

The Paris Agreement and the Regulatory Chill

Investigating Climate-Trade Conflicts in SIDS

Vera Lindström

Abstract

Despite the general consensus on the urgent need for climate mitigation, the achievements of the climate regime have so far been discouraging. The supportiveness of pre-existing global governance institutions should be achieved to enable truly ambitious climate policy. In this thesis, I investigate the theory of regulatory chill in interactions between the WTO and the UNFCCC by examining climate contributions of SIDS.

The regulatory chill is caused by the power imbalance in global governance, the hegemony of “disciplinary neoliberalism” and the lack of “disciplinary environmentalism”. Due to the enforcement mechanisms of the WTO, nation states are unwilling to formulate transformative climate policy where it may collide with the legal framework of the trade regime.

This study did not find a significant difference between members and non-members and thereby no direct evidence of the regulatory chill. However, the study shows a willingness to trade-restrictive climate contributions where they are multilateral, rather than unilateral. This finding implies a need for common contributions, rather than nationally determined ones as formulated in the Paris Agreement.

Key words: Global Governance, Regulatory Chill, United Nations Framework Convention for Climate Change, World Trade Organization, Climate Action

Words: 9878

List of abbreviations

ASCM	Agreement on Subsidies and Countervailing Measures
CTE	Committee on Trade and Environment
DSM	Dispute Settlement Mechanism
EC	European Communities
GATT	General Agreement on Tariffs and Trade
GHG	Greenhouse gas
ICTSD	International Centre for Trade and Sustainable Development
INDC	Intended Nationally Determined Contribution
ISDS	Investor-State Dispute Settlement
LDC	Least Developed Country
MEA	Multilateral Environmental Agreement
NAFTA	North American Free Trade Agreement
UNFCCC	United Nations Framework Convention on Climate Change
REDD+	Reducing Emissions from Deforestation and Forest Degradation
SIDS	Small Island Developing States
SPS	Sanitary and Phytosanitary Measures
TBT	Technical Barriers to Trade
TPP	Trans-Pacific Partnership
TRIPS	Trade-related Aspects of Intellectual Property Rights
WTO	World Trade Organization

Table of contents

1	Introduction	3
2	Trade Liberalisation and the Environment	5
3	The trade regime	7
4	The Climate Regime	11
5	The SIDS and Climate Justice	12
6	Methods	15
6.1	Data Analysis.....	17
6.2	Limitations.....	20
7	Results	21
8	Conclusions	24
9	References	26

1 Introduction

Climate change is perhaps the most pressing challenge humanity faces in our time and one where multilateral cooperation is necessary to avoid the “tragedy of the commons”, i.e. that nation states acting in economic self-interest end up causing over-exploitation and destruction of a public good through their collective action. In the case of climate change, the “tragedy of the commons” scenario threatens livelihoods in the Global South and Global North alike, albeit that the poor nations which are least adaptable will suffer disproportionately. Simultaneously, the poor nations do not carry the historic responsibility for greenhouse gas (GHG) emissions and thereby the industrialised Global North can be perceived to be carrying a “climate debt”. Understandably, international climate negotiations are difficult due to the truly global nature of the issue and determination of which nations are to reduce their emissions and who is to pay the bill for adaptation (Warlenius & al 2015).

So far, the achievements of the climate regime have been disappointing regardless of the almost universal consensus for the need of immediate action (Carlarne et al. 2016:4). The challenge of climate change is often discussed in economic terms and in the framework of the “tragedy of the commons” (Patt 2017), there may be institutional factors that limit climate commitments. This thesis aims to investigate how existing institutions in global governance support the realisation of climate mitigation and adaptation efforts. In this thesis, I will explore the theory of regulatory chill in the interplay of the United Nations Framework Convention on Climate Change (UNFCCC) and the World Trade Organization (WTO), with the guiding research question of:

“How does WTO membership affect climate contributions under the Paris Agreement?”

The regulatory chill implies that nations are unwilling to set transformative or ambitious environmental regulation as they can then be subject to disputes and sanctions due to the legal framework of the WTO. This applies to regulations on both national and multilateral level. Patterns of production, trade and consumption are central to environmental change we see today (Newell 2012: 7). Thereby the stance of the WTO on environmental issue areas is of significance as the organisation has remarkable power in framing global governance, a vast membership including the most powerful economies, a mandate extending far beyond cross-boundary trade and a way of disciplining the members to ensure compliance. This power is

pronounced when contrasted with institutions of environmental governance, which are fragmented across several institutions and agreements (Wirth 2012). The problem lies in the power imbalance between institutions: the hegemony of “disciplinary neoliberalism” and the lack of “disciplinary environmentalism”, where the first are able to ensure compliance through sanctions and the latter consists of voluntary commitments (Lawrence & Wong 2017).

There is no consensus among scholars, lawyers or even WTO members on whether the current WTO framework supports climate mitigation efforts sufficiently or not. Neither are scholars (Neumayer 2004; Eckersley 2004; Côté 2014) in agreement on whether institutional interplay between the trade regime and environmental regime is significant enough to cause a regulatory chill. The evidence is scarce and often based on singular case studies. Further, the discussion around the regulatory chill and trade disputes often focuses on legal technicalities and interest is mainly expressed by legal scholars. I argue that the regulatory chilling effect or lack thereof, is a central subject that helps us understand the power structures that form and constrain national and multilateral policymaking and should therefore be more discussed in political science literature.

This thesis aims to contribute to this important discussion by applying a comparative methodology. Both the Parties to the Convention under the UNFCCC and membership in the WTO have reached near universal coverage, which means that any institutional interplay is likely to be relevant on a global scale. However, the overlap between the institutions is not complete, leaving a handful of countries that are Parties to the Convention but not WTO members. The Small Island Developing States were chosen as the sample nations for this comparative study due to reasons both theoretical and methodological. Firstly, the group of nations have contributed a negligible amount to the global greenhouse gas (GHG) emissions, yet are already subject to the adverse effects brought on by climate change. This imbalance of responsibility and vulnerability makes the nation group interesting from a climate justice perspective. Secondly, despite diversity within the group, the SIDS share the special circumstances of trade-dependency and vulnerability to the impacts of climate change which makes them the most compelling case to study trade related regulatory chill. Lastly, the SIDS group of nations was chosen as the sample for this study since there is a balance between members of the WTO and non-members that allows comparisons to be made across the group. Assuming that the WTO legal framework has a chilling effect on its members, the non-members should be able to have more stringent trade-related measures in their INDCs. A regulatory chill may be implied if the INDCs of non-members do indeed contain more trade restricting measures that potentially collide with the WTO legal framework than the INDC:s of WTO members.

To understand the logic of the data analysis, an introduction to the general debates of trade and environment interactions as well as to the two institutions examined in this study is necessary. I will start by presenting the general trade-environment tensions before moving onto introducing the

trade regime and the climate regime. In introducing the WTO, I will discuss possible conflicts that may arise between the legal framework of the organisation and the climate regime. Finally, before presenting the methodology and findings, the discussion will be contextualised in terms of SIDS and analysed from the perspective of climate justice.

Finally, as an acknowledgement, as I focus on international relations I use terminology such as Global North and Global South. I find these terms useful in reflecting different historical paths of nations and power structures both contemporary and historical. However, I want to note that these nations in these two categories are by no means uniform and that the allocation to the two categories is ambiguous.

2 Trade Liberalisation and the Environment

Many of the discussions revolving around the WTO and environmental protection are actually about general effects of trade liberalisation on the environment. This is unsurprising as the WTO is often seen as the institutionalisation of neoliberal governance. For instance, Philip McMichael (2012:138) declares that: "...the WTO expresses the essence of the globalization project." The emphasis among authors such as McMichael (2012) and Newell (2012) is that globalisation is not an inevitable phenomenon, but a political project. This being the case, I find it relevant to address some of the general debates around trade and environment before focusing specifically on the institutions relevant for this thesis.

