results of the study.

d. Trade Vulnerability Index: Proxy indicators

As mentioned earlier, the TVI is being proposed as a practical tool to guide decision making and negotiations related to eligibility and S&DT. Possible TVI indicators have been identified, (See Table X), grouped according to a typology and mapped with the relevant S&DT provision. As noted above, the proxy indicators were selected from a review of the literature on economic vulnerability and international trade. The proxy indicators are indicative and in some instances may need to be verified for significance with econometric or statistical approaches. Undergirding the typology is the assumption that a criterion that can guide the country's need for S&DT can include: (i) the country's stage of development, (ii) the existence of structural and institutional weaknesses – this contributes to challenges in recovering from trade shocks and (iii) susceptibility to natural disasters and the impacts of climate change. The mapping is at a broad level and would still need to be supplemented by additional information to facilitate a successful negotiation.

The identified proxy indicators are grouped into three categories: structural, environmental and institutional vulnerabilities and the following paragraphs provide a rationale for the proxy indicator and suggestions about how it can be measured:

Export Concentration – Export Concentration relates to the dependence of a country on a few major exports (goods and services) and is considered a structural characteristic of an economy. The rationale for including export concentration in the TVI is intuitive, the greater the dependence on a few major exports the more vulnerable that economy will be to shocks in the demand and supply of those exports. Export concentration can be measured by the following proxy indicators: (i) UNCTAD Export Concentration Index (Herfindahl-Hirschman Index); or (ii) the Concentration ratio based on the three largest broad groups of goods and services.

Export Destination – Concentration of Export Destination occurs when a large proportion of a country's exports are supplied to a limited number of trading partners. In this instance, the economy will be vulnerable to changing patterns of trade, economic performance and changing preferences in major trading partners. It is a structural characteristic and can be measured by the percentage of total export receipts accounted for by the top three export groups.

Trade Shock – This proxy indicator provides an indication about the susceptibility of the economy to changes in international commodity prices, global crises, and macroeconomic challenges with major trading partners, among other factors. It is a structural factor and can be measured by the deviation of the long term trend of exports of goods and services.

Trade Openness – Small economies tend to rely heavily on external trade and foreign investment to overcome their inherent and resource limitations. While this can prove beneficial in exposing them to outside competition and ideas, it leaves them vulnerable to external economic and environmental shocks, especially where the domestic economy is undiversified. This is a structural factor and can be measured by the exports and imports of goods and services as a percentage of Gross Domestic Product.

Dependence on Strategic Imports - Dependence on critical imports (food; energy) intensifies exposure to external shocks arising from trade openness. This is a structural factor and can be measured by the imports of food and fuel as a percentage of total merchandise imports or imports net of exports of energy as a percentage of total energy consumption.

Reliance on external finance – This relates to the dependence on external financial flows to support existing levels of consumption and investment. Investment in productive capital and is an essential ingredient in achieving a level of income that is sustainable. However, allocating resources towards investment requires forgoing some current consumption for the sake of greater consumption in the future. This allocation often is not the case in small and open economies that have relatively low levels of savings and investment. Additionally, the small size of the economy might impede the development of financial markets. Where limited financial markets restrict opportunities for reallocating resources, as with small economies, funds may be derived from external sources. This is a structural factor and can be measured by the ratio of Overseas Development Assistance disbursement and annual Foreign Direct Investment to gross fixed capital formation.

Market share of global trade – Countries with a minor share of global trade are too trivial to merit consideration in implementing trade agreements, as they would not have a distortive impact on global trade. This can mean that the specific interests of these countries are underrepresented in trade agreements. This is a structural factor and can be measured by the total exports and imports as a percentage of world trade.

Remoteness/Location – Remoteness from major markets can result in high transportation costs and reduced price competitive advantage. This is a structural factor and can be measured by freight and insurance costs for imports as a percentage of total imports.

Instability of agricultural production – Countries that are dependent on the agricultural se sector are particularly vulnerable to economic and natural shocks. This is a structural factor and can be measured by the variance of agricultural production along its trend, calculated over the long-term. Alternatively, this proxy indicator can be measured as the share of agriculture, forestry and fisheries as a percentage of GDP.

Economic Diversification – Lack of economic diversification increases the vulnerability of an economy. This is a structural factor and can be measured by UNCTAD's diversification index. This is a structural factor and can be measured by: the share of population in elevated coastal zones.