Common concerns environmentalists raise in relation to the expansion of global capitalism are twofold. First, in the system of free movement of capital, nations are driven to compete with each other for investment. It has been theorised that capital tends to move to so called "pollution havens", i.e. nations with lax environmental legislation. Due to this competition, nations with high environmental standards are incentivised to dismantle their environmental legislation; else they become disadvantaged in the global economy. Thereby the global economy is argued to cause a "race to the bottom" in environmental legislation (Busse 2004).

The second concern relates to the increased production and economic growth global capitalism drives. Increased production translates to increased consumption, pollution as well as overexploitation of natural resources. These concerns are reflecting a general disdain towards globalization, which is seen as a political project imposing neoliberalism on societies, deteriorating national sovereignty and therefore democratic governance and

driving the commodification of public goods such as water and air (McMichael 2012: 145).

Conversely, international trade has also argued to be beneficial for environmental protection and the relationship between these two forming a “win-win” situation. In this scenario, economic growth is induced in societies when they open up to trade and that environmental pollution decreases as a certain level of wealth is reached. This theory is called the “Environmental Kuznets Curve” (Hassoun 2009) More generally, proponents argue that environmental awareness arises with economic development. Further, international trade increases the diffusion of new, clean technologies. Overall, interconnectedness and co-operation are of importance to avoid a situation where short-sighted benefits result in losses for all parties, be it the “prisoners dilemma” in economics or the “tragedy of the commons” (Patt 2017) often cited in relation with sustainability issues.

It is important to note that the theoretical premises of both the proponents and antagonists of free trade do not stand on strong empirical premises. Evidence for the arguments of “pollution havens” and “race to the bottom” is inconsistent and economists have argued that for the highly polluting, capital intensive industries, factor endowments are of more importance when deciding for production location than the environmental standards are (Sheldon 2006). As for the “Environmental Kuznets Curve” theory, empirical tests have given results with such variance that a causal relationship between the factors of GDP/capita and pollution is questionable (Hassoun 2009). Even the underlying assumption of a relationship between integration to global markets translating to economic growth is highly contested (Siddiqui 2016).

Even though it is evident that the WTO is an institution committed to trade liberalisation, these two should not be confused as the same thing. Even if often portrayed as a bulldozer paving way for the interest of private capital, the fact is that currently the WTO is the singlehandedly most important institution governing and reining global trade. Thereby the environmental implications of free trade can be associated but not attributed to the WTO itself. In the next section, I will discuss the trade regime and the “disciplinary neoliberalism” which arguably results in the regulatory chill.

3 The trade regime

In order to understand the climate implications of the WTO, an introduction to the mandate and framework of the organisation is needed. I have roughly divided the institutional framework to “the political WTO” and “the judicial WTO”.

The WTO came into existence on the January 1st, 1995 established on the premises of General Agreement on Tariffs and Trade (GATT) as a result of the Uruguay Round of negotiations of the GATT. What differentiates the WTO from its predecessor is the expanded, and arguably expansive, mandate. Whereas the GATT focused on the trade in goods, the WTO includes agreements on services, intellectual property rights, investment measures, sanitary standards and technical barriers to trade (Goldstein 2017). As signatories to the GATT treaty nations applied the GATT agreements on top of their pre-existing national legislation and were exempt from complying to agreements where it contradicts national law. In the WTO framework, this is no longer possible (Narlikar 2005: 22-32). These modifications were made in order to streamline transnational trade, but also makes the WTO is more intrusive and comprehensive than its predecessor. In sum, the WTO was created to be the bona fide intergovernmental organisation in facilitating liberalisation of trade. Today, the WTO membership consists of 164 nation states. Due to the principle of single undertaking, in order to gain membership nations are to agree to and comply with all the existing agreements and new agreements cannot come into force without consensus in multilateral negotiations. These negotiations, or rounds, as well as the negotiations within specialised WTO bodies, form “the political WTO” (Shaw & Schwartz 2002).

Non-discrimination is the central principle of the WTO. This consists of the Most Favoured Nation rule and the principle of National Treatment. These principles mean that all goods originating from WTO members should be treated equally in the domestic markets of a member nation, and be treated the same as any domestically produced “like product”, when it comes to “...internal sale, offering for sale, purchase, transportation, distribution, or use.” (Section 4 of GATT Article III). For instance, if the United States was to exempt tariffs on Australian steel, it would have to do so for all other WTO members steel exports as well. Further, the US cannot, for instance, require labelling of Mexican tuna cans to be “dolphin free” if the same labelling requirement would not be applied to domestically produced tuna cans.

To ensure compliance with WTO agreements, the organisation has a strong Dispute Settlement Mechanism. If any member of the WTO detects another member's non-compliance, it can file a complaint. A panel is formed to evaluate the evidence in the dispute, interprets WTO law and rules whether non-compliance is taking place. If the rules have found to be broken, the panel, or the Appellate Body, suggests corrective measures to the offending party and if these are not implicated, finally sanctions (Narlikar 2005: 85-92). This mechanism forms "the judicial WTO". The well functioning dispute settlement mechanism is also the "teeth" of the WTO and makes the organisation a significant factor in the "disciplinary neoliberal" form of global governance (Eckersley 2004).

Two WTO bodies tend to be discussed in the scholarly literature on the relationship between WTO and environmental protection efforts: the Committee on Trade and Environment (CTE) and the Dispute Settlement Mechanism (DSM) including the Dispute Settlement Panel and the Appellate Body. Again, the discussion revolves largely around the inefficiency and deadlock of the "political WTO", i.e. the CTE and how this lack of political consensus has resulted in a power shift towards the "judicial WTO", i.e. the DSM. The CTE is the manifestation of the WTO's environmental agenda, but its intergovernmental structure has resulted in a political stand-off (Shaw & Schwartz 2002). Conversely, the DSM panel is an independent seven-person body that considers disputes among member states. The "teeth" of the WTO is the institutional structure that worries environmentalists the most. This is based on the assumption that nations have lost their sovereignty over legislation, including environmental legislation, and are risking retaliation from other WTO members if they set high environmental standards. This argument is also the underlying principle of the theory of "regulatory chill". However, rulings of the DSM on environmentally related disputes have arguably shown an emerging openness to interpretation of existing agreements in more environmentally friendly terms (Zelli 2006; Schoenbaum 2016).

The GATT agreement, on which the WTO was founded, is the basis on which some of the disputes regarding environmental protection measures have been raised. The central issue is the requirement of national treatment and the "most favoured nation" principle of "like products". This principle has been a central concern of environmentalists, as it limits the possibility of nation's limiting imports of products of which the production methods are harmful to the environment (Zelli 2006; Shaw & Schwartz 2002).

With the Trade-related Aspects of Intellectual Property Rights (TRIPS) agreement, the environmental concern is the patenting biological resources and its implications for biodiversity. It has been theorised that as biological material gets patented, the patent owners will fiercely promote the varieties they own which contradict the very premises of biodiversity (Shaw & Schwartz 2002).. In terms of climate mitigation, the TRIPS Agreement has been argued to inhibit the diffusion of climate technology to developing countries (Brandi 2017). As mentioned above, the diffusion of "green" technology is a central argument raised by "free market environmentalists" in support of the "win-win" situation. Whether or not intellectual property

rights are actually market distortions that do not fit into an organisation which is on a mission to remove barriers to trade can be discussed (Zelli 2006).

Another argument “free market environmentalists” raise is that the removal of barriers to trade, when successfully implemented, will remove environmentally harmful protectionist measures such as subsidies. Subsidies of climate relevance are particularly fossil fuel subsidies, which incentivise overexploitation of natural resources. However, the WTO has so far been unsuccessful in removing these distortions despite the Agreement on Subsidies and Countervailing Measures (ASCM) being part of the WTO agreement since the organisation’s inception. Conversely, renewable energy support programmes are being increasingly challenged through the dispute settlement body. So far the body has not ruled against any of the government support programmes that have been challenged, neither for fossil fuels nor renewable. However, the latter has been the target of far more challenges. These challenges are based on the idea that subsidies, and other government interventions that support renewable energy production, are discriminatory towards imported “like products” as they give advantage domestic ones, thereby breaking the principle of “national treatment”. Indeed, it is more common for the disputes to be raised when a country allegedly breaks the “Most Favoured Nation” and “National treatment” principles than for the subsidy to be illicit under the ASCM (Meyer 2017). The outcome for the purpose of promotion of renewable energy, and for the purpose of this thesis, is largely the same regardless of under which WTO agreement challenges are raised. As mentioned, due to the principle of single undertaking, all WTO agreements apply to all WTO members equally.

Lastly, the Agreement on the Application of Sanitary and Phytosanitary Measures (SPS) allows some optimism in the plausibility of reform in the trade regime. The agreement allows discrimination of products on precautionary terms based on scientific evidence. This legal tool has largely been used in terms of safeguarding health, but can possibly be extended to environmental protection (Zelli 2006).

WTO members, and scholars (Damian & Graz 2001, Shaw & Schwartz 2002, Motaal 2005), are in disagreement whether environmental protection efforts are sufficiently supported in the current WTO framework. Without taking a stand on this debate, it is safe to say that a negotiated agreement is unlikely in the foreseeable future. The “Doha Development Round” of negotiations, in which environmental protection and sustainable development were to be central matters, has collapsed. The “political WTO” is in a deadlock and even though the “judicial WTO” has leaned towards more environmentally supportive rulings, the DSMs power is limited to interpreting the existing laws. The uncertainty of such interpretation causes restlessness among members and may result in a regulatory chill.

The extent of the regulatory chill appears to be an under-researched topic and one where the blatant disagreement among scholars is evident. Neumayer (2004) presents that, to his knowledge, there is no convincing

evidence of Multilateral Environmental Agreements (MEAs) not being completed or having less ambitious outcomes due to the potential clash with WTO rules. Contrary to this, Eckersley (2004) argues that MEA negotiations are well aware of the potential clashes with WTO rules and are self-censoring trade restrictions that are essential for the success of protection efforts. He exemplified this with the disrupting debate over the clash with WTO rules during the negotiations of the Cartagena Biosafety Protocol as well as the negotiation of the Stockholm Convention to reduce the production and release of persistent organic pollutants. As Côté (2014) notes in her thesis, the regulatory chill effect is difficult to prove or disprove, since it requires finding evidence on a negative, i.e. proving something that has not taken place. The evidence is scarce and largely anecdotal. Further, the Investor-State Dispute Settlement (ISDS) mechanisms of regional trade agreements, particularly the North American Free Trade Agreement (NAFTA), have been the focus of attention.

In my thesis I will focus on the influence of the WTO, but it is important to state that the “trade regime” does not translate to the WTO, but consists of many regional trade agreements in addition. In fact, these regional agreements are becoming increasingly important due to the stagnant negotiations within the WTO due to the principle of single undertaking. Reaching consensus has become difficult due to the close to universal, and increasingly diverse, membership within the organization, which has led to frustrated members forming regional agreements such as the Trans-Pacific Partnership (TPP) to deepen integration.

The regional agreements do not surpass WTO legislation, but adds to for the signatories of the regional agreement. Often the regional agreements contain specific clarifications of WTO rules, but also address trade-related issues that are not handled by the WTO, including Investor-State Dispute Settlement (ISDS) mechanisms, North American Free Trade Agreement (NAFTA) being an example. The ISDS mechanism allows private investors to raise a dispute against the nation they have invested in, if said nation would impose new regulations that would limit the profits gained from investments made (Horn 2015). I argue that trade agreements that include ISDS cause a whole new array of problems for national environmental regulations as compared to the WTO framework, where disputes are raised by member nations rather than private investors. This is based on the assumption that the aim of private capital is maximising profits, and therefore it cannot be expected that it would have other priorities. Putting this claim in context, it is unreasonable to expect that private capital would by nature be interested in environmental protection where it contradicts profit maximisation. By contrast, the interests of nations are more complex and environmental protection is likely to be considered important particularly where environmental degradation is a threat to survival. As the disputes that have been raised through regional agreements which include ISDS are likely to differ from those raised within the WTO framework, so should the regulatory chill effect caused by these be analysed separately.

4 The Climate Regime

At the Rio Earth Summit in 1992, the United Nations Framework Convention on Climate Change (UNFCCC) came into being and was signed by 167 nation states. The UNFCCC was legally non-binding, promoting voluntary contributions with the aim to stabilize greenhouse gas (GHG) concentrations in the atmosphere at a level that will “*prevent dangerous anthropogenic interference with the climate system*” (UN General Assembly 1994) and that such a change to happen sufficiently gradually to allow natural adaptation of ecosystems. The position of voluntariness was revised only five years later, when 113 of the original signatories agreed to the Kyoto Protocol, which brought about two important changes. Firstly, the Kyoto Protocol legally binds developed nations (dubbed Annex 1 countries in the climate framework) to reduce their GHG emissions. Secondly, the Kyoto Protocol introduced a market mechanism to support climate action by turning GHG emissions into a commodity which could be traded (Zelli 2006).

The aim of the Paris Agreement was to correct the flaws of the Kyoto Protocol, and indeed the new agreement has established a binding obligation for all the parties rather than only the Annex 1 countries. This is an important change since the rising economies are today polluting the most. In relative terms measured in CO₂ emissions per capita, the worst polluters are perhaps unsurprisingly nations with oil revenues such as Qatar, Trinidad & Tobago and Bahrain (World Bank 2014a). In absolute terms, the top three worst polluters consist of two BRICS countries, China and India, alongside the United States (World Bank 2014b). Secondly, the Paris Agreement has a bottom-up rather than a top-down approach, allowing countries to domestically determine the best course of action. These ambitions are to be communicated to the UNFCCC in country-specific Intended Nationally Determined Contributions (INDCs) and form the basis of mitigation contributions.

While agreeing to limit global warming to an average of 2°C above pre-industrial levels, signatories to the Paris Agreement are to nationally determine their emission targets as well as policies for mitigation and adaptation. Arguably, this national determination may also prove itself to be the weakness of the agreement as compared to the Kyoto Protocol which has pre-set and binding national mitigation targets (Patt 2017). Albeit that the Paris Agreement is a legally binding Multilateral Environmental Agreement

(MEA), the Intended Nationally Determined Contributions (INDCs) are voluntary commitments (Lawrence & Wong 2017). The lack of predetermined common commitments and policies may result in increased insecurity and a “regulatory chill”. As Barrett Lydgate (2012) states in relation to EU biofuel standards; soft laws which allow multiple strategies for implementation are designed to reduce the burden of compliance and to avoid institutional conflict. However, trade related measures are important to avoid carbon spill over effects, i.e. that production will move to countries not implementing environmental standards, resulting in a race to the bottom. In the current lack of disciplinary environmentalism, the climate regime is likely to be overpowered by disciplinary neoliberalism.

5 The SIDS and Climate Justice

This thesis inspects the international climate negotiations as well as the trade regime as parts of a broader historical tapestry of power relations, particularly from the perspective of climate justice. Climate justice is linked to concepts of environmental justice and ecological debt. All of these concepts relate Political Ecology to distributional conflicts regarding environmental goods as well as the distribution of environmental degradation. Based on this line of thought, environmental benefits and costs are divided in an unjust way due to existing power structures (Oulu 2016).