Small Size – The reason for the attention devoted to small states is to be found in the general belief that, due to some particular characteristics, small countries are particularly vulnerable and that, because of their inherent weakness, they can be more easily affected in the process of globalisation. While there is no unanimity of opinion among researchers on this point. Some have argued that being small in a "macro" world is a drawback. Small states cannot enjoy economies of scale both in production and in public administration. They are not competitive internationally and in most cases they cannot pursue an import substitution policy. They are particularly vulnerable both to natural disasters and economic/trade shocks. This is a structural factor and can be measured by the total population[37] of a country.

Susceptibility to Natural Disasters and Climate Change – Disaster proneness is associated with vulnerability as it creates additional costs and diverts resources away from directly productive activities. This is an environmental factor and can be measured by the share of population in elevated coastal zones. The coastal zones indicator captures the vulnerability to coastal impacts associated with climate change (sea level rise; storm surge) to strengthen the link between climate

[37] With respect to population size, the literature uses different thresholds when referring to "small economies". Some suggest using a population of 1.5 million as a threshold (Commonwealth Secretariat – World Bank Joint Task Force, 2000), others 5 million or even more (Streeten, 1993, Collier and Dollar, 1999, Brautigam and Woolcock, 2001), and still others something in between (Armstrong et al, 1998). By distinguishing these two groups, microstates and small states, two different definitions are allowed for, although these thresholds will turn out to play only a minor role for the analysis of this paper. Note that in the WTO Membership 30 of 143 Members would be microstates according to the definition used in this paper. Five of them are LDCs.

change and natural disasters. Alternative proxy indicators include: the, the number of deaths and affected as a percentage of total population and the economic damage relative to GDP.

Market Flexibility - Weak national institutions and market rigidities can restrict an economy's ability to recover after being affected by a shock. This is an institutional factors and can be measured by the Economic Freedom of the World Index (Regulation – Market regulation, Labour Market regulation and Business regulation).

Political, Social and Environmental Governance - Weaknesses in the rule of law and property rights, as well as limitations in the delivery of efficient public services reduce the safeguards that helps the economy to cope after the harmful effects of shocks. This is an institutional factors and can be measured by the Worldwide Governance Index – Political Governance; Social Development – Human Development Index; Environment management – Environment performance index.

Table 1: Possible Trade Vulnerability Indicators

Possible Proxy Indicator	Typology	Measurement of Proxy Indicators
Export Concentration	Structural Vulnerability	UNCTAD Export Concentration Index (Herfindahl-Hirschman Index)
		Concentration ratio based on three largest broad groups of goods and services
		Concentration ratio (goods and services) and trade openness
Export Destination	Structural Vulnerability	Index based on trade destination
Trade Shock	Structural Vulnerability	Deviation of long-term trend of exports of goods and services
Trade Openness	Structural Vulnerability	Exports and Imports (% of GDP)
Dependence on Strategic Imports	Structural Vulnerability	Imports of food and fuel (% of total merchandise imports)
		Imports net of exports of energy (% of total energy consumption)
Reliance on external finance/capital	Structural Vulnerability	Ratio of ODA disbursement and annual FDI to gross fixed capital formation
Market Share of Global Trade	Structural Vulnerability	Total exports and imports as % world trade
Remoteness/Location	Structural Vulnerability	Freight and Insurance costs for imports as % total imports
Instability of agricultural production	Structural Vulnerability	Variance of agricultural production along its trend, calculated over the long-term
Share of agriculture, forestry and fisheries	Structural Vulnerability	Share of agriculture, forestry and fisheries as % of GDP

Possible Proxy Indicator	Typology	Measurement of Proxy Indicators
Economic Diversification	Structural Vulnerability	UNCTAD's diversification index
Small Size	Structural Vulnerability	Total population of a country
Susceptibility to Natural Disasters and Climate Change	Environmental Vulnerability	Share of population in elevated coastal zones
		Number of Victims of disasters
		Deviation of long-term trend of agricultural production
		Number of Deaths and affected as a percent of total population
		Economic damage relative to GDP
Market Flexibility	Institutional Vulnerability	Economic Freedom of the World Index: Regulation – Market regulation, Labour Market regulation and Business regulation. Institutional Quality (CPIA).
Political, Social and Environmental Governance[38]	Institutional Vulnerability	Worldwide Governance Index – Political Governance; Social Development – Human Development Index; Environment management – Environment performance index.

[38] Governance consisting of political governance, social development and environmental management. The reason these three aspects of governance were grouped together is that there is likely to be a degree if overlap between these indicators.

V. Mapping the TVI to S&DT at the WTO

In Table 1 above, we indicated that the TVI can be used to assess a country's trade vulnerability, and therefore warrants S&DT under WTO rules. The task now, in a trade context, is to determine whether these vulnerabilities can be attenuated by specific S&DT provisions under the existing WTO Agreements.

Before we are able to do so, it is useful to set out a taxonomy of the current S&DT provisions so that we can assess what types of trade-related provisions are available for dealing with the problems of trade-vulnerable economies. For this task, we use the typology of S&DT provisions developed by the WTO Secretariat in 2001, as presented in Table 2 below. The exercise of identifying the current typology of S&DT provisions may well also inform of the limits of the existing provisions for dealing with the trade vulnerabilities of certain countries. In this regard, we note that the current scope of S&DT provisions may be limited in terms of dealing with some of the environmental vulnerabilities faced by Caribbean states (See Case Study of Dominica).

Table 2: Typology of WTO Special and Differential Treatment Provisions

#	Type of S&DT Provision	Description	Example of S&DT Provision
1.	**Provisions aimed at increasing the trade opportunities of developing country members**	There is need for a rapid, sustained expansion/diversification of the earnings of developing countries, and therefore positive efforts to secure a share in international trade commensurate with the needs of their economic development. Given the continued dependence of many developing countries on the exportation of a limited range of primary products, there is need to provide more favorable and acceptable conditions of access to world markets and devise measures to stabilize and improve conditions of world markets including: measures designed to attain stable, equitable and remunerative prices, thus permitting an expansion of world trade and demand and a dynamic steady growth of real export earnings of these countries so as to provide them with expanding resources for their economic development.	**GATT XXXVI :2** There is need for a rapid and sustained expansion of the earnings of the less-developed contracting parties.
2.	**Provisions that require WTO Members to safeguard the interests of developing countries**	Because of the chronic deficiency in the export proceeds and other foreign exchange of developing Members, there are important inter-relationships between trade and financial assistance to development. There is therefore need for close and continued collaboration between WTO Members and international lending agencies so that they can	**SPS Agreement, Art 10.1** 10.1. In the preparation and application of sanitary or phytosanitary measures, Members shall take account of the special needs of developing country Members, and in particular of the least-developed country Members.

#	Type of S&DT Provision	Description	Example of S&DT Provision
		contribute effectively to alleviating the burdens these developing Members assume in the interest of their economic development.	
3.	**Flexibility of commitments of action and use of policy instruments**	If a Member considers it desirable, in order to promote the establishment of a particular industry (e.g. agriculture) with a view to raising the general standard of living of its people, it should be free to modify or withdraw a concession included in the appropriate schedule annexed to the agreement. Members recognize that when they are in rapid process of development, they can experience balance of payments difficulties arising mainly from efforts to expand their internal markets as well as from the instability in their terms of trade. Members find that government assistance is required to promote the establishment of a particular industry with a view to raising the general standard of living of its people, but that no measure consistent with the other provisions of the Agreement is practicable to achieve that objective.	**Agreement on Agriculture, Art 6.2** 6.2. In accordance with the Mid-Term Review Agreement that government measures of assistance, whether direct or indirect, to encourage agricultural and rural development are an integral part of the development programmes of developing countries, investment subsidies which are generally available to agriculture in developing country Members and agricultural input subsidies generally available to low-income or resource-poor producers in developing country Members shall be exempt from domestic support reduction commitments that would otherwise be applicable to such measures, as shall domestic support to producers in developing country Members to encourage diversification from growing illicit narcotic crops. Domestic support meeting the criteria of this paragraph shall not be required to be included in a Member's calculation of its Current Total AMS.
4.	**Transitional time-periods**	Developing country members shall have flexibility to implement reduction commitments over a period of up to ten years. Least developed country members shall not be required to undertake reduction commitments.	**Agreement on Subsidies and Countervailing Measures, Article 27.2** 27.2 The prohibition of paragraph 1(a) of Article 3 shall not apply to: (a) developing country Members referred to in Annex VII. (b) other developing country Members for a period of eight years from the date of entry into force of the WTO Agreement, subject to compliance with the provisions in paragraph 4.
5.	**Technical assistance**	Members agree to facilitate the provision of technical assistance to other members, especially developing country members through the appropriate international organizations. Such assistance may be in the areas of: processing technologies; research and infrastructure – including in the establishment of national regulatory bodies and may take the form of advice, credits, donations	**General Agreement on Trade in Services Article XXV.2** XXV.2. Technical assistance to developing countries shall be provided at the multilateral level by the Secretariat and shall be decided upon by the Council for Trade in Services.