Environmental justice is a broader concept relating to a number of different environmental issues, originating in the United States due to the outrage of toxic waste dumping in poor and minority neighbourhoods. Thereby the concept is also tightly connected to the idea of ecological racism. At a more general level, environmental justice is related to an unequal distribution of costs and benefits of environmental resources and degradation (Warlenius & al. 2015). In this thesis, as the focus is on the WTO membership consisting of nation states, the focus on distributional issues is international rather than intranational. This brings us to the concept of ecological debt, which implies that the early industrialised nations in the Global North have caused a disproportional amount of environmental degradation while simultaneously reaping the benefits of industrialisation. This process of economic growth has been harmful to the Global South both historically and contemporarily. Colonisation allowed the North to exploit natural resources from the Global South, which it arguably is still doing through the international power structures built based on unequally distributed wealth and supported by international institutions such as the WTO. Further, the depletion and degradation caused by the production and consumption patterns in the

Global North are contemporarily hampering the development potential of the South.

One can argue that judgement cannot be cast, since the early industrialisers were unaware of the environmental degradation they were causing. Further, opponents of environmental and climate justice movements object to the temporal debt, i.e. that current generations would in any way be responsible for the crimes of past generations. Yet, it is worth keeping in mind that the current generations still reap the benefits of early industrialisation and accumulation of wealth done by their forefathers. Lastly, environmental debt can be opposed if the process of industrialisation is seen as a leap forward for humanity as a whole, implying that the Global South has also benefited from, for instance, technological advancements. The problem with this argument is that the South has not gotten access to any of these benefits for free, but in fact owes a debt to industrialised countries based on development loans handed out after the independence of the former colonies. In this sense, was the ecological debt actually monetised and utilised as a tool in international negotiations, it may in fact turn the tables on the debtor and the indebted (Warlenius & al. 2015).

Climate justice and climate debt are similar concepts to environmental justice and ecological debt, but focused on distributional issues of greenhouse gas (GHG) emissions of production and consumption as compared to the spatial and temporal distribution of adverse effects of climate change. The Small Island Developing States (SIDS) is a group of nations particularly interesting from a climate justice perspective, since their contribution to global greenhouse emissions is often negligible, yet they are uttermost vulnerable to the effects of climate change. As expressed in the INDC of the Republic of Marshall Islands (2015); *“RMI has no choice but to implement urgent measures to build resilience, improve disaster risk preparedness and response, and adapt to the increasingly serious adverse impacts of climate change.”* While many nations within this group are still combating severe development issues such as absolute poverty, hunger, and illiteracy, they are now expected to take climate concerns into account in their national development plans. From a normative point of view, the already industrialised nations in the Global North owe the latecomers a climate debt and are to be held accountable for the environmental degradation caused by climate change (Elliott 2013: 110-115).

This injustice is often highlighted in the INDCs of the SIDS nations. For instance, Fiji (2015) expresses the nation’s position in the following way:

“Fiji’s per capita 2013 CO₂ emissions are estimated to be around 1.5 tonnes compared to the world average of 5.6 tonnes. Fiji is a developing country and has historically not been responsible for the emissions of the developed world. Fiji will do the best to mitigate but not at the expense of raising the standard of living for the poor of the country. As such Fiji’s INDC commitment must be contingent on obtaining international funding to proceed with mitigation options.”

The idea of climate debt is reflected in the principle of “common but differentiated responsibilities” in the UNFCCC and indeed the

industrialised, Annex 1 nations have agreed to climate related financial assistance to developing countries in the Paris Agreement. However, the interests of the North are expected to have an effect on the environmental policies in the South due to the power structure of aid donors and aid recipients. The environmental commitments donors require from recipients can be seen as “eco-colonialism”: a further imposition of Northern values implemented through the existing power relations (Newell, 2008).

Environmental justice and ecological debt are tied to trade through the theory of ecologically unequal exchange, which is closely connected to Emmanuel Wallerstein’s world systems theory and the dependency school in development studies. The theory is based on the assumption that developing countries are incorporated into world systems through enforcement of neoliberal policies. The relationship is an extractive one, where international organisations ensure a continuous flow of resources from the developing world, the “periphery” to the developed world, “the core”. This extraction further undermines the development potential of the “periphery”, and increases their dependency of the “core”. As the “core” controls the international economic and political organisations, they enforce policies that hinder the change of power structures and intrude to national policymaking. Examples of such intrusions is the expanding mandate of the WTO and the neoliberal restructuring aimed to remove trade barriers historically used by the core itself during fragile stages of development, but now obstructs the core’s access to the natural resources of the periphery (Oulu 2016).

Production in the small SIDS nations is insufficient to meet domestic consumption needs, making the SIDS dependent on global trade and vulnerable to shocks in international markets. A reoccurring topic in the INDCs of SIDS is the dependency of fossil fuel imports to meet energy needs. Albeit that the focus of the SIDS lies heavily on adaptation rather than mitigation when it comes to their climate contributions, many communicate plans to transition into renewable energy sources. In many cases, this requires financial, technological and human capital assistance, but if achieved would imply not only ambitious mitigation efforts, but also a new kind of economic sovereignty for the SIDS nations. On the other hand, climate mitigation and adaptation rely to a large extent to climate technologies, which to a large extent is innovated and thereby held by the industrialised, wealthy nations. For instance, Bahamas is facing a threat to potable water supplies due to rising sea levels caused by climate change and is in need of reverse osmosis facilities to continue to provide drinking water to its’ citizens. The INDC of Bahamas (2015) notes that responding to climate change has resulted in a dependence on imported technologies.

When it comes to the role of the WTO in trade relations, at first glance the organisation may appear to be a round table for negotiations: nothing is agreed until everything is agreed. Critics argue that WTO a continuity of existing power relations and formed after the interests of the founding members of the predecessor, the GATT. Indeed it appears odd that the organisation that supposedly drives trade liberalisation simultaneously has a strong intellectual property right regime. Narlikar (2005:62) points out that

at the time of the Uruguay Round from which the WTO emerged, there was a shift in global value chains. The Global North was increasingly invested in economic activities involving services rather than the production of goods, whereas industrial production was shifting towards the Global South. This being the case, an international trade organisation could not have emerged without it extending its mandate to non-tariff barriers to trade including intellectual property rights, since these were essential interests of the Global North.

Further, the equality of political negotiations within the WTO does not change inequalities in power and wealth. For instance, if the DSM was to rule against a wealthy nation in a dispute, the nation may still well be able to afford the sanctions and keep the trade distorting measure that caused the dispute unchanged. This is not the case for small or poor economies such as the SIDS, whereby they are more bound to comply with the trade regime. With these structures in mind: the urgency for climate mitigation and adaptation as well as the interconnectedness to markets make the SIDS an interesting case to study the relationship between the regimes and the regulatory chill.

6 Methods

The primary sources of this study consist of the Intended Nationally Determined Contributions (INDCs) submitted by signatories of the Paris Agreement to the UNFCCC. The aim is to systematically contrast the suggested national contributions of WTO member nations to non-member nations in order to see whether membership affects climate mitigation efforts, i.e. whether the trade regime causes a regulatory chill. Evidently, other factors than membership of the WTO are likely to affect these contributions, such as the country-specific economic and socio-political conditions. To control for this variation to some extent I have decided to look at the Small Island Developing States (SIDS), since they are in a relatively similar situation in regards to trade and climate change despite the internal differences discussed earlier. Being small island states, these nations are trade-dependent due to their factor endowments and in an uttermost vulnerable situation in a changing climate, particularly due to rising sea levels. These factors make the group of nations interesting from a climate justice perspective: while their contribution to pollution levels is minor, they will likely pay the highest price for climate change. Simultaneously, trade dependency to meet national needs results in

domination of the rules and regulations imposed by the affluent states and international organisations. The SIDS states are small economies with marginal power to change these conditions. Due to the high stakes, I argue that a chilling effect of the WTO membership is to occur in the case of SIDS nations, it is likely to occur elsewhere.