#	Type of S&DT Provision	Description	Example of S&DT Provision
		and grants, including for the purpose of seeking technical expertise, training and development to allow such countries to adjust to and comply with sanitary or phytosanitary measures needed to achieve the appropriate level of sanitary or phytosanitary protection in their export markets.	
6.	**Provisions relating to Least developed country members**	Developing country members shall have the flexibility to implement reduction commitments over a period of 10 years. Least developed country members shall not be required to undertake reduction commitments.	**Agreement on Agriculture Art. 15.2** 2. Developing country Members shall have the flexibility to implement reduction commitments over a period of up to 10 years. Least-developed country Members shall not be required to undertake reduction commitments.

Source: Special and Differential Treatment Provisions in WTO Agreements and Decisions, World Trade Organization: Note by the Secretariat, WT/COMTD/W/239, October 12, 2018.

a. Mapping TVI with WTO S&DT Provisions

As mentioned earlier, the TVI is being proposed as a practical tool to guide decision making and negotiations related to eligibility and S&DT. Possible TVI indicators have been identified, (See Table X), grouped according to a typology and mapped with the relevant S&DT provision. As noted above, the proxy indicators were selected from a review of the literature on economic vulnerability and international trade. The proxy indicators are indicative and in some instances may need to be verified for significance with econometric or statistical approaches.

Undergirding the typology is the assumption that a criterion that can guide the country's need for S&DT can include: (i) the country's stage of development, (ii) the existence of structural and institutional weaknesses – this contributes to challenges in recovering from trade shocks and (iii) susceptibility to natural disasters and the impacts of climate change.

The mapping is at a broad level and would still need to be supplemented by additional information to facilitate a successful negotiation.

Table 3: Possible Trade Vulnerability Indicators and S&DT Provision Mapping

Possible Proxy Indicator	Typology	Indicative S&DT provision (based on WTO-Secretariat typology)
Export Concentration	Structural Vulnerability	1.Provisions aimed at increasing the trade opportunities of developing country members

Possible Proxy Indicator	Typology	Indicative S&DT provision (based on WTO-Secretariat typology)
Export Destination	Structural Vulnerability	1.Provisions aimed at increasing the trade opportunities of developing country members 2.Provisions that require WTO Members to safeguard the interests of developing countries
Trade Shock	Structural Vulnerability	3.Flexibility of commitments of action and use of policy instruments 5. Technical assistance
Trade Openness	Structural Vulnerability	1. Provisions aimed at increasing the trade opportunities of developing country members 2.Provisions that require WTO Members to safeguard the interests of developing countries 3.Flexibility of commitments of action and use of policy instruments
Dependence on Strategic Imports	Structural Vulnerability	3.Flexibility of commitments of action and use of policy instruments 5.Technical assistance
Reliance on external finance/capital	Structural Vulnerability	3. Flexibility of commitments of action and use of policy instruments
Market Share of Global Trade	Structural Vulnerability	1.Provisions aimed at increasing the trade opportunities of developing country members 2.Provisions that require WTO Members to safeguard the interests of developing countries
Remoteness/Location	Structural Vulnerability	1.Provisions aimed at increasing the trade opportunities of developing country members
Instability of agricultural production	Structural Vulnerability	1.Provisions aimed at increasing the trade opportunities of developing country members 5.Technical assistance
Share of agriculture, forestry and fisheries	Structural Vulnerability	1.Provisions aimed at increasing the trade opportunities of developing country members 5.Technical assistance
Economic Diversification	Structural Vulnerability	1.Provisions aimed at increasing the trade opportunities of developing country members 5.Technical assistance

Possible Proxy Indicator	Typology	Indicative S&DT provision (based on WTO-Secretariat typology)
Susceptibility to Natural Disasters and Climate Change	Environmental Vulnerability	3.Flexibility of commitments of action and use of policy instruments 5.Technical assistance
Size	Structural Vulnerability	3.Flexibility of commitments of action and use of policy instruments 5.Technical assistance
Market Flexibility	Institutional Vulnerability	4.Transitional time-periods 5.Technical assistance
Political, Social and Environmental Governance[39]	Institutional Vulnerability	4.Transitional time-periods 5.Technical Assistance

The mapping approach may also demonstrate the limits of the WTO S&DT. For instance, if we think of the specific problem of environmental disasters faced by Caribbean countries – like Dominica with Hurricane Maria in 2017, and now The Bahamas, with Hurricane Dorian – the WTO response and current slate of S&DT provisions do not seem particularly adapted to assist in mitigating the effect of environment-related trade vulnerabilities.

The case study of Dominica below discusses this.

The Case of Dominica: Linking Specific Environmental Vulnerabilities to a Trade Related response

Dominica was one of the six case studies featured in research undertaken by the WTO on trade issues arising from natural disasters.[40] The research was funded by the Permanent Mission of Australia,[41] and the WTO teams dispatched to the countries involved in the study received valuable input from stakeholders on the ground. The observations and recommendations of these stakeholders helped to inform the final reports.

The final report was divided into three country group studies broken done by geographical region: Dominica and St. Lucia in the Caribbean, Nepal in South Asia and Fiji, Tonga and Vanuatu in the Pacific. All six countries are

[39] Governance consists of political governance, social development and environmental management. The reason these three aspects of governance were grouped together is that there is likely to be a degree of overlap between these indicators.

[40] WTO Country Research on Natural Disasters and Trade (2019) https://www.wto.org/english/tratop_e/devel_e/summary_of_findings_sympnaturaldisaster10519_e.pdf

[41] In May 2019, the WTO hosted a Symposium on Natural Disasters and Trade where the results of this research were discussed.

vulnerable to a plethora of hydro-meteorological and seismic hazards which have impacted their macroeconomic and trade performance to varying degrees.

Dominica's vulnerability

Dominica, for example is vulnerable to high winds, excess rainfall, hurricanes, drought, earthquakes, tsunamis and volcanic activity. Dominica was hit by Hurricane Maria just two years after suffering significant damage from Tropical Storm Erika in 2015. Hurricane Maria caused US$55.27 million in damages and $124.37 million in losses to Dominica's agricultural sector, which is the economic pillar of the island's economy (accounting for 10.5% of GDP in 2013). However, other sectors, such as transport and financial services, which are key support sectors for the manufacturing and agricultural sectors, were also impacted. Public debt is also expected to increase to almost 90% of GDP, according to the WTO study.

Although Hurricane Maria in 2017 was one of the most devastating natural disasters to hit Dominica in recent years, the WTO study notes that the "historical records show that Dominica has suffered multiple meteorological events in the same season in 13 of the 45 years that hurricane struck over the period 1886-1996".[42] Dominica's sloping topography means that the majority of economic activity, major infrastructure, population and assets are concentrated along its narrow coastal areas, increasing its economic and physical vulnerability to weather-related events, such as storm surges and flooding.

The WTO team documented **several trade issues** in the disaster response, recovery and resilience with reference to Dominica. With respect to trade issues in the disaster response, these included increased wait times for landed containers to be released; how lists of relief items are established; the charges that are exempted; the duration of exemptions and quantitative restrictions on private actors; and how to distinguish between relief and regular commercial imports.

Issues affecting disaster recovery, which were highlighted by the WTO report, include: competition between domestically-produced goods and relief goods distributed to the population by aid agencies; shortage of materials, equipment and labour; access to finance; and delay and uncertainty regarding insurance pay-outs.

Turning to trade issues in disaster resilience, the WTO report noted that the sustainability of Dominica's development processes will continue to be threatened due to the adverse impacts of climate change. As such, Dominica has announced its intention to become the world's first "climate resilient nation" by a two-pronged approach: (1) strengthening the resilience of its physical infrastructure and natural environment; and (2) building greater fiscal resilience. As a first step, Dominica established its Climate Resilience Execution Agency of Dominica (CREAD) to manage and coordinate reconstruction work for a four-year period and with assistance from the donor community. The island has also sought to ensure that its rebuilding efforts take into account building code requirements for environmentally sustainable building.

As the WTO study also noted, building resilience also requires improving port operational efficiency and trade facilitation; improving the business environment and costs of dealing with government; promoting business continuity planning; expanding renewable sources of energy generation; expansion of insurance coverage and improving building standards are other methods of resilience building identified. Director of Trade, Mr. Matthan Walter, outlined several trade-related responses which could assist in building resilience, such as liberalization of Dominica's GATS services schedule; streamlining customs procedures as part of the WTO Trade Facilitation Agreement; and applying international standards to develop resilient infrastructure with support from development partners.