It is important to note that the SIDS are a diverse group of nations scattered across several geographical regions. The group contains oil exporting nations such as Bahrain, the Asian tiger economy of Singapore as well as nations that also belong to the Least Developed Countries (LDC) categorisation of the United Nations, Haiti being an example. Further, the allocation to members and non-members of the WTO is far from random, but instead a result of national political processes. These differences are reflected in the countries climate contributions and need to be taken into account in data analysis. However, the purpose is not to compare the exact content of the suggested contributions, but shed light on structural differences, i.e. whether non-members have structurally more trade-distorting climate policies. The mandate of the WTO expands well beyond cross-boundary trade and therefore it is hardly surprising that climate mitigation and adaptation measures can conflict with the trade regime in multiple different ways, as was discussed earlier in this paper.

The aim is to systematically contrast the suggested national contributions of WTO member nations to non-member nations in order to see whether membership affects climate mitigation efforts, i.e. whether the trade regime causes a regulatory chill. Out of the SIDS nations that are signatories to the Paris Agreement twenty-eight are WTO members while twelve are non-members. Three nations that are SIDS and signatories to the UNFCCC have to be excluded from the sample due to unfortunate language constraints. Cuba has submitted the INDC in Spanish, whereas the Comoros and Haiti have submitted their respective documents in French. Of these nations, Cuba and Haiti are members of the WTO and Comoros is not.

In this study, the INDCs are studied through quantitative content analysis, which is a systematic analysis of documents and allows quantification of textual content. I find this method based suited for the analysis of policy document where the aim is to reveal structural differences across comparison groups (Halperin & Heath 2017:345-346). The content looked for in the INDCs consisted of pre-determined categories of potentially WTO conflicting policy measures. This study works with manifest content, albeit that reading of texts always involves a level of interpretation as will become apparent in the description of categorisation processes. The frequency of trade measures in the national plans allows systematic comparison of the contributions between members and non-members.

6.1 Data Analysis

A strength of the pre-determined categories is that it safeguards objectivity of the study (Bryman 2008:289), it is however worth noting that the categories themselves can be contested. As has become evident in past dispute settlements, the legal framework of the WTO is subject to interpretation. Unsurprisingly there is no legal, political or scholarly consensus on whether there is any contradiction between the climate regime and the trade regime. Some will likely disagree with the categorisation of any of the suggested contributions as “conflicting with the WTO framework”. However, this study is based on the assumption that in lieu of a clarification of the WTO’s standpoint in environmental issues if a dispute is to rise, countries are cautious in their reforms. In other words: the regulatory chill is not caused by certainty, but uncertainty. The possibility of disciplinary measures by the trade regime suffices to cast a shadow on the environmental regulations. Therefore this study assigns INDCs to the “conflicting with the WTO framework” in a relatively generous manner. The sub-categories are based on hypothetical conflicts that have been synthesised from the scholarly literature on the topic and are listed as follows:

Technology transfer and the intellectual property regime

Many of the SIDS, both WTO members and non-members, have declared their INDCs as conditional based on reliance on financial support and technology transfer from the developed nations. These conditions are of importance from the climate justice perspective, and many SIDS point out the “common but differentiated responsibility” of nations in climate mitigation. However, as argued above, diffusion of climate technology is potentially hindered by the TRIPS agreement. TRIPS is arguably the manifestation of inbuilt protectionist measures within an organisation striving for trade liberalisation and reflects the fact that the WTO agreements are largely formed based on the interests of economically powerful nations.

Labelling and technical barriers on climate grounds

Many SIDS nations have suggested in their contributions direct import restrictions on polluting products, particularly concerning old vehicles. Similar measures are labelling products base on their greenhouse gas (GHG) footprint to communicate the climate friendliness of a product to the consumers. However, as exemplified earlier with canned tuna labelling, barriers of this kind can be interpreted as protectionist measures under the non-discrimination principles and the GATT agreement. Currently, production methods are not considered relevant in determining the “likeness” of a product as long as they do not affect the physical characteristics of the traded product. Labelling in itself is not an issue, as long as participating in the labelling scheme is open to domestic and

international producers alike. The problem is that production methods, such as how the tuna in the can was captured or how “green” the generation of energy was, do not change the characteristics of the final product. Currently, the characteristics of the final product determine the “likeness” of products on the market, not the production method (van Asselt & al. 2006). Further, labels and standards are allowed under the WTO legal framework as long as having the label or meeting the standard is a mandatory requirement to enter the market. If compliance is interpreted to be mandatory, the standard is perceived as a technical barrier to trade (Davies 2014). In reading the INDCs, standardisation and labelling schemes that appear to be mandatory are here interpreted as WTO conflicting, whereas voluntary labelling schemes are not.

Carbon pricing and border carbon adjustments

It has been suggested that production methods should be taken into account in the pricing of goods. Nations are concerned about becoming disadvantaged in the global markets if they set stringent environmental regulations for their domestic production of goods. A promising way around this concern is to set the carbon pricing on the product rather than production. In conjunction with “Border Carbon Adjustments”, where the same “carbon price” is set for traded goods as they enter the domestic markets will avoid disadvantaging domestic goods in the eyes of consumers. However, compatibility with the legal framework of the WTO has been a matter for scholarly debate.

Restricting imports and exports

The original quest of the GATT is to seize border measures such as tariffs, quotas and bans from distorting market prices. Under the WTO regime, most nations tariff rates are bound. When it comes to exports, taxes and duties are allowed, but quotas and export bans are prohibited (Cardwell & Kerr 2014).

For example, restricting timber trade is an important trade-related climate measure to mitigate GHG emissions. Forests are important carbon sinks, i.e. naturally occurring reservoirs that can store carbon and thereby mitigate climate change. Brandi (2017) has noted that nations with the most significant forest reservoirs are not communicating commitments to protect their forests and carbon sinks. A way to tackle this issue would be to restrict timber imports from nations that are not compliant in the protection of important global carbon sinks by enforcing good forest governance and combating illegal logging. While protection of domestic carbon sinks occurs commonly in the contributions of SIDS, stated export restrictions are rare. Again, import and export restrictions of this kind can be perceived as arbitrary barriers to trade.

Government incentives

Incentivising the generation and use of renewable energy can be achieved by government intervention, such as subsidies as well as tariff and tax measures to attract investments. However, the government in question needs

to choose the implementation of such subsidies with care, as the WTO Agreement on Subsidies and Countervailing Measures (ASCM) regulates the use of subsidies to avoid market distortions. Simultaneously, however, there is public pressure on the WTO to take notice of the use of fossil fuel subsidies that are in place in many member nations. Fossil fuel subsidies are underreported and the requirements of reporting to the WTO have not been clearly stated in the agreement (Brandi 2017). As mentioned earlier, government incentives can also be challenged under the principles of “Most Favoured Nation” and “National Treatment” if the measure leads to an advantage for domestic products over imports (Meyer 2017).

International Carbon Markets

The carbon markets established under the Kyoto protocol in 1997 are allowed under the Paris Agreement as well, and some interest for such market mechanisms and carbon trading is visible in the INDCs of SIDS nations. Zelli (2006) notes that carbon markets can collide with the WTO in a number of ways, but is interesting as the Kyoto Protocol effectively constructed a new “product” to regulate. Carbon does not neatly fit under any existing WTO agreements, which does not imply that it would be out of reach of the trade regime. To quote Zelli (2006) “...*What can be traded, is subject to WTO agreements...*”. The exact form of market mechanisms under the Paris Agreement has not been specified, but harmonization with the existing WTO framework may take off the edge of mitigation efforts.