[42] WTO study (2019)

This WTO research lends welcomed empirical support to the argument that there are real trade implications of natural disasters which should not be overlooked. In this regard, Small States have actively been pursuing the quantification of vulnerability indices integrating trade and environmental indicators to widen their access to concessional development finance to address their development challenges.

While the research is a step in the right direction, it exposes limits in the S&DT responses that can attenuate or mitigate the effects of climate change. It is hoped that through this paper, it will be possible to identify responses to specific challenges faced by small states.

b. Mapping the TVI with sector-specific problems

Kaukab (2009) identified the priority SVE (offensive and defensive[43]) key development interests in most of the ongoing trade negotiating areas. To continue to illustrate the potential use of the TVI, a broad mapping of the trade proxy indicators with specific negotiating areas and development interests has been provided in this paper. (See Table XX). Broadly, it shows that the TVI has potential to be applied not only at the sector level but also to issue-specific criteria related to negotiating areas. The broad mapping of the TVI was completed for negotiating areas including: Agriculture, NAMA, Services, Rules, Trade Facilitation and Technical Assistance and Capacity Building.

Table 4: Trade Vulnerability and WTO Negotiating Areas

TVI Proxy Indicator	Negotiating Area	SVE Development Interests
Instability of agricultural production Share of agriculture, forestry and fishing	Agriculture	Defensive: Need for special flexibilities. Offensive: Special priority for products of export interest
Market share of global trade	NAMA	Defensive: Need for special flexibilities. Offensive: Special priority for products of export interest
Export concentration	Services	Offensive: Special priority for services of export interest. Offensive: Special efforts to facilitate the full range of services exports.
Population size	Rules	Defensive: Subsidies and Countervailing Measures: to allow SVEs to better respond to the needs of their small business

[43] In the present context “offensive interests” may be defined as those where SVEs are seeking greater market access and/or the resources to utilize this market for their exports. While, “defensive interests” are those where SVEs are trying to protect access to their own markets.

TVI Proxy Indicator	Negotiating Area	SVE Development Interests
		sector by allowing certain subsidies currently prohibited by the WTO. Defensive: RTAs: special problems and characteristics of SVEs should be taken into account to allow for certain non-reciprocity in RTAs between SVEs and developing countries.
Remoteness/Location	Trade Facilitation	Offensive: Specific needs of the small, vulnerable, landlocked economies should be addressed bearing in mind that these small economies have no seaports and will therefore always have inherently high transit and other costs. Offensive: Specific needs of the small, vulnerable, landlocked economies should be addressed bearing in mind that these small economies have no seaports and will therefore always have inherently high transit and other costs.
Institutional capacity	Dispute Settlement	Offensive: Assistance to facilitate the use of the provisions of the Understanding on Rules and Procedures Governing the Settlement of Disputes (DSU) and to enforce the decisions of the DSB.
Market Flexibility Political, Social and Environmental Governance Institutional Quality (CPIA)	Technical Assistance and Capacity Building	Offensive: Priority to the provision of supply side capacity building and human and institutional resources development. Offensive: Recognition of the role of regional bodies in relation to inquiry points and technical assistance (related to SPS, TBT and TRIPS)

VI. Conclusion

This research working paper provides a response to the current debate taking place at the World Trade Organization (WTO) regarding which countries should be eligible for special and differential treatment (S&DT). More specifically, it provides an alternative proposal which utilizes trade vulnerability as the basis for determining eligibility for S&DT in future WTO agreements and decisions. There is some urgency to this discussion since the US has indicated that its proposed eligibility criteria will form the basis of US law and policy in the near future. To be clear, the paper is confined to the issue of eligibility, and while effectiveness is linked to the eligibility discussion, the paper does not explore the extent to which current S&DT provisions are effective, could be made more effective, or are currently being utilized.

The paper argues that S&DT, which provides special rights, flexibilities and privileges to developing-country Members of the WTO, must remain available to those countries whose characteristics make them vulnerable to the vagaries of the global financial and trading system and to economic and environmental shocks. While we take no position on the US' introduction of an "objective-criteria" as a basis for deciding S&DT eligibility, we question the particular choice of criteria (GNI per capita, among others). The US' choice of criteria raises some concerns for CARICOM countries because at least one of the criteria would automatically rid at least four CARICOM countries of developing country status in current and future negotiations. Moreover, valid criticism had been raised to GNI per capita as the most appropriate basis for determining whether a country should benefit from S&DT provisions in the trade context.

This paper makes the case for another approach for designating certain countries as deserving of S&DT through the use of a vulnerability index specifically adapted to a trade context. The Trade Vulnerability Index (TVI) can be designed to quantify the vulnerability of countries and thereby provide a means for the WTO to identify vulnerable states, and on that basis, propose S&DT that is responsive to those needs. The TVI steers the focus away from income-based criteria for development that influence the determination of broad country groupings, such as developed and developing, to structural and institutional characteristics of an economy that can impede their ability to seamlessly integrate into the international trading system. The proposed TVI seeks to build on the work completed on Small Vulnerable Economies (SVE) as it provides objective evidence of the sector and issue-specific criteria that can be used as part of trade negotiations to substantiate a country's claims of vulnerability. In this regard, it provides flexibility in the approach for specific S&DT provisions.

The research explains the conceptual framework and methodology for our proposed "Trade Vulnerability Index", and on that basis, engages in a preliminary "mapping" exercise that ties specific proxies for vulnerability to S&DT provisions. The score of the overall composite TVI relative to a predetermined threshold will influence the justification of the grouping of countries as developed. Therefore, the TVI can guide which countries could benefit from S&DT and does not create an *a priori* sub-category of developing country. As also noted at the outset, the paper is conceptual, and does not delve into an empirical analysis at this stage but rather recommends the TVI framework for consideration and possible future study.

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ANNEX

Creation of SVE Sub-category in paragraph 35 of the Doha Ministerial Declaration

It should be noted that while developing countries in general have been vociferous critics against any calls for differentiation among themselves, this is not universal to all developing countries. Caribbean WTO Members were at the forefront of Members which called for the recognition of Small Vulnerable Economies (SVEs) as a separate sub-category of developing country within WTO rules, allowing therefore special treatment for SVEs as a separate sub-category without being in violation of Article I of the GATT.

The work on SVEs had its academic antecedents in the United Nations' work on Small Island Developing States (SIDS) and the Commonwealth Secretariat's work on small economies. SVEs argued that certain inherent factors, such as, small internal markets, high transportation costs and low connectivity, vulnerability to economic and environmental shocks, inter alia, circumscribe their ability to integrate into the global trading system and that they should be put on the same footing as LDCs. Chief among them are limited diversification possibilities.

WTO Ministers at the Doha Ministerial Conference agreed to establish a work programme "to frame responses to the trade-related issues identified for the fuller integration of SVEs into the multilateral trading system". The General Council also agreed that the question of small economies would be a standing agenda item of the General Council. It also instructs the CTDin Dedicated Session to monitor the progress of SVE proposals in WTO bodies and negotiating groups with the aim of providing responses, as soon as possible, to the trade-related issues identified for their fuller integration in the multilateral trading system.

One of the issues faced by SVEs was that some countries argued that some of the factors defined as unique to SVEs were present in some non-SVE countries. As such, the proposal for special treatment of SVEs had faced pushback from some other developing countries. It was decided that while a Work Programme for Small Economies would be established, no separate SVE sub-category would be established.

Under paragraph 41 of the Hong Kong Ministerial Declaration, Members reaffirmed their commitment to the Work Programme on Small Economies

This, notwithstanding, SVEs have managed to have some success as a negotiating group.

A decision allowed SVEs to use regional bodies to assist their implementation of obligations under the Agreement on Sanitary and Phytosanitary Measures, the Technical Barriers to Trade and Trade-Related Aspects of Intellectual Property Rights (TRIPS) agreements.

Other major gains for the SVEs include: recognition of their special problems and the need for targeted solutions to address these problems without creating a sub-category of WTO members; special flexibilities granted to SVEs in several areas of negotiations most notably in Agriculture, NAMA and Rules which address many of their defensive interests, some promises of capacity building assistance, establishment of a platform under paragraph 35 of Doha Declaration that can be used to further their interests in the multilateral trading system (Kaukab 2009).

A key issue would be one of definition similar to how LDCs are defined in the WTO context as those countries designated as such by the UN. For SVEs, their share in world trade would be a good starting indicator.