The INDCs of the 37 SIDS nations included in the sample were read with these categories in mind, where every document received a yes/no for each category to allow quantification later. In other words, all categories are treated equally as trade distortions that may raise WTO disputes, rather than ranked by likelihood of dispute or grade of trade distortion. Further, as the categories are nominal, some nuances in language had to be ignored. For instance, nations claiming that they “will consider market mechanisms under the climate regime” were allocated to the same category as nations already using market mechanisms. Similarly, countries that either do not mention market mechanisms as well as countries that explicitly do not plan to utilise carbon markets were allocated to the same category. The purpose is to systematically compare the members of WTO to non-members in terms of frequency and number of trade distorting measures mentioned. To allow a more nuanced analysis of the material, the averages were run both in total and by category of trade distortion.

Allocation of material into categories involved a level of interpretation. For instance, the INDCs often used language such as “*promotion of renewable energy*”. Promotion in this context could include a wide range of policy measures from production and consumption subsidies and tax incentives, to regulatory changes allowing more private sector involvement in energy infrastructure. Of these examples, the first two may be conflicting with the WTO framework if interpreted as discriminatory to imports, whereas the latter one is likely not. Thereby “promotion” has not been interpreted as fiscal measures having trade distorting effects due to the vagueness of the

term. Conversely, “establishing an economic basis to promote renewable energy” is interpreted as containing some fiscal measures.

Another reoccurring climate mitigation measure suggested in the INDCs is the promotion of electric and hybrid vehicles to replace fuel driven transport. Much like with renewable energy, “promotion” may imply a wide set of policy tools some of which are WTO conflicting and others not. An essential step is to determine whether electric vehicles are seen as “like products” to combustion engine vehicles due to the same end use of the good. In fact, there has been a complaint filed by the European Communities (EC) to the WTO due to a subsidy Indonesia was using to promote a certain type of car. In this case, the WTO panel ruled in the favour of Indonesia based on the fact that passenger cars are highly differentiated products in terms of size, technology, weight, engine power and features. However, even though the essence of the EC challenge was dismissed by the Panel, Indonesia had to change its subsidy structure in favour of vehicles determined similar products to the ones receiving the subsidy (Ch'oe 2003:31). On a similar note, the International Center for Trade and Sustainable Development (ICTSD) suggests that economic incentives to promote electric vehicles “*should not run afoul*” (ICTSD 2017) with WTO law as long as the incentive is given to domestic and international products alike. Both of these documents seem to support the idea of electric and hybrid vehicles being treated as a separate good from combustion engine vehicles. However, following the logic of the regulatory chill, the insecurity around the issue is quite apparent. There has already been a challenge based on differential treatment and one cannot help taking note of the vagueness of the ICTSD statement, which demonstrates well the uncertainty that surrounds the legal framework of the WTO. Thereby, policy measures that aim to direct consumers to choose one vehicle over the other are here considered as potentially WTO contradicting.

Whether a country is planning to participate in international carbon markets is usually very clearly stated in the INDCs. The United Nation’s Reducing Emissions from Deforestation and Forest Degradation (REDD+) projects, due to their linkages to carbon markets and emission trading (Karsenty & al. 2014), are also interpreted as intention to use market mechanisms to meet emission targets. Even if the carbon rights generated from forest preservation would not be internationally traded but rather used to offset domestic emissions, I view REDD+ projects as encouraging trade of the commodity the UNFCCC has created.

6.2 Limitations

Before discussing the findings of this study, a few limitations should be mentioned. First, it is worth noting that the material for this study is solely limited to the INDCs communicated by sampled nations. Many of the INDCs refer further to national documents, such as development plans and

energy policy. It is possible that going through such documents would refer more specifically to trade-distorting climate measures, such as subsidies, tariffs, and duties. It is unfortunately beyond the scope of this study to evaluate such policy documents for all forty sampled nations. Further, I argue that this expansion of the material is unlikely to reveal different results from those found in this study, as the purpose is to structurally compare members to non-members. However, some nations may have policies translating to barriers to trade which they decide not to communicate in their INDC:s. Similarly, nations that have suggested trade-measures as climate contributions in their INDCs may never translate this plans into action.

Secondly, as mentioned above, the diversity within SIDS, as with any group of nations, limits the possibility of generalisations to be made. These differences are surely reflected in the countries climate contributions and should be taken into account in the reading of results. However, as the results reveal, some clear patterns arise from the data that should be the line for further inquiry.

7 Results

The central finding of this study is that SIDS that are not WTO members did not structurally have more trade restricting climate contributions as compared to WTO members. On a range of 0-6 categories translated into percentage, where a rate of 100% signals that all abovementioned categories of trade restrictions were suggested in the country's INDC and 0% means that none of the categories were found, the total average was 41,9% meaning that countries had approximately 2-3 trade restrictions in communicated in their INDCs. SIDS nations that were WTO members actually had a slightly higher average than the non-members as shown in Table 1, but still implying 2-3 trade restriction respectively. There is no meaningful difference between members and non-members. The assumption that the WTO causes a regulatory chill in its member nations and thereby non-members would display more trade restrictive climate contributions appears to be false. However, we should not assume that non-members, even though their policies cannot be challenged under the DSM by other members, would be free from the influence of structures of global capitalism.

Average amount of trade measures %	Average	Standard deviation
Total (N=37)	41,9%	20.3%
WTO member (N=26)	43,6%	21.6%
non-WTO member (N=11)	37,8%	16.9%

Table 1:WTO conflicting measures in INDCs

The extremes of the spectrum can both be found among WTO members, with Jamaica not communicating a single trade restrictive or distorting climate policy whereas Grenada and Saint Lucia suggested all abovementioned trade restriction apart from carbon pricing. No sampled nation displayed interest for all the categories in this study.

The total average leads us to a situation where we can view the glass to be either half full or half empty, i.e. 2-3 trade restrictions out of six categories can be perceived as either very little or surprisingly lot. Where the mandate of the WTO is to bulldoze trade barriers in order to streamline world trade, the fact that even SIDS nations do not appear concerned about challenges through the DSM implies that the WTO has not succeeded in this aim. For the WTO members, these barriers and price distortions are conflicting with international commitments made in the trade regime. Conversely, an average of 41, 4% can be perceived as proof of severe limitations to national policy tools to reach mitigation goals.

When analysed categorically, technology transfer was the most commonly mentioned category of trade-related measure. This fits in with the narrative of climate justice and climate debt, but is most certainly also in the economic self-interests of the nations. Out of all the nations that suggesting only one trade-related measure out of the six categories, this measure was always either carbon-market participation or technology transfer. This is interesting since neither of these two measures can be done unilaterally. Where multilateral collaboration is necessary for climate action, the involvement of many nations is likely to reduce challenges through the trade regime. When the averages are calculated using only the unilateral categories (technical barriers, import/export restrictions, carbon levies, and government price interventions), the member and non-member categories are very even as shown in table 2. No chilling effect is implied when comparing the two groups. However, the general average when multilateral and bilateral measures (i.e. carbon markets and technology transfer) are excluded is notably lower. This implies that nations are more willing to suggest trade-distorting climate measures where there is a “security of

numbers” against challenges under the DSM of the WTO. Understandably so, since trade disputes are unlikely to arise where a vast majority of nations are participating in such actions.

Average amount of unilateral trade-measures %	Average	Standard deviation
Total (N=37)	27,7%	24,8%
Members (N=26)	27,9%	24,8%
Non-members (N=11)	27,2%	26,1%

Table 2: Unilateral WTO-conflicting measures

Carbon markets are the only category with a notable difference in interest between WTO members and non-members. Out of WTO members in the sample 76, 9% were participating or considering participation in international carbon trading schemes, whereas the respective percentage for non-members in the sample was only 36,4%. Whether or not the difference can be accounted for by a generally more openness oriented policy package in the WTO member nations is a theory that can only be speculated upon here. For many SIDS, there are also economic interests in involvement in carbon markets if the markets are to include “carbon credits” from avoided emissions under the REDD+ programme. As many of the SIDS are net carbon sinks, i.e. their forest reservoirs function as carbon stocks of the capacity that exceeds their emissions.

Countries suggesting trade-measure, % of sample	Technology transfer	Labelling and standardisation	Import/export regulations	Carbon pricing	Government-led price interventions	International carbon markets
Total (N=37)	83,8%	32,4%	40,5%	8,1%	29,7%	64,9%
Members (N=26)	80,7%	30,7%	38,4%	7,6%	34,6%	76,9%
Non-members (N=11)	90,1%	36,4%	45,5%	9,1%	18,2%	36,4%

Table 3: Trade-related measures by category

National carbon pricing was an elusive policy in the INDCs of SIDS nations. Only three countries in the total sample suggested charging carbon levies and none suggested border carbon adjustments. Perhaps unsurprisingly, government-led price interventions such as subsidies were a commonly used policy measure. As already mentioned above, many SIDS are fully dependant on imported fossil fuels to meet national needs. Thereby investment and promotion of renewable energy and bio-fuels serves a

function both as a method for emission mitigation and for achieving self-sufficiency in the energy sector.

8 Conclusions

This study did not find a significant difference in amount of potentially WTO conflicting measures in the INDCs of WTO members and non-members in the sample. Whether or not the general level of ambition as expressed by average amount of trade contributions is to be considered as a source of optimism or pessimism is a matter of discussion. In a sense, if the “regulatory chill” would truly be taking place, no trade-distorting measures should be included in the INDCs of WTO members. Yet this is not the case.

However, the lack of policies for carbon pricing or border carbon adjustments is unfortunate if the aim is to tackle carbon leakage, i.e. the transfer of production to countries with lowest environmental standards. This category of trade measures in this study can be considered the most transformative of the suggested policy pallet, and the lack of interest may imply an unwillingness to adopt new, innovative climate policy measures due to the fear of retaliation. Taken into account the acuteness of climate change for the SIDS group, one could have expected more stringent measures in their climate contributions. However, the dependency aspect of the SIDS may counterbalance this ambition, i.e. that compliance with the trade regime to ensure access to markets is vital for WTO members and non-members alike. Further, notions of “common but differentiated responsibilities” as well as more outspoken notions of historical responsibility of the Global North for the emissions causing climate change were common in the INDCs of SIDS. The suggested contributions were also more often than not conditional or partly conditional on external technological and financial support, implying that many SIDS consider that there is a climate debt yet to be paid.

As discussed earlier, the “core” nations have a relative power in both the forming of international institutions and resisting them. Wealthy nations with large internal markets and production can weather through sanctions posed on them more easily than small, dependent economies. However, the flip side of the coin is that the benefits of challenging a big economy through the DSM of WTO are remarkably higher than potential benefits from challenging a small economy, as the absolute amounts of exchange are just a fraction of global world trade. Due to this, the actual risk for SIDS nations to face challenges under the DSM is negligible as compared to economies such as China and the United States. Theoretically speaking,

trade-distorting climate measures in SIDS are likely to be under little scrutiny under the trade regime.

As mentioned earlier, this study is strictly limited to the INDC:s the SIDS nations have communicated to the UNFCCC. With more time at hand, the study could be expanded both in depth and width. In terms of depth, dwelling into the national laws and development policies and programmes would give more insight into detailed policy tools as well as the implementation of such tools. As was discussed in the section of data analysis, the vague descriptions of policy tools articulated in the INDC documents made allocations of policies into categories of WTO conflicting or non-conflicting a difficult task. Determining whether a policy may conflict with the WTO framework is easier when plans for implementation are stated more clearly. In terms of width, the study should be expanded into country groups beyond SIDS as this may show very different results on the regulatory chill.

The perhaps most interesting result of this study was the evident preference of multilateral trade-conflicting measures over unilateral ones. There are, of course, purely economic incentives for SIDS to be interested in technology transfer and climate credits for avoided emissions through forest conservation. From the perspective of regulatory chill, however, this finding should be read as to have policy significance. Pre-determined, multilateral action is less likely to be challenged under the trade regime than unilateral, voluntary contributions. The national determination of climate contributions under the Paris Agreement may indeed prove itself to be an inbuilt weakness of the new climate regime, as nations lack the “safety in numbers” for their policy measures.

Lastly, it is necessary to consider the possibility that the WTO is not causing a regulatory chill. As discussed earlier, there are many scholars who believe that there is no actual conflict between the WTO and the environmental regime. If this is the case, a further line of inquiry should be done with the focus on the WTO. If full harmonisation with the environmental and climate regime is possible, then why are we still waiting for a statement from the WTO’s Committee on Trade and Environment (CTE) that would serve as a guideline for the DSM and thereby set aside the uncertainty of potential disputes? The findings of this study can also be interpreted as a sign of fading power of the WTO as the central institution for trade liberalisation. A further line of inquiry into the theory of regulatory chill, apart from expanding in depth and width as already suggested, would be to repeat the study based on regulations and membership of the more recent regional trade agreements.

9 References

- Antigua and Barbuda. 2015. *Intended Nationally Determined Contribution*. 15.10.2015.
- Barrett Lydgate, Emily. 2012. "Biofuels, Sustainability, and Trade-Related Regulatory Chill." *Journal Of International Economic Law*. Vol. 15, pp. 157-180
- Bahamas. 2015. *Intended Nationally Determined Contribution*. 30.10.2015
- Bahrain. 2015. *Intended Nationally Determined Contribution*. 24.11.2015
- Barbados. 2015. *Intended Nationally Determined Contribution*. 28.09.2015
- Belize. 2015. *Intended Nationally Determined Contribution*. 01.10.2015
- Brandi, Clara. 2017. *Trade Elements in Countries' Climate Contributions under the Paris Agreement*. Geneva: International Centre for Trade and Sustainable Development (ICTSD).
- Bryman, Alan. 2008. *Social research methods*. Oxford: Oxford University Press
- Busse, Matthias. 2004. "Trade, Environmental Regulations and the World Trade Organization: New Empirical Evidence." *Journal Of World Trade* 38, no. 2
- Cardwell, Ryan, and William A. Kerr. 2014. "Can Export Restrictions be Disciplined Through the World Trade Organisation?." *World Economy* 37, no. 8: 1186-1196
- Carlarne, Cinnamon Piñon, Kevin R. Gray, and Richard Tarasofsky. 2016. *The Oxford handbook of international climate change law*. Oxford : Oxford University Press
- Ch'oe, Wŏn-mok. 2003. *'Like products' in international trade law: towards a consistent GATT/WTO jurisprudence*. Oxford : Oxford University Press
- Commonwealth of Dominica. 2015. *Intended Nationally Determined Contribution*. 30.09.2015

- Cook Islands. 2015. *Intended Nationally Determined Contribution*. 20.11.2015
- Côté, Christine. 2014. "A chilling effect? : the impact of international investment agreements on national regulatory autonomy in the areas of health, safety and the environment." Diss. Department of International Relations of the London School of Economics, London, February 2014
- Damian, Michel, and Jean-Christophe Graz. 2001. "The World Trade Organization, the environment, and the ecological critique." *International Social Science Journal* 53, no. 170: 597-610
- Davies, Arwel. 2014. "Technical Regulations and Standards under the WTO Agreement on Technical Barriers to Trade." *Legal Issues Of Economic Integration* no. 1: 37.
- Dominican Republic. 2015. *Intended Nationally Determined Contribution*. 15.05.2015
- Eckersley, Robyn. 2004. "The Big Chill: The WTO and Multilateral Environmental Agreements." *Global Environmental Politics* 4:2
- Elliott, Jennifer. 2013. *An Introduction to Sustainable Development*. Fourth edition. Abingdon: Routledge
- Federated States of Micronesia. 2015. *Intended Nationally Determined Contribution*. 24.11.2015
- Federation of Saint Kitts and Nevis. 2015. *Intended Nationally Determined Contribution*. 12.12.2015
- Fiji. 2015. *Intended Nationally Determined Contribution*. 05.11.2015
- GATT 1994: General Agreement on Tariffs and Trade 1994, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1A, 1867
- Goldstein, Judith. 2017. "Trading in the Twenty-First Century: Is There a Role for the World Trade Organization?" *Annual Review of Political Science* 20, no. 1, pp. 545-564.
- Grenada. 2015. *Intended Nationally Determined Contribution*. 30.09.2015
- Guyana. 2015. *Intended Nationally Determined Contribution*. 23.11.2015
- Hassoun, Nicole. 2009. "Free Trade and the Environment." *Environmental Ethics* 31, no. 1: 51-66
- Halperin, Sandra, and Oliver Heath. 2017. *Political research : methods and practical skills*. Oxford : Oxford University Press
- Horn, Henrik. 2015. "Innebär TTIP och TPP att WTO är passé?". *Ekonomisk Debatt*. vol 43 nr 5

ICTSD. 2017. *International Trade Governance and Sustainable Transport: The Expansion of Electric Vehicles*. Geneva: International Centre for Trade and Sustainable Development (ICTSD)

Jamaica. 2015. *Intended Nationally Determined Contribution*. 27.11.2015

Karsenty, Alain, Aurélie Vogel, and Frédéric Castell. 2014. "“Carbon rights”, REDD+ and payments for environmental services." *Environmental Science And Policy* 35, no. Climate change and deforestation: the evolution of an intersecting policy domain: 20-29.

Kingdom of Tonga. 2015. *Intended Nationally Determined Contribution*. 04.12.2015

Kiribati. 2015. *Intended Nationally Determined Contribution*. 26.09.2015

Lawrence, Peter, and Daryl Wong. 2017. "Soft law in the Paris Climate Agreement: Strength or weakness?." *Review Of European Comparative & International Environmental Law* 26, no. 3: 276-286

Maldives. 2015. *Intended Nationally Determined Contribution*. 28.09.2015

McMichael, Philip. 2012. *Development and Social Change: A Global Perspective*. SAGE Publications Inc.

Meyer, Timothy. 2017. "Explaining energy disputes at the World Trade Organization." *International Environmental Agreements: Politics, Law & Economics* 17, no. 3: 391-410.

Motaal, Doaa Abdel. 2005. "Is the World Trade Organization Anti-Precaution [article]." *Journal Of World Trade* no. 3

Narlikar, Amrita. 2005. *The World Trade Organization : a Very Short Introduction*. Oxford ; New York : Oxford University

Neumayer, Eric. 2004. "The WTO and the Environment: Its Past Record is Better than Critics Believe, but the Future Outlook is Bleak." MIT Press no. 3: 1.

Newell, Peter. 2012. *Globalization and the environment : capitalism, ecology & power*. Cambridge

Newell, Peter. 2008. "Environment". p. 334-349 in Burnell, Peter, Rakner, Lise, Randall, Vicky. *Politics in the Developing World*. 3rd edition. Oxford: Oxford University Press.

Niue. 2015. *Intended Nationally Determined Contribution*. 25.11.2015

Oulu, Martin. 2016. "Core tenets of the theory of ecologically unequal exchange." *Journal Of Political Ecology* no. 1: 446

Palau. 2015. *Intended Nationally Determined Contribution*. 28.11.2015

Papua New Guinea. 2015. *Intended Nationally Determined Contribution*. 30.09.2015

- Patt, Anthony. 2017. "Perspectives: Beyond the tragedy of the commons: Reframing effective climate change governance." *Energy Research & Social Science* 34, 1-3.
- Republic of Cabo Verde. 2015. *Intended Nationally Determined Contribution*. 30.09.2015
- Republic of Guinea-Bissau. 2015. *Intended Nationally Determined Contribution*. 30.09.2015
- Republic of Mauritius. 2015. *Intended Nationally Determined Contribution*. 28.09.2015
- Republic of the Marshall Islands. 2015. *Intended Nationally Determined Contribution*. 21.07.2015
- Republic of Nauru. 2015. *Intended Nationally Determined Contribution*. 17.11.2015
- Republic of Seychelles. 2015. *Intended Nationally Determined Contribution*. 22.09.2015
- Republic of Suriname. 2015. *Intended Nationally Determined Contribution*. 30.09.2015
- Republic of Vanuatu. 2015. *Intended Nationally Determined Contribution*. 27.11.2015
- Saint Lucia. 2015. *Intended Nationally Determined Contribution*. 18.11.2015
- Saint Vincent and the Grenadines. 2015. *Intended Nationally Determined Contribution*. 18.11.2015
- Samoa. 2015. *Intended Nationally Determined Contribution*. 30.09.2015
- Sao Tome and Principe. 2015. *Intended Nationally Determined Contribution*. 30.09.2015
- Schoenbaum, Thomas J. 2016. "Natural Resources and the Rules of the Multilateral Trading System: A Sustainable Development Perspective". In *International Economic Law and Governance: Essays in Honour of Mitsuo Matsushita*. Oxford University Press
- Shaw, Sabrina, and Risa Schwartz. 2002. "Trade and Environment in the WTO [article]." *Journal Of World Trade* no. 1: 129.
- Sheldon, Ian. 2006. "Trade and Environmental Policy: A Race to the Bottom?." *Journal Of Agricultural Economics* 57, no. 3: 365-392.
- Siddiqui, Kalim. 2016. "International Trade, WTO and Economic Development." *World Review of Political Economy*, no. 4, pp. 424-450.
- Singapore. 2015. *Intended Nationally Determined Contribution*. 03.07.2015

- Solomon Islands. 2015. *Intended Nationally Determined Contribution*. 30.09.2015
- Timor-Leste. 2015. *Intended Nationally Determined Contribution*. 30.11.2015
- Trinidad and Tobago. 2015. *Intended Nationally Determined Contribution*. 21.10.2015
- Tuvalu. 2015. *Intended Nationally Determined Contribution*. 27.11.2015
- UN General Assembly, *United Nations Framework Convention on Climate Change : resolution / adopted by the General Assembly, 20 January 1994, A/RES/48/189*
- van Asselt, Harro, Nicolien van Der Grijp, and Frans Oosterhuis. 2006. "Greener public purchasing: opportunities for climate-friendly government procurement under WTO and EU rules." *Climate Policy (Earthscan)* 6, no. 2: 217-22
- Warlenius, Rikard, Gregory Pierce, and Vasna Ramasar. 2015. "Reversing the arrow of arrears: The concept of "ecological debt" and its value for environmental justice." *Global Environmental Change Part A: Human & Policy Dimensions* 30, 21-30
- Wirth, David. 2016. "Part IV Activities Of Organizations, Ch.20 Environment." In Cogan, Jakob Katz, Hurd, Ian & Johnstone, Ian. *The Oxford Handbook of International Organizations*. Oxford University Press
- World Bank, 2014a. CO2 emissions (metric tons per capita).
https://data.worldbank.org/indicator/EN.ATM.CO2E.PC/?year_high_desc=true
 Accessed 5.5.2018
- World Bank, 2014b. CO2 emissions (kt)
<https://data.worldbank.org/indicator/EN.ATM.CO2E.KT>
 Accessed 5.5.2018
- Zelli, Fariborz. 2006."The World Trade Organization: Free Trade and Its Environmental Impacts." In Khi V. Thai, Rahm, Dianne, Cogburn, Jerrell. *Handbook Of Globalization and The Environment*. Taylor & Francis